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About

SAS International is a British manufacturer of interior products, delivering the ever increasing demands of clients and specifiers worldwide.

We are solution led, driven by delivering quality, design innovation and maximum value in an ethical and sustainable manner.

Our ongoing investment in manufacturing facilities and processes ensures we provide value-engineered solutions across the built environment.

Our Values

Since 1968, SAS International has become recognised as a leading global manufacturer of interior fit-out solutions. Best known for our award-winning metal ceiling systems, our interior products can be seen in landmark projects worldwide.

Our approach is guided by our core values:

Service

Across the business, customer demands are our primary focus. We recognise that our long-term, sustained success is dependent upon the excellent service we provide. We set the industry benchmark, refining our approach as necessary to deliver unsurpassed levels of customer support.

Innovation

Innovation is the lifeblood for any business and SAS is no different. Internally, cross departmental collaboration feeds into our innovation pipeline, devising interior solutions based on new technology, materials and market drivers. Externally, we collaborate with the world's top architectural practices and developers on the most architecturally challenging projects. This sharing of ideas and expertise accelerates innovation, delivering world class solutions to evolving requirements, achieving the highest possible standards.

Quality

We have a hard won reputation for manufacturing to the highest quality standards. Our ISO 9001 accreditation validates our commitment not only to the quality of our products, but also our manufacturing processes. We continue to invest in our factories and design resource to maintain our quality leadership status.

Dependability

SAS has the financial stability and manufacturing capacity to deliver the largest scale developments internationally. Throughout, our commercial and technical design teams offer unparalleled levels of support to ensure project success. We are specified worldwide, not just for our quality, but an assurance that we will deliver. Our comprehensive service offering is second to none and depended on in the most challenging of project circumstances.

SAS sets both the industry benchmark and customer expectations across all facets of manufacturing. Based on our core values, we passionately believe we can successfully achieve your most ambitious goals.

Manufacturing

SAS International is a leading building products manufacturer, producing award-winning interior fit out solutions since 1968. We manufacture a broad range of durable, sustainable and aesthetically-driven products, meeting international design, performance and integration requirements.

Acoustic Performance note (opposite page) This facility doesn't replace the accredited testing carried out in independent laboratories.

We lend our manufacturing expertise to the following product groups:

Metal ceilings	**Fully bespoke interior solutions**

Being self-sufficient is integral to the SAS manufacturing process. We consider every aspect of this process, producing the highest quality products as sustainably and cost-effectively as possible. We fabricate our own tooling and maintain our own machinery, minimising lead times and maximising quality.

SAS has a proud manufacturing heritage, establishing the industry benchmark and furthering the reputation of British manufacturing at its best.

Factories
SAS owns and operates three state of the art factories within the UK, manufacturing building products for our international customers. Our multi-site production capacity allows us to successfully supply the most ambitious scale projects internationally.

Our continuous investment in manufacturing facilities and technologies maintains our leadership status. We deploy leading manufacturing theory to ensure our people and processes are safe, efficient and cost-effective with minimal environmental impact.

These factories are at the core of our approach and available for stakeholders to experience first-hand as a guided tour.

Each factory is ISO 9001 (quality management), ISO 14001 (environmental management) and OHSAS 18001 (health and safety management) accredited.

Quality Control
Our quality control teams consist of experts in manufacturing design, materials, machining, and production processes. Constant communication between these experts ensures the highest quality standards are met and 'SAS quality' shipped at all times.

With total control of the entire manufacturing process, from design to production, we maintain product quality and ensure maximum value.

Product Testing
The quality and performance of our products is paramount to the success of our business. Where appropriate we ensure that products and systems are tested in accordance with client specifications.

Acoustic Performance
Our reverberation room enables us to undertake research and development into sound absorbing materials and products. The structurally isolated room exhibits non-parallel walls and is accurate above 250Hz. It is ideal for new ideas to be evaluated quickly and efficiently. It is also the perfect complement to our Finite Element modelling of designs.

Structural Performance
Our independently designed test rig facility assesses our ceiling components in accordance with BS EN 13694. This ensures our systems are structurally sound, offer best possible spanning characteristics and minimal deflection. Testing also helps minimise material content, weight and waste. The test rig supports innovation and is key to the development of new and existing products.

Value Engineering
SAS understands how to integrate building elements and services to deliver outstanding design solutions. Our in-house design and manufacturing expertise delivers client aesthetic and performance demands in an efficient and cost-effective manner.

Wherever possible we look to provide value engineering through better design, ease of installation, minimal waste and improved manufacturing efficiencies. Our approach delivers your vision to specification and budget.

Offsite Preforming and Factory-fitting
Integration of services at the design stage is key for improved aesthetics and speed of installation onsite.

Apertures can be formed during manufacturing to provide an engineered product for site installation. This alleviates the onsite labour costs and aesthetic implications associated with manual cutting. Services can also be factory-fitted offsite without the risk of damage associated during installation.

Products can be pre-fitted with services and systems, supplied as one integrated unit for ease of shipment and installation. This co-ordination reduces the number of trades required onsite, minimising installation time, labour costs, waste and risk.

Prototype
Ceilings are usually designed to integrate with many different products, particularly mechanical and electrical services. Mock-ups offer a fantastic opportunity to fully experience both the ceiling and integrated products.

Our factories are able to fabricate full scale mock ups for review. They demonstrate our commitment and investment to the design and review process for specifiers, clients and project teams. This investment ensures the most complex projects can be managed more effectively prior to onsite installation. The team is able to review and approve the design, or make amends prior to installation. This process significantly improves the successful and timely delivery of projects.

Metal Ceilings

Occupant productivity, wellbeing, comfort and flexibility of space are key considerations for the long term commercial viability of buildings.

Metal Ceilings offer the client and specifier a flexible, aesthetically-led solution to acoustic control, service integration and maintenance demands.

SAS International has established itself as the world leader in the design and manufacture of performance metal ceiling systems. Our interior solutions are beautiful, durable and sustainable. Long term, there is no alternative material that offers a more cost-effective solution to contemporary interior demands.

Why metal?

As a ceiling manufacturer, we are often asked why we concentrate on metal as a manufacturing material. The simple answer is:

- **Steel and aluminium are two of the most sustainable materials used in construction.**
- **Metal is a high quality material, offering improved aesthetics through design flexibility.**
- **Highly durable and robust, metal maintains its appearance long after other materials need replacing.**
- **Long term, metal is far more cost effective than alternative materials.**
- **To date, there is no better performing material that meets all building regulations and customer demands.**

SAS Suspended Ceilings

Clip-in
Ceiling tiles simply clip into the ceiling grid, offering a concealed grid aesthetic.
Examples
SAS**150**

Lay-in
Flanges on the ceiling tile edges lay onto the ceiling grid, exposing the grid as an intrinsic aesthetic element. Both tegular and flush options are available.
Examples
SAS**310**
SAS**320**
SAS**330**
SAS**330A**
SAS**380**

Hook-on
Perimeter hooks suspend the tiles, concealing the grid. An advantage of hook-on systems compared to clip-in is an increased load capacity.
Examples
SAS**200**
SAS**205**

SAS Baffle Ceilings

Straight
Suspended from the soffit via wires, rods or hangers, baffles offer an alternative acoustic treatment to suspended ceilings.
Examples
SAS**500**

Curved & Waveform
Performance of curved baffles is directly comparable to straight, the obvious difference being curved and waveform options.
Examples
SAS**510**

SAS Raft & Modular Ceilings

Rafts and modules can form standalone canopies, islands or continuous runs. Applications can be purely aesthetic, acoustic control or fully integrated service options.
Examples
SAS**600**
SAS**610**

SAS Linear Ceilings

Linear ceilings are suspended from the soffit via rods, hangers or wires. Typical applications are for exposed soffit areas and smoke extraction.

Box Profile Examples	Plank Profile Examples	Tubular / Shaped Profile Examples
SAS**700**	SAS**720**	SAS**730**
SAS**740**		SAS**750**
SAS**750**		

SAS Open Cell Ceilings

Open cell ceilings resemble rectilinear and triangular honeycomb grid structures aesthetically treating smoke extraction zones.
Examples
SAS**800**
SAS**810**

Polynodal Ceilings

An adjustable nodal ceiling system used to create multi-faceted ceiling designs.
Examples
SAS**900**

Sustainability

A major driver of global construction is client aspiration and government legislation to provide ever more sustainable buildings. This includes every aspect of the building from design, construction and waste management to end of life and beyond.

We achieve these demands through better design, responsible sourcing of materials and innovative manufacturing techniques. Our approach provides clients with solutions to achieve environmental accreditations such as BREEAM, Green Star and Green Tag.

SAS International is ISO 14001:2015 accredited.

Whole Life Costing

A key design and construction consideration for any sustainable building is its whole life costing. Many factors have to be taken into account including maintenance, repair, refurbishment, waste, energy usage, demolition and disposal.

SAS International partnered a recognised quantity surveying practice to conduct research into the overall lifetime costs of ceiling materials. The report highlighted significant benefits of metal in the context of the whole life costs of a building.

Based on a 20-year lifespan, the report projected achievable cost savings of 47% using SAS systems compared with non-metal alternatives. In addition, the industry consensus was that non-metal products would be considered unserviceable after a period of 10–15 years.

Global Green Tag is a third party, green building and sustainable product rating certification program. Reinforced by scientific and Life Cycle Assessment (LCA) processes, this trusted ecolabel operates the only ACCC approved national certification mark in the green building materials sector.

Green Tag

As one of the world's most robust, trusted and widely recognised certification bodies, Global GreenTag provides independent assurance that SAS products are tested and certified under a leading program that ensures full disclosure of every product's ingredient and process.

A GreenTag certified product is deemed 'Fit-for-Purpose' and confirmed for Building Code compliance. This helps meet the Green Building Council of Australia's Green Star® 'Life Cycle Impacts' credit, which informs specifiers that they can trust the green performance of the product. The certification process includes environmental, health, ethical and social responsibility assessments of products and their manufacturers.

All SAS International products have been rigorously tested, positioning the products within the top end of the green product market. SAS' metal pan ceiling systems offer very low VOC emissions, high durability, and total recyclability of materials at the end-of-life of the products. Further to this, SAS is committed to product stewardship, endeavour to minimise waste before, during and post-manufacture as well as offer a take-back scheme.

Achieving a 'GreenRate Level A' and conforming to the Global GreenTag Scheme, SAS' sustainable ceilings can help meet your project or building's necessary sustainability requirements.

ecospecifier global
GREEN TAG®

Sustainability

Responsible Sourcing of Materials

Metal offers not only considerable long term capital savings, but also long term sustainable benefits. SAS International will only source materials from suppliers with a progressive and innovative approach to sustainable material manufacturing.

Steel

Our grid, suspended tile and panel ceiling systems are manufactured using steel. Steel is 100% recyclable and currently the most recycled material in the world. In 2015, an estimated 585 million tonnes were recycled. To put this into context, it is the equivalent of 220 Eiffel Towers being recycled every day.

Globally, the construction industry consumes 50% of all new steel produced. This steel contains a minimum of 20% recycled metal, but in theory could contain up to 100% reused material. The amount of recycled content varies as it is dependent on scrap availability at the time of production. (The high demand for steel coupled with its inherent long life often outstrips the availability of scrap steel for construction use).

The majority of new SAS steel contains 20-25% recycled material, depending on region. Globally, 80% of scrap steel is recycled. In the UK an estimated 94% of steel used in construction is recovered.

Every tonne of steel recycled makes the following environmental saving:

- **1.5 tonnes of iron ore**
- **0.5 tonnes of coal**
- **40% of the water required in production**
- **75% of the energy needed to make steel from virgin material**
- **1.28 tonnes of solid waste**
- **Reduction of air emissions by 86%**
- **Reduction of water pollution by 76%**

Other metal advantages include no associated landfill costs and significant residual value at end of life. The rising costs of landfill taxes provide obvious reasons to specify steel.

Aluminium

Our premium linear ceiling systems and trims are manufactured using aluminium. 25% of all aluminium is used by the global construction industry. It is valued for being light, strong, durable, flexible, impermeable, thermally and electrically conductive and non-corrosive.

The metal is manufactured from bauxite, one of the most abundant materials in the Earth's crust. It is also infinitely recyclable, 75% of all aluminium ever produced is still in use today, with no quality degradation.

Recycling aluminium uses only 5% of the energy required to manufacture new and produces only 5% of the greenhouse gasses. It also produces none of the waste associated with primary production.

SAS International sources aluminium from suppliers using 20-25% recycled material.

Mineral Wool

The vast majority of SAS acoustic infill pads are manufactured from mineral wool. This material is manufactured from diabase rock, which is continually replenished naturally within the earth. The material is also 100% recyclable, so no mineral wool should enter landfill at end of life.

Polyester Powder Coatings (PPC)

The majority of our ceiling systems are finished in PPC. The coating is known for durability, colourfastness and consistent quality. What should be communicated more clearly is it is also a highly sustainable, environmentally friendly and energy efficient material.

SAS International sources PPC suppliers with impeccable sustainability and quality credentials, who submit themselves to Ecological Efficiency Analysis (EEA). Our selected PPC environmental benefits include:

- **Zero Volatile Organic Compounds (VOCs)**
- **Zero toxic heavy metals, for example lead or chromium (VI)**
- **Virtually no waste, as overspray can be collected and either recycled or reprocessed**
- **Long lasting surface protection, maximising product life cycles (min. 25 years)**
- **Lower curing temperatures, minimising energy consumption and CO2 emissions**
- **Less natural resource consumption during application through reduced film build up**

EPD's

For further information please refer to section on website

Waste Reduction
Reducing waste is not just about recycling site waste and ethical sourcing of materials. The key is to formulate strategies to stop producing it in the first place.

Working with the project team and including client requirements, SAS can develop and adopt a best practice approach. This includes establishing a sustainable logistics procedure, including the reuse of delivery packaging.

Another important aspect is the system design for manufacturing. We design our systems to minimise waste through efficient cutting of material. Any waste produced can be collected and recycled, reused or re-purposed. Preforming apertures for lighting and other services during manufacturing also reduces on site wastage, in addition to labour costs.

Factory finished metal products installed in accordance with our recommendations provide a durable product. Given appropriate use and maintenance, SAS systems can be expected to remain serviceable for a minimum of 25 years.

Thermal Mass Cooling
Buildings designed to use thermal mass to realise energy reduction through passive heating and cooling efficiencies are well documented. SAS International has designed a number of systems ideal for acoustic control and service integration which leave the soffit exposed. Please refer to SAS500, SAS510, SAS600, SAS610 and our Integrated Service Modules for SAS systems suitable for thermal mass applications.

SAS International is committed to improving the sustainability of both the built environment and our own manufacturing approaches. Our ISO 14001:2015 accreditation testifies this commitment and offers an internationally recognised validation of our ongoing efforts.

bsi. ISO 14001 Environmental Management
EMS504170

Reaction to Fire

SAS metal ceilings are tested and certified in accordance with UK, European, American and Australian Standards:

AS ISO 9705

Classification by group number indicating the time taken for materials to reach flashover

Classification: Group 1

Australian National Construction Code (NCC) Fire Testing

The National Construction Code of Australia (NCC) and AS 5637.1:2015 stipulates the classification of materials by Group Number, which indicates the amount of time taken for the material being tested to reach flashover under AS ISO 9705 — 2003 test conditions. The NCC and AS 5637.1:2015 define flashover to be a Heat Release Rate of 1 MW, so materials are classified, in accordance with NCC 2016 spec Cl.10 and AS 5637.1 2015, by the time taken for the Heat Release Rate, as measured during the AS ISO 9705 test, to reach 1 MW per the scheme below;

- **Group 1 — Materials classified as Group 1 do not reach flashover after ten minutes exposure to a heat source delivering 100 kW immediately followed by a further ten minutes exposure to 300 kW.**
- **Group 2 — Materials classified as Group 2 reach flashover after ten minutes of exposure to a 100 kW heat source.**
- **Group 3 — Materials classified as Group 3 reach flashover after 2 minutes, but before 10 minutes of exposure to a 100 kW heat source.**
- **Group 4 — Materials are classified as Group 4 is they reach flashover before 2 minutes of exposure to a 100 kW heat source.** The NCC and AS 5637.1:2015 also define the smoke growth rate index, or SMOGRARC as a quantity which may be obtained from the smoke obscuration measurements obtained in the AS ISO 9705 test SAS International Ceiling System classification SAS International have carried out a series of Fire Tests in accordance with the above standard for our metal ceiling systems and associated products including:
- **Perforated (Up to 22% free area) polyester powder coated metal panels**
- **Up to 30mm thickness mineral wool acoustic inlays (80 kg/m³ density) and/or Acoustic Fleece backing**

The material subjected to this AS ISO 9705 test did not reach a Heat Release Rate of 1 MW during the 1200 second exposure period. Therefore the system has achieved a classification and smoke growth rate:

Classification: Group 1.
SMOGRARC 4.4m2s-2 x 1000

Seismic Design

Why is Seismic design important for suspended ceilings?

Suspended ceilings represent an important category of non-structural components (NSCs) as they are installed in most offices and public buildings, including facilities that are critical in the aftermath of a seismic event. Damage in suspended ceilings can have extreme consequences, both from economic and safety perspectives. The failure of ceilings can be considered a significant safety hazard, as it can cause injuries or deaths, and may hinder evacuating and rescuing operations. Economic losses can also be problematic, and downtime after an earthquake can result in high costs for offices and factories.

What to consider

SAS International treats each project individually when it comes to seismic design. There are many different factors which effect the design requirements – such as the location of the building, its importance level, the system being installed and any weight the system is expected to support (for example mechanical services built into the ceiling).

The Importance Level (IL) of the building in which the suspended ceiling is to be installed, have a significant effect on the level of design required.

- Level 1: Structures presenting a low degree of hazard to life or property, such as walkways, outbuildings, fences and walls.
- Level 2: Normal structures and structures not covered by other categories, such as timber-framed houses, car parking buildings or office buildings.
- Level 3: Structures that may contain crowds, have contents of high value to the community or pose a risk to large numbers of people in close proximity, such as conference centres, stadiums and airport terminals.
- Level 4: Buildings that must be operational immediately after an earthquake or other disastrous event, such as emergency shelters and hospital operating theatres, triage centres and other critical post-disaster infrastructure.
- Level 5: Structures whose failure poses a catastrophic risk to a large area or a large number of people, such as dams, nuclear facilities or biological containment centres.

How is Seismic design carried out?

SAS International will engage with a Chartered Engineer to provide a detailed, bespoke seismic design report which is compliant with the Australian Building Code section B1. The suspended ceiling is assessed alongside the below Australian / New Zealand standards and will provide all necessary detailing to assist with the install of the product.

- AS / NZS 1170.0 : 2002 – General Principles
- AS 1140.4 : 2007 – Earthquake Actions

Engagement with architects and designers at the beginning of their design process is strongly recommended, to ensure proper implementation of a seismic strategy and specification of the seismic grade of the ceiling and the associated seismic restraint requirements in the tender documents, to avoid any confusion or costly delays during construction.

For any further information on seismic design, contact the technical department.

Quality Standards

All SAS metal ceilings are designed, manufactured and tested in full accordance with BS EN 13964. This is a requirement of all UK-based ceiling manufacturers.

BS EN 13964: 2014 – Suspended Ceilings: Requirements and test methods

Harmonised European Standards

Harmonised European standards provide a technical basis to assess the performance of construction products. They enable manufacturers to publish Declarations of Performance as defined in the Construction Products Regulation, and affix the CE marking.

The standards are developed by technical experts from the European Standardisation Organisations (CEN/CENELEC). They offer a common technical language accessible to all parties in the construction sector.

From a manufacturer's point of view, they are a recognised declaration of a product's performance. From a specifier's point of view, they verify compliance with requirements and demands.

CE Marking

Part of BS EN 13964 requires that the CE mark should be shown on all accompanying commercial documents. Implemented under European Union Council Directive 93/68/EC, each document should carry the manufacturer's name, trade mark or identification mark.

CE marking has been implemented by SAS International in accordance with these directives.

CE

International Quality Benchmarks

Each division has a dedicated site manager responsible for implementing and maintaining our ISO and OHSAS certifications. Our group compliance team ensure all requirements, international standards, legislation and governance are met.

ISO 9001 Certified √ (Quality Management System)

This certification ensures consistency of products and services and promotes a culture of continuous Improvement.

ISO 14001 Certified √ (Environmental Quality System)

Each SAS factory has achieved ISO 14001 accreditation, indicating our commitment to reducing the environmental impact of our manufacturing processes.

OHSAS 18001 Certified √ (Occupational Health & Safety Management System)

Each SAS factory has also achieved OHSAS 18001 accreditation, demonstrating a culture of safety and wellbeing, driving our quality output.

bsi. ISO 9001 Quality Management | ISO 14001 Environmental Management | OHSAS 18001 Occupational Health and Safety Management

Please note SAS International has been certified by BSI to ISO 9001, ISO 14001 and OHSAS 18001 under certificate numbers FM 504171, FM 23840, FM 54954, EMS 504170, EMS 508066, OHS 541927, OHS 558044, OHS 537033

Acoustics

Quick Selection Guide

Sound Absorption Class	Sound insulation D_{nfw} 21–30	31–40	40+	n/a
A	150 200 330 330A			500 510 600* 610*
B	740*			500 510
C		150	200 310 320	500 510
D			150 200	

* For further information please refer to product pages

SAS PLUS

HAVE A QUESTION?

Configurable with other products. Call us.
Contact us on info@sasint.com.au

Specification Criteria

The science of acoustics and its application within buildings can often be complex and confusing for the non-specialist. SAS International is an expert in this field and can support your project, providing guidance and experience to help you specify the most appropriate products for your design that meet industry and legislative standards. The information below should help explain some of the more relevant acoustic terminologies and technical aspects.

Sound Absorption

This is a measure of how much sound is absorbed by a surface. The remaining sound is reflected back into the space. In the absence of sound absorbing surfaces a room will become noisy and reverberant, because the sound keeps 'bouncing around'. This results in a number of undesirable effects - poor clarity of speech and excessive loudness being among the most important. As more sound absorption is introduced to a space, so the noise level will reduce and the sound decay more quickly.

Sound absorption is defined as a coefficient between 0 and 1, where the latter means that all sound is absorbed by the surface – thus none is returned to the room. The sound absorption of a surface is not the same for all types of sound. Porous materials are more efficient at absorbing mid and high pitched (or high frequency) sound than low frequency. Thankfully, we are normally less concerned about these low sounds because speech occupies the mid-high frequency range.

The international standard BS EN ISO 11654:1997 defines sound absorption in varying degrees of detail. The Sound Absorption Coefficient (α_s) and Practical Sound Absorption Coefficient (α_p) both describe how sound is absorbed at different frequencies. The Sound Absorption Rating (α_w) simplifies this data further by expressing it as a single figure, obtained by comparison with a weighting curve. In addition, the standard defines Sound Absorption Class, which ranks the effectiveness of a surface from A to E, where A is the most sound absorbing.

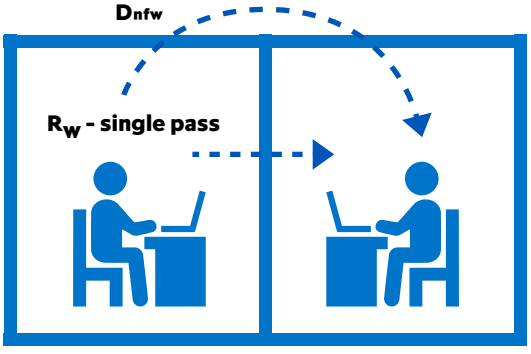
Initial selection of a sound absorbing product can normally be based on the single figure α_w or the Sound Absorption Class. Generally, it is only an acoustician that needs more detailed information.

Sound Insulation

This is the measure of how effectively sound is limited when passing through a building element. Sound insulation is important for glazing, partitioning and ceiling systems where the passage of sound from one space to another needs to be controlled. Two definitions of sound insulation are used depending on the product and its installation.

The first of these definitions is sound reduction, which is a measure of how effectively sound is blocked by an element – a 'single pass'. As with sound absorption, it is not the same for all types of sound and is normally worst at the low frequencies. If the sound reduction performance is stated as a single figure it uses the R for reduction and a subscript 'w' which stands for 'weighted'. As such, a R_w figure is a simplified indication of how much direct sound is stopped from getting through a building element. It is used to describe glazing and partitions.

In addition to the direct 'straight through' definition, sound insulation is also quantified in terms of a 'flanking' route – the so-called 'double pass'. The abbreviation used is D_{nfw} which means a sound level difference via a flanking route that is normalized and weighted (this supersedes D_{ncw} where the 'c' is an abbreviation for ceiling). It basically defines how much sound is blocked by passing through the same element twice. This is a relevant metric for ceilings which span more than one room and have a common void.



Sector Acoustic Criteria | Relevant Standards

There are many different standards that relate to the acoustic performance of buildings, some legislated and others for guidance only. The following sections describe those standards that are relevant to the SAS product portfolio.

Commercial Offices

The 2014 BCO (British Council of Offices) 'Making The Business Case for Well Being Study' states:

> "... 26% of UK employees found the acoustics of their office unpleasant and 77% of those blamed this on a noisy open-plan environment. A further 27% are frustrated by a lack of privacy."

In light of this study, the BCO published the 'Guide to Specification 2014' which includes reference and guidance for acoustic issues. This includes advice on acceptable levels of acoustic privacy between cellular offices and reverberance in various type of spaces, referencing BS 8233:1999.

The acoustic characteristics of open plan spaces are often different from smaller rooms because of their 'flat' proportions where the height is much less than the plan dimensions. Given that the ceiling is such a significant surface, it is essential that a sound absorbing product is employed in this area to control reverberance and occupational noise. A suspended ceiling is often a suitable solution, though if the thermal mass of the soffit needs to be exposed, rafts or baffles can be employed.

Infrastructure and Retail

The speech intelligibility of public address and voice alarm (PAVA) systems is a regulatory requirement in many countries. Failure to properly understand these broadcasts can hinder evacuation in the case of an emergency. Speech intelligibility is a function of background noise and reverberance, both of which can be controlled with sound absorbing materials.

Education

Worldwide studies have shown that well designed acoustic environments boost learning potential. Classrooms with poor acoustics can have a detrimental effect on children's learning and development as well as possibly leading to voice and throat problems for teachers. In the UK, Building Bulletin 93 (BB93): Acoustic Design of Schools (2014) sets out mandatory requirements for the acoustic performance of schools. Compliance with these regulations must be demonstrated to the Building Control Officer through a comprehensive design report. BB93 applies to all primary and secondary schools. It does not apply to nurseries (unless part of a school), sixth form colleges (unless established as a school) or higher education facilities.

BB93 performance targets include schedules for reverberance, internal noise levels and internal sound insulation. Satisfying these three acoustic criteria depends, to a greater or lesser extent, on the sound absorption present in a space. Sound absorbing suspended ceilings, baffles, rafts and wall panels represent various options open to the designer.

Residential

Part E3 of the UK Building Regulations stipulates that sound absorbing finishes are required in the circulation spaces of apartment buildings. This measure limits the passage of sound around a building, thus minimising the noise egress from one apartment to another via the corridor. Part E identifies ceilings as the most practical surface on which to place sound absorption.

Healthcare

Occupant comfort within a healthcare environment is known to be associated with patient recovery times. The UK National Health Service has provided guidance on these matters through its Health and Technical Memorandum 08–01 (HTM 08–01). This standard, and similar ones published in other countries, have increased the profile of acoustic design within hospitals. HTM 08–01 sets out acoustic performance requirements relating to reverberance in sensitive spaces and advises that products achieving at least Sound Absorption Class C should cover at least 80% of the floor area. A smaller area is acceptable if a product can offer Class A or B absorption – advice should be sought from an Acoustic Consultant to properly quantify this.

The Science Explained

It is often helpful to understand some of the basic science behind how SAS products provide the performance quoted. An acoustician should be familiar with these concepts, however it is understood that such expertise is not available on every project. In that event, SAS' acoustic specialists are pleased to assist.

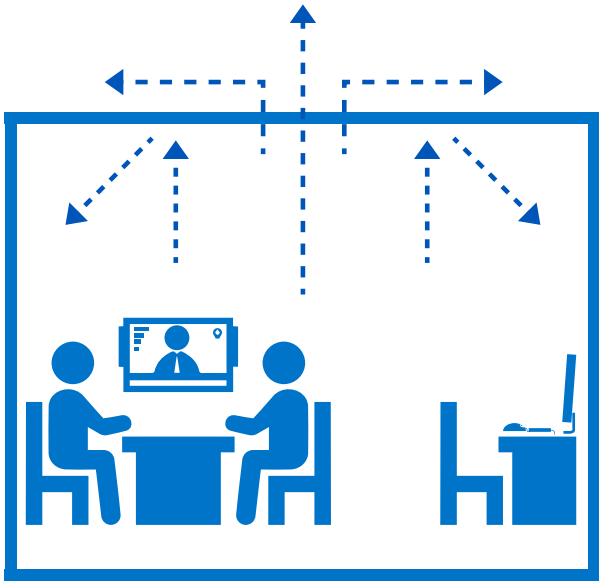
Sound Absorption
SAS products absorb sound using an open-cell porous material faced with a perforated metal sheet. The perforated metal offers no acoustic function other than to be 'transparent' to the incident sound. This is achieved by forming numerous holes of appropriately large diameter. Acoustic transparency is limited as the hole diameter approaches the thickness of the metal sheet. Similarly, perforation areas of less than 10% result in the higher frequency sound being reflected as it 'sees' too much metal and not enough hole. There is limited benefit in using perforation areas greater than 25%.

Most ceiling tiles rely entirely on the porous material behind the perforated metal to absorb the sound. Micro-perforated tiles are the exception and can offer sound absorption without a distinct porous backing. In both cases, sound is absorbed because the air particles have to vibrate within a medium that limits this movement. Porous absorbers are most effective when they coincide with air that is vibrating a lot. However, the vibration of air particles is not the same at every frequency or in every location within a room. As such, the effectiveness of a sound absorber is dependent on where it is placed.

Suspended Ceilings
Suspended ceilings are positioned a small distance from a sound reflecting surface which means that the air particle vibration (or particle velocity, as it is called) is easily predicted. It also means that the particle velocity is high, at a given frequency, which results in efficient absorption. This optimum placement is the reason why very thin porous materials can offer significant absorption. Nevertheless, thicker porous linings are generally more effective than thin ones.

Wall Panels
Wall panels are similar to suspended ceilings in terms of being close to a sound reflecting surface. The sound absorption is often poorer at low frequencies because the gap between the panel and wall is less than a typical suspended ceiling void.

Baffles and Rafts
Baffles and rafts are similar in design to wall panels. The main difference is in terms of their position and orientation within the room. Baffles and rafts are placed a long distance from the soffit and as such are 'in the room' and acoustically do not act like one of its surfaces. The particle velocity in these locations is not easily predicted and not likely to exhibit high magnitudes. However, because these elements are 'in the room' they are an acoustic 'object' not merely a surface. The larger contact area and diffractive effects at the edges result in sound absorption that is greater than the same single-sided area placed parallel and close to a soffit. It is an oversimplification to assume that it will exhibit twice the sound absorption in line with a doubling of 'visible' area. This argument ignores the importance of it's position in the room and the low frequency transmission through the raft/baffle.

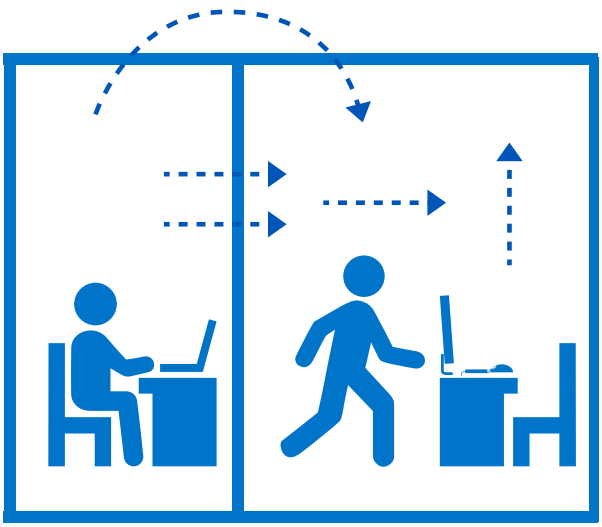


Commonly Asked Questions

Sound Insulation
Sound is able to pass through solid elements like doors and partitions. This is possible because the vibrating air particles cause the solid element to vibrate also, albeit on a very small scale. The vibrating element then causes the air particles on the opposite side to vibrate and this is perceived as sound.

It can be intuitively understood that heavier elements will offer more sound insulation because they are more difficult to move (Newton's second law of motion). In fact there are well established relationships between mass/area and sound insulation.

Sound energy is dissipated and reflected as it moves from one medium to another. For this reason, multi-layered constructions are efficient at providing sound insulation even if they are lightweight. A plasterboard partition is a good example of a laminate construction which can offer similar sound insulation to an homogeneous element that is much heavier, like a concrete block wall.



Acoustic Performance of Metal
It is a common misconception that perforated metal is a poor sound absorbing material, outperformed by alternatives such as mineral fibre. Through careful specification of the size and number of perforations, metal tiles with mineral wool infills offer sound absorption equal to or greater than other commonly specified materials.

Test Data
The acoustic tests undertaken by SAS quantify the performance of the tiles, not the complete system. The reason for this is that it is infeasible to test the multiplicitous combinations of tile and suspension system. It is the perforation type, infill and cavity depth that govern the acoustic performance of a system – other variables have very little affect.

Change in Ceiling Void Depth
Most SAS systems are laboratory tested using a 400mm void depth. If other void depths are used then the sound absorption performance will change at the low frequencies. As the cavity depth decreases, so the low frequency limit of sound absorption increases. For example, the sound absorption at 800Hz associated with a 100mm will be similar to the absorption at 200Hz due to a 400mm cavity. The effect of not employing a cavity can be seen by considering the performance of a tile backed with plasterboard or a steel plate.

Effect of Borders Around Perforated Area
There are options for different border widths around the perforated tile area. Whilst a larger border will theoretically result in less sound absorption, the effect in practice is minimal.

Effect of Tile Size
Larger tiles provide greater sound absorption at low frequencies. This is because they exhibit lower stiffness and as such support flexural waves, also termed panel absorption.

Ceiling Tile Acoustic Performance

Sound Absorption

				Hz						
Perforation	**Inlay**	α_w	**NRC**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**Class**
1522/1820	Acoustic pad	1.00	1.00	0.60	0.95	0.90	1.00	1.00	1.00	**A**
1511		0.85	0.85	0.55	0.85	0.75	0.95	1.00	0.80	**B**
1522/1820	Acoustic pad + plasterboard	0.60	0.70	0.30	0.30	0.60	0.95	1.00	0.80	**C**
1511		0.60	0.70	0.30	0.30	0.60	0.95	1.00	0.80	**C**
Ultramicro		0.60	0.75	0.35	0.45	0.70	1.00	0.85	0.45	**C**
1522/1820	Acoustic pad + plasterboard	0.75	0.80	0.35	0.45	0.80	1.00	1.00	1.00	**C**
1511	Acoustic pad + plasterboard	0.70	0.80	0.30	0.40	0.85	1.00	1.00	0.95	**C**
1522 / 1820	Acoustic pad	1.00	1.00	0.55	0.90	0.95	1.00	1.00	1.00	**A**
1511		1.00	1.00	0.55	0.85	0.90	1.00	1.00	0.95	**A**
1522/1820	Fleece	0.80	0.80	0.55	0.95	0.75	0.80	0.85	0.85	**B**
1511		0.80	0.80	0.55	0.95	0.75	0.80	0.85	0.80	**B**

Tested in accordance with BS EN ISO 354:2003.

Sound Insulation

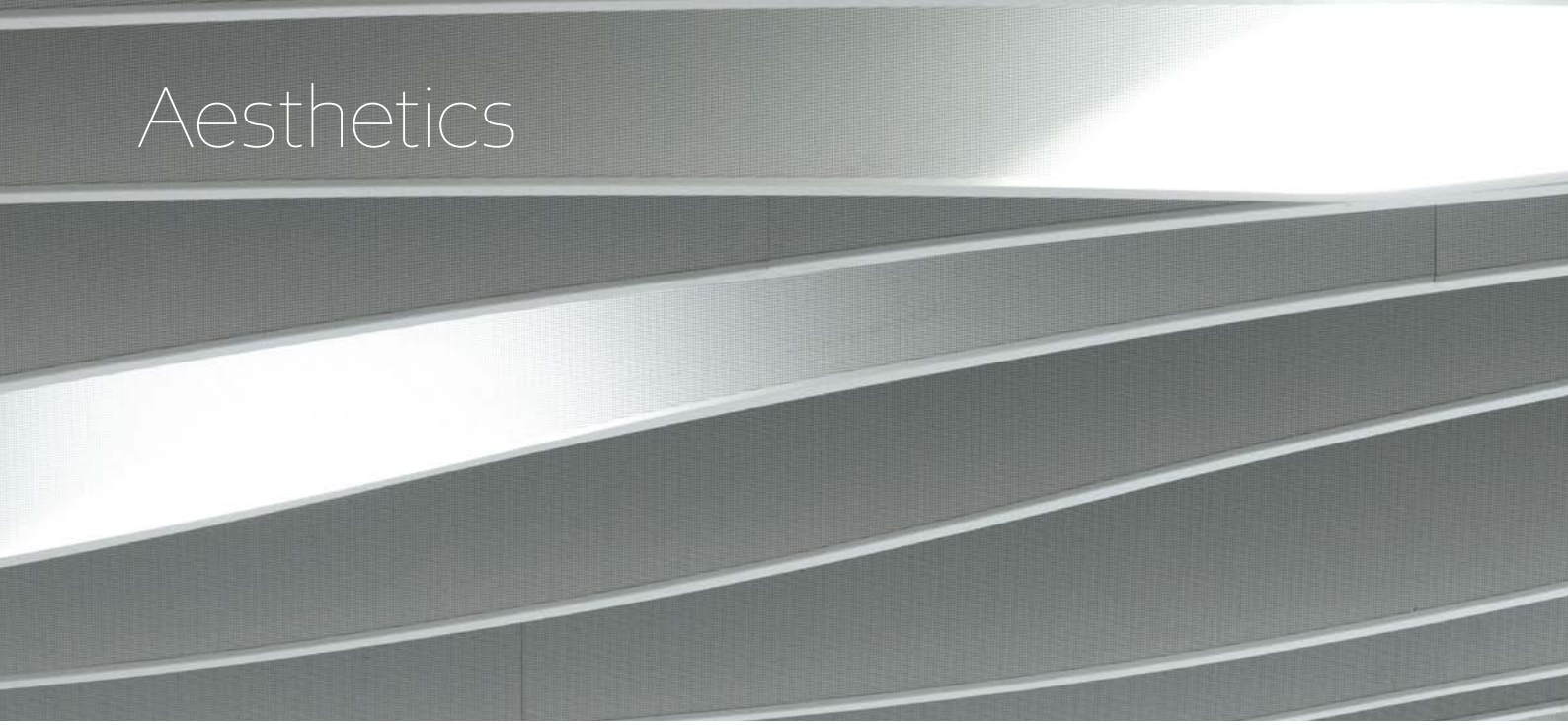
				Hz						
Perforation	**Inlay**	**D_{ncw}**	**D_{nfw}**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**Class**
1522/1820	Acoustic pad	27	–	11	19	24	27	30	36	–
Ultramicro		33	–	19	23	29	33	43	47	–
1522/1820	Acoustic pad + plasterboard	49	–	28	38	46	60	63	62	–
1511		48	–	26	37	46	58	63	61	–
Ultramicro		40	–	19	30	35	45	54	58	–
1522/1820	Fleece	–	15	12	14	15	14	15	15	–
Ultramicro		18	–	14	18	17	16	19	23	–
Plain	None	43	–	23	34	40	46	50	47	–

Tested in accordance with BS EN ISO 20140-9:1994.

All SAS products are tested independently by a UKAS accredited laboratory.

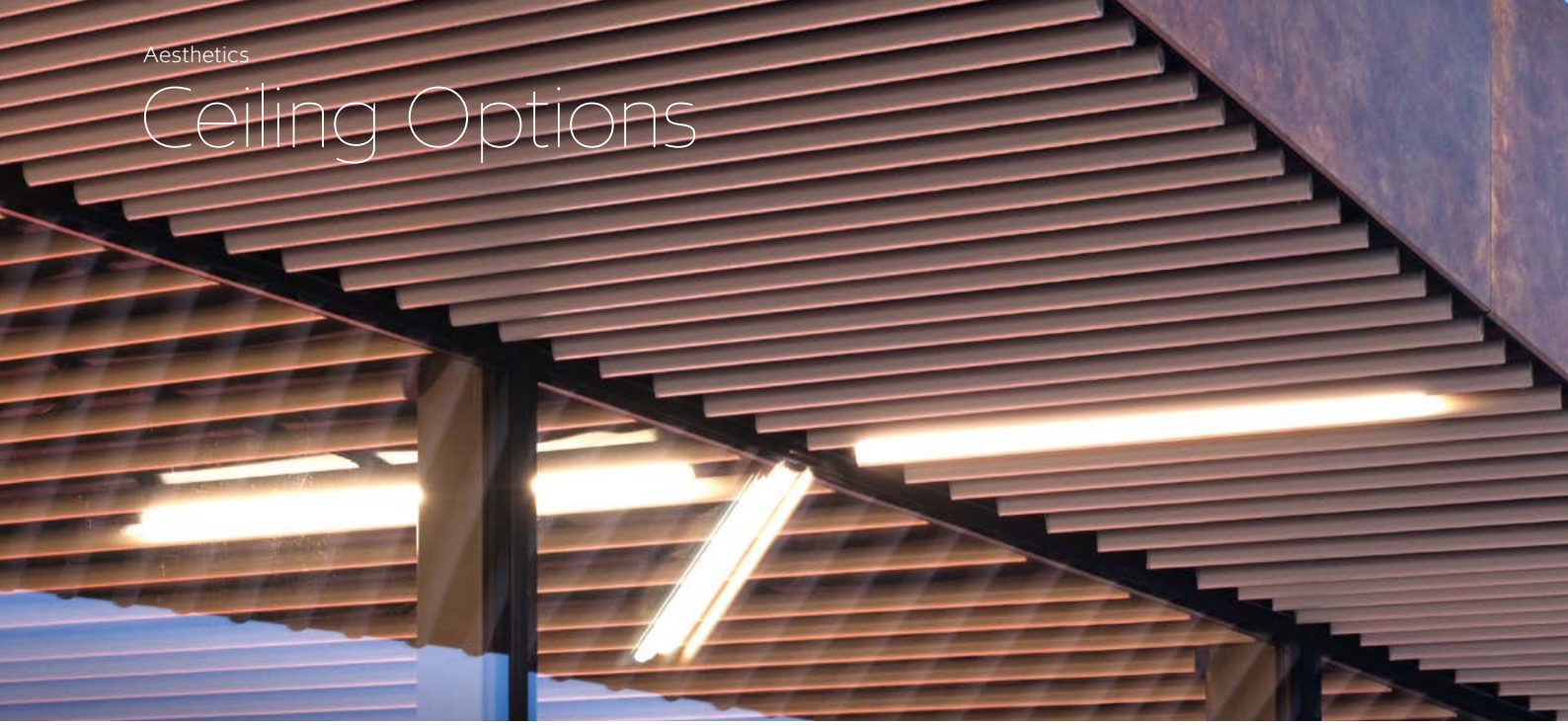
Aesthetics

Aesthetics



Strategic investment in quality aesthetics offers a significant return. On average, 80% of operational spend within an organisation can be attributed to staff-related costs. Beautiful interiors attract staff, increase their retention, positively improve employee wellbeing and communicate the right values to potential clients. A desirable building in the right location minimises these staff-related costs, improving profitability for both occupiers and owners.

Ceiling Options



Ceilings can have a dramatic impact upon an interior, both complimenting and accentuating the overall design. There are numerous ceiling types to consider, each with its own unique aesthetic. Each SAS system, regardless of design preference, benefits from the inherent material properties of metal.

SAS systems are designed for flexibility and offer the specifier scope to be creative. All systems are compatible and can be configured differently, from simply changing the tile size to complete bespoke solutions.

Suspended Ceilings

Grid

There are two main types of ceiling grid, exposed and concealed. The choice of grid is typically dictated by aesthetic preference.

Exposed grids can be flush with the ceiling plane, or recessed, and tiles can be singular or manufactured to modules. Exposed grid systems such as SAS330 allow for services to be integrated into the grid as well as the tile. Exposed grids can also be one-way (one directional) or two-way (multi-directional, typically but not necessarily perpendicular).

Concealed grids, as the name would suggest, reflect just the tiles to form a flush, monolithic appearance.

Tiles

SAS manufactures tiles to common module sizes, such as 750x750mm and 600x600mm. The system designer is not limited to this and can specify ceilings in numerous shapes and sizes.

Suspended ceiling tiles can be manufactured to any triangular, rectilinear or trapezoidal shape up to 1250mm^2***** (adhering to BS EN 13964).

Please note *Tile sizes over 750mm^2 are considered large format (SAS Mega Panels). To remain within industry tolerances, large format tiles are typically no greater than 1200mm^2.

Tile sizes greater than 1200mm^2 are technically possible, but may need additional manufacturing processes to remain within tolerances. Large format tiles are only suitable for certain systems, please contact our technical services team for guidance.

Ceiling Options

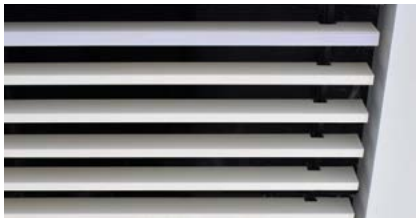
Ceiling Baffles

In exposed soffit applications, baffles offer an effective and attractive acoustic alternative to a more traditional suspended ceiling. Baffles can be rectilinear or waveform, with further bespoke options available.

Baffles offer impressive absorption characteristics and can be continuous, ideal for wide span applications such as atria. In addition, lighting and other services can be integrated.

Linear Ceilings

Offering a completely different aesthetic again, linear systems can also be used in smoke extraction applications. Typical applications, however, are largely aesthetic in nature (although SAS740 and SAS750 can offer acoustic performance too).



Polynode

Polynode is an adjustable nodal ceiling system used to create multi-faceted ceiling designs. This polynodal system meets the demand of increasingly varied and complex ceiling surfaces in modern building design.

Simple equilateral triangle tiles can create a near infinite variety of polyhedral ceiling forms. Our patent-pending nodal system can also be used to transition from ceiling to wall.

Ceiling Rafts and Modules

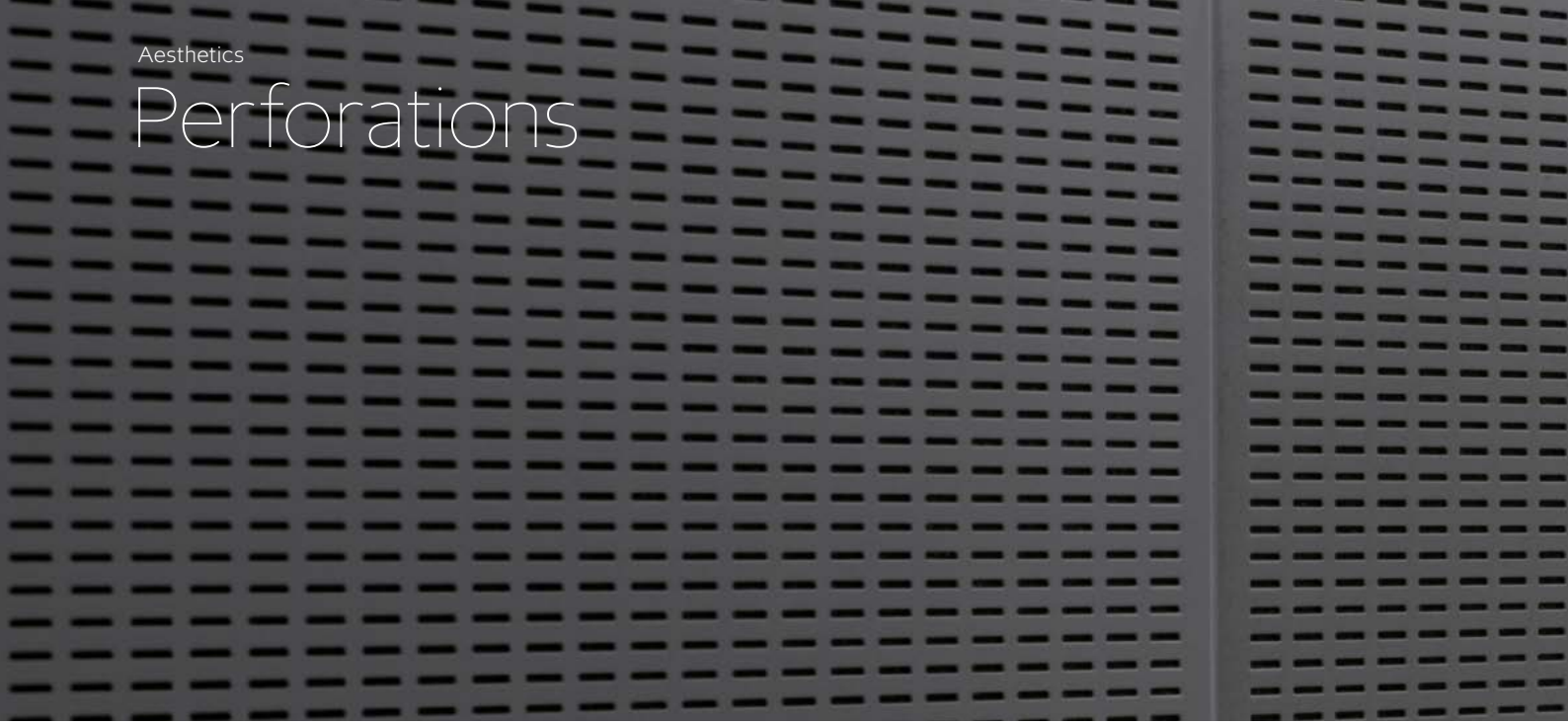
Typically used in exposed soffit applications, rafts and modules tend to be specified where designated zones require acoustic control.

Individual panels (rafts) or islands (raft/module clusters) offer a variety of design and installation options. Rafts can be shaped or rectangular and can also integrate services.

Open Cell Ceilings

Smoke extraction applications require a considerable open area within a ceiling to function, ideally serviced by open cell systems. With a distinctive appearance open cell ceilings can be used to great effect in other applications to visually draw attention.

Perforations



From virtually unnoticeable to strong design feature, perforations can have a significant impact upon the overall ceiling aesthetic.

The choice of perforation is largely dependent on acoustic demands and restricted to a required % open area. However, there are numerous choices to enhance the overall design within each % range and bespoke options are also available. So long as it can be punched through metal sheet, any pattern or design is theoretically possible. Alternatively, plain panels can be specified in areas requiring acoustic reflectance.

Perforation Borders
Tiles and panels can either be completely perforated, or specified with defined borders. Plain borders typically have a nominal width of 10mm. Alternative border widths can be manufactured within the constraints of the perforation pattern and panel size.

Larger border sizes can be used to create a two-way effect or provide a plain visual grid for partition layouts.

Apertures within Plain Zones
Perforated tiles with service apertures can be modified to include plain border frames around services.

Bespoke Perforations
Our in house tooling department is able to manufacture perforation tooling to meet any bespoke perforation requirement.

Perforations

Things to Consider when Specifying Perforations

Direction
Some perforations are directional and will appear differently depending on viewing direction. This feature can be used to alter the visual appearance of a ceiling, for example creating a checkerboard pattern.

Patterns
Perforations can be grouped into squares to create distinctive geometric patterns across the tile face.

Different perforation groups can be manufactured within the same tile, giving the impression of a number of smaller tiles.

Colour
Perforations will have an impact on colour tone and light reflectance values.

Sound Absorption
For affective sound absorption, we would recommend a perforation with an open area no less than 10%.

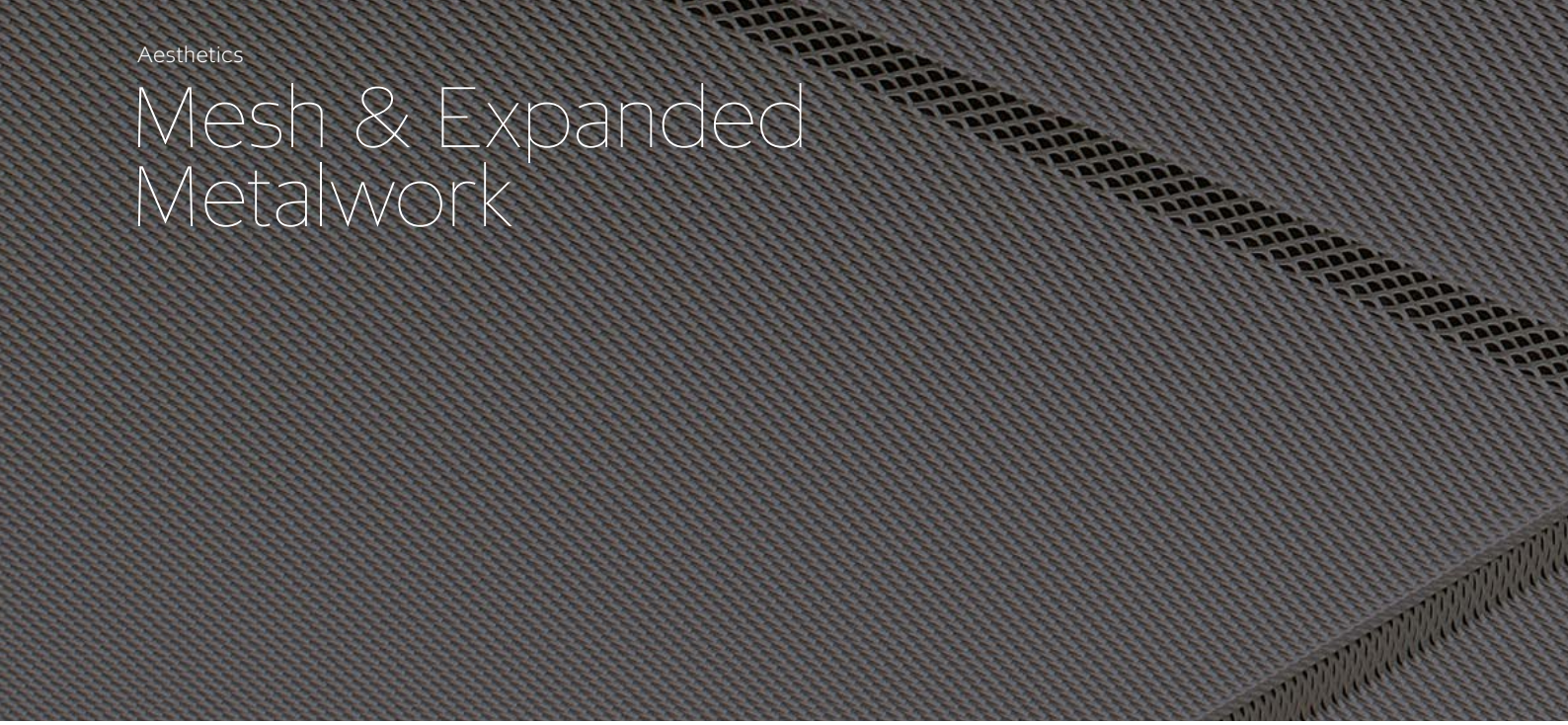
Multi-service Panels
Several services can be integrated within a single ceiling tile, each with appropriate borders and spacing.

Integration with Diffusers
Perforated panels can be used to accommodate a range of airflow requirements including air conditioning and displacement ventilation.

SAS can integrate air diffusers into the ceiling plane with a change of perforation to the appropriate ceiling tile.

Complete flexibility on perforation subject to acoustic requirements, please contact the technical design team.

Mesh & Expanded Metalwork



Whether driven by aesthetic needs or smoke extraction requirements, mesh is an increasingly popular tile option. SAS has been manufacturing expanded metalwork for decades and recently launched a new range of mesh options.

Our standard mesh options are available for SAS330. Configurable options are also available for SAS200, SAS205, SAS310, SAS320, SAS330, SAS330A and SAS600.

Non-standard bespoke options can also be manufactured to specification. For more information on bespoke mesh systems or patterns, please contact our technical design team.

Coatings & Finishes

Typically, SAS ceiling systems are finished in polyester powder coat (PPC), for the quality of finish and durability. PPC offers excellent protection, affording a minimum warranty of 25 years.*

Colour Choice

The vast majority of SAS projects specify white (RAL 9003), which is why it has become our standard. In reality, any RAL colour can be specified in PPC to suit project requirements.

*All RAL colours can be colour matched to Dulux.

We are also able to offer PPC finishes with metallic flecks, pearlescent sheens, or light textures.

Please refer to page 95 for more information.

Alternative Finishes

Specifications are not necessarily limited to flat RAL colours, either. A host of special effect finishes are also available, including but not limited to, polished metal, wood and ceramic effects.

Aluminium systems can also be anodised, opening up another range of aesthetic options.

Please refer to page 96 for more information.

Performance Coatings

SAS supplies non-standard coatings for specific applications, such as Anti-Microbial coatings for healthcare, or fine-textured coatings for pure matte requirements. If you have a specific niche application, please contact our technical design team for more information.

Please refer to page 96 for more information.

* Warranty is dependent on adherence to best practice installation procedures and normal atmospheric conditions. Harsh conditions will limit the PPC warranty to 15 years.

Border & Perimeter Trims

Interior spaces are greatly enhanced when proper consideration is given to the finer details. Inadequate interface detailing detracts from the overall quality of the solution, drawing unwanted attention to these unnecessary imperfections.

Page 195 has full details of SAS trims and system compatibilities.

Edge details effectively 'finish' the ceiling, completing the perimeter or transitioning into other materials such as plasterboard surrounds. This is an important design consideration and numerous trims are available, including floating edge, shadow gap and flush options.

Simple to install, SAS border and perimeter trims create a clean, crisp finish to a ceiling edge or transition. Our extensive range of aluminium trims offers the system designer a highly flexible approach to ceiling design. In addition to standard trims, we design and manufacture custom made extrusions for specific demands

Standard Finish

Exterior quality Polyester Powder Coat (PPC) adhering to BS 6496

RAL 9003 (white) 20% gloss

1000 hour (min.) salt spray test performance

Alternative colours can be selected from the BS and RAL colour ranges

Special Finishes

SAS FT – a finely textured matte finish to mimic plasterboard surfaces

SAS AM – an anti-microbial coating for healthcare or lab applications

Aluminium trims can be anodised (any available colour)

Aluminium trims can also be polished and chemically brightened (silver, gold, copper or brass)

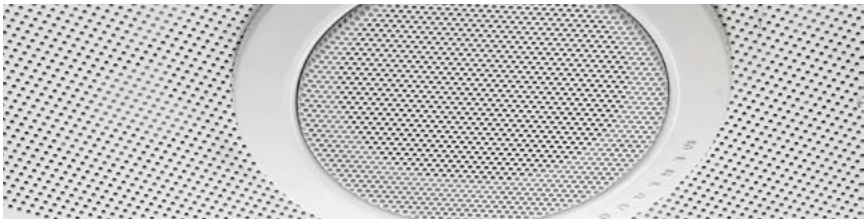
Optional high porosity primers – providing greater adhesion for drywall jointing and finishing compounds

Please note Trims can be finished in any coating available for SAS ceiling tiles. Please consult our technical design team for more information.

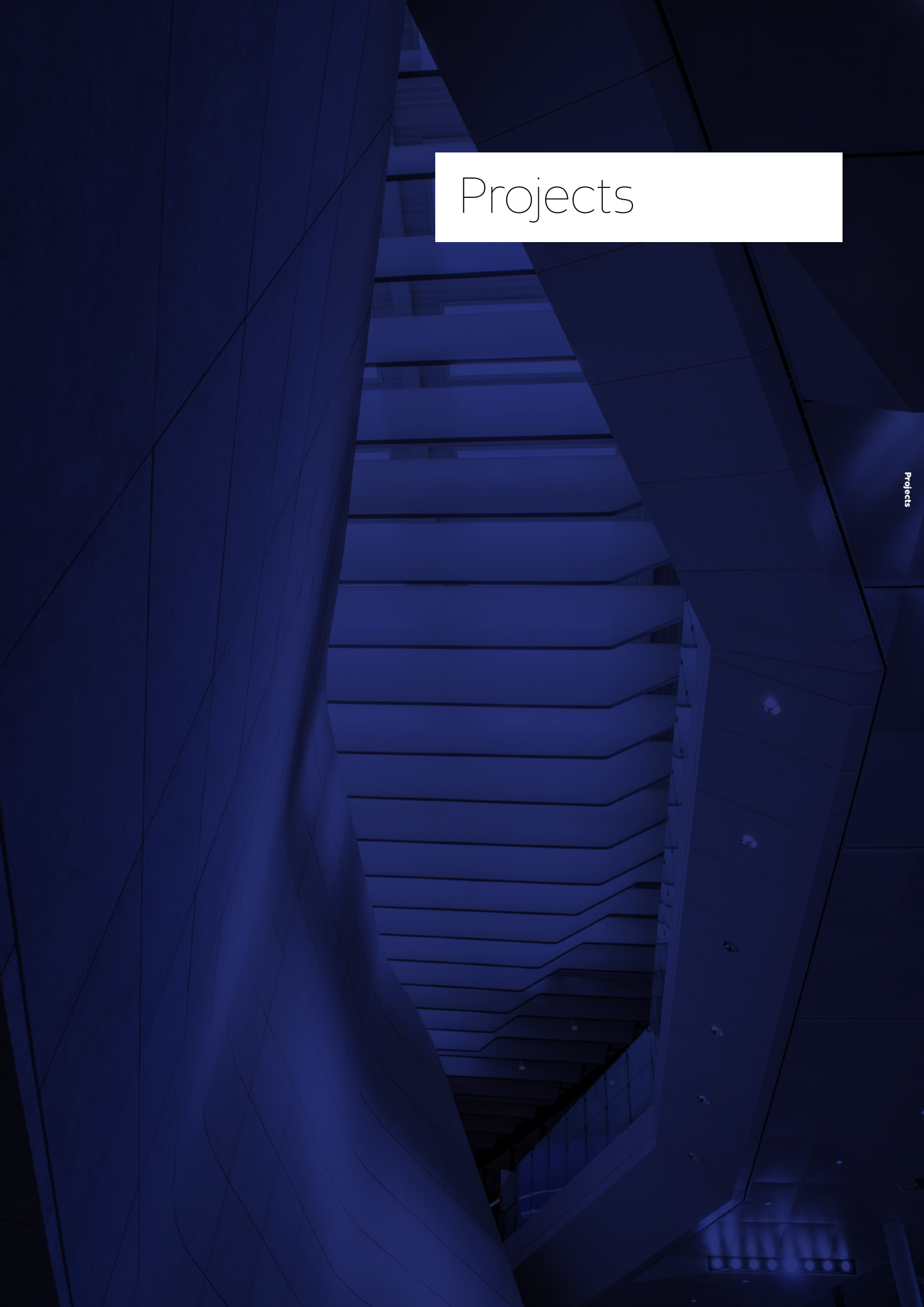
Integration

One of the most significant design benefits of metal is the ability to fully integrate M&E services within the ceiling. This can be anything from lighting and speakers to sprinkler systems. Detailing is controlled in an aesthetically pleasing manner, integral to the overall design concept. Apertures can be pre-formed during manufacturing to ensure the installation mirrors the design intent.

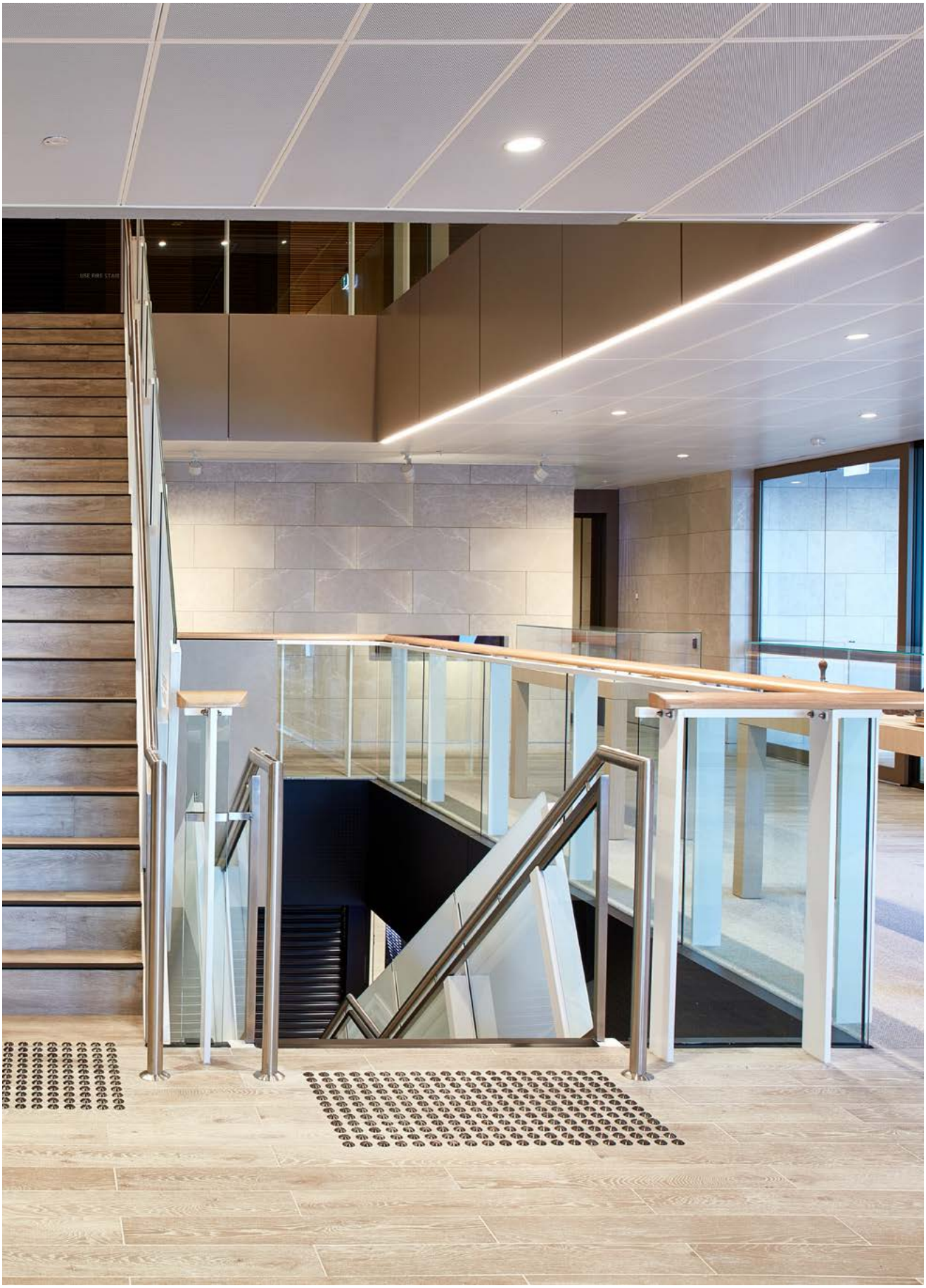
Please Note Unless otherwise stated, each ceiling system is designed to support its own weight only. If significant weight is being added through integration with third party products, additional or independent support may be required. Please contact our technical design team for advice.



For further information on service integration please contact the technical design team.



Projects

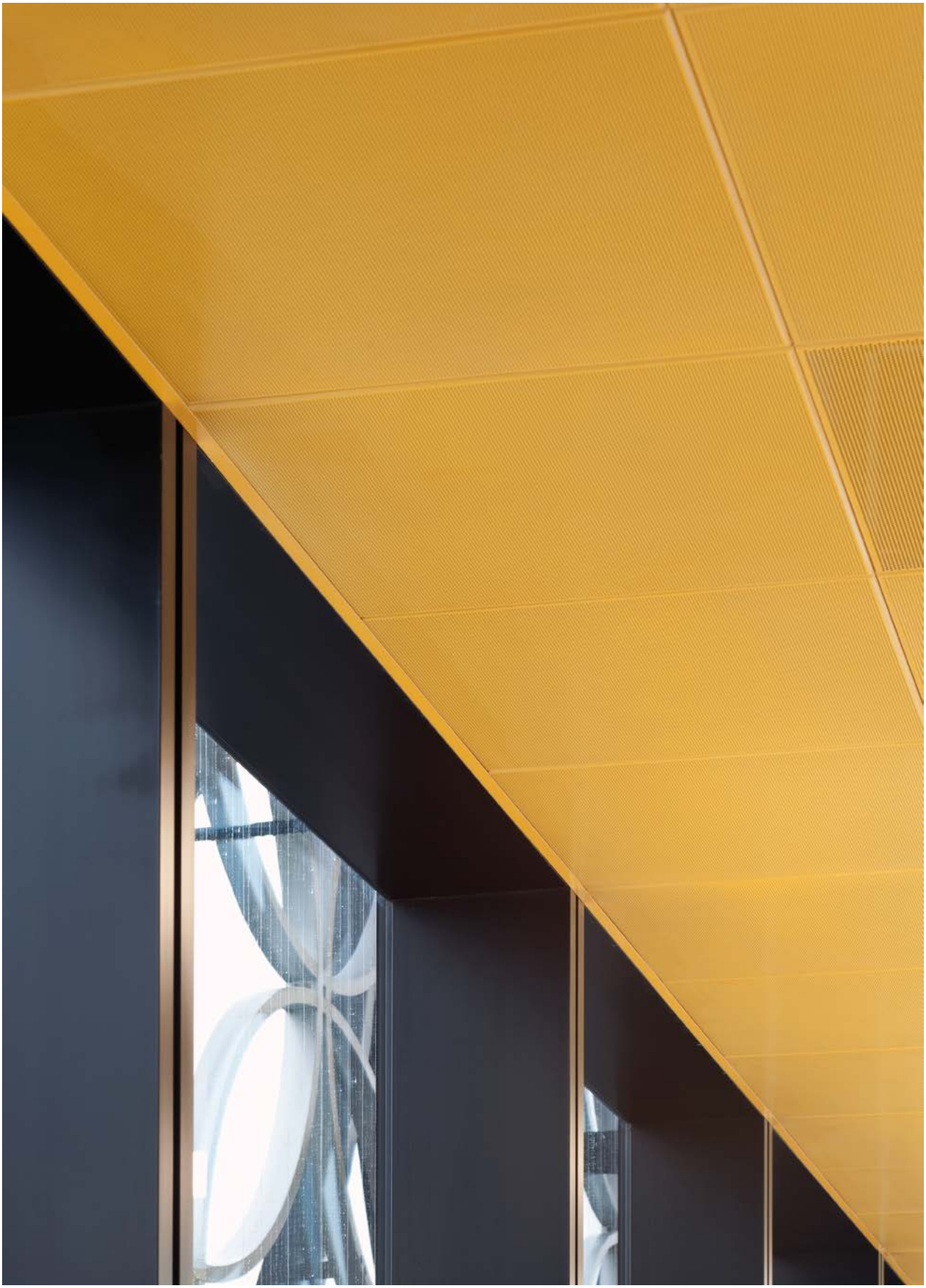


SAS**150**

Westpac, 275 Kent Street

Location
Sydney, Australia
Architect
Geyer & The Studio* Collaborative

Contractor
MPA
Purpose
Commercial

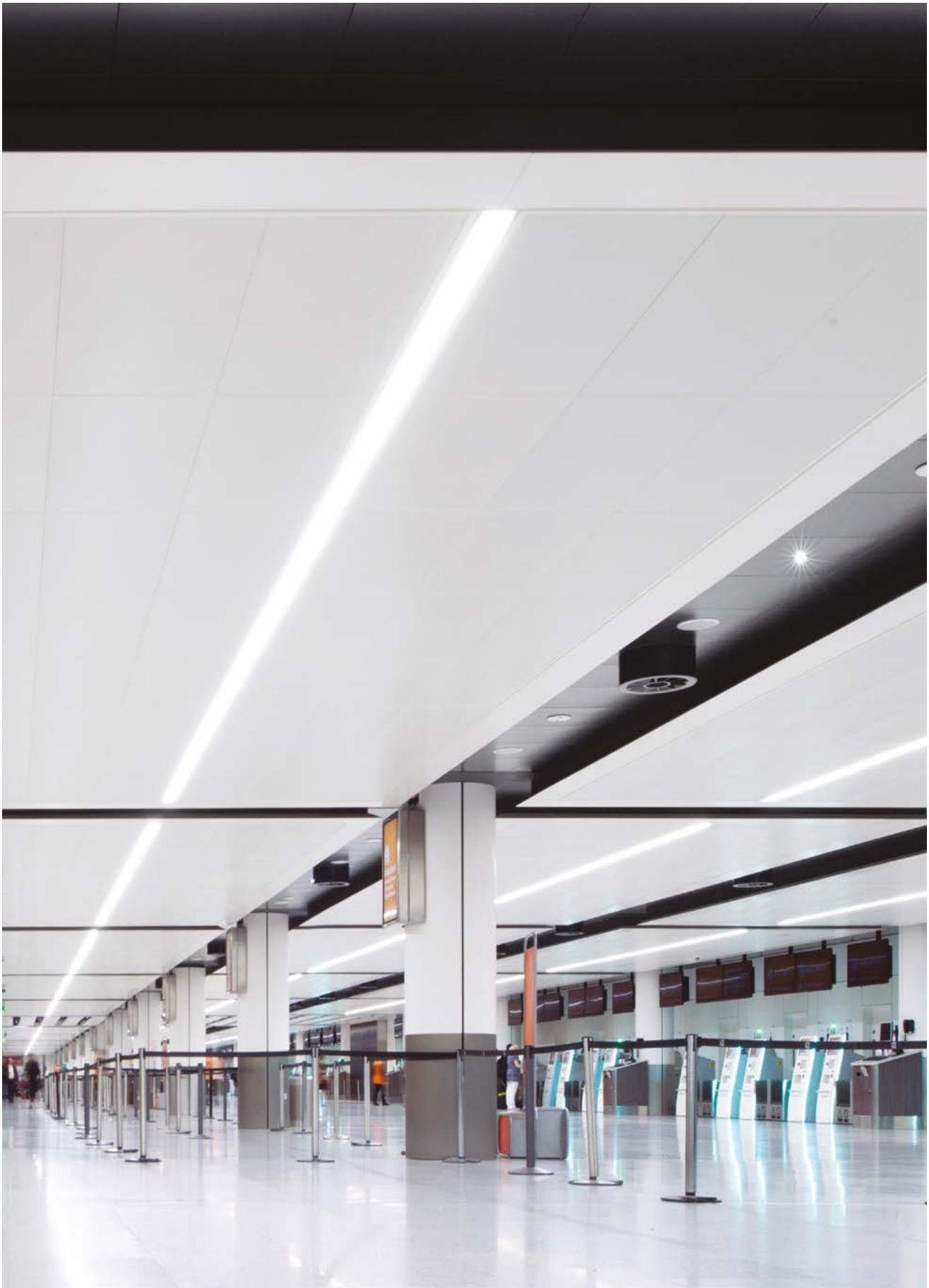


SAS**150**

Birmingham Library

Location
Birmingham, UK
Architect
Mecanoo Architecten

Contractor
Carillion Plc
Purpose
Leisure



SAS**200**

Gatwick Airport North Terminal

Location
London, UK
Architect
Atkins

Contractor
Balfour Beatty
Purpose
Infrastructure

SAS**200**

Robinsons

Location
Dubai, UAE
Architect
HMK Architects

Contractor
Deco Emirates
Purpose
Retail

SAS**205**

University of Technology, Sydney

Location
Sydney, Australia
Architect
BVN Architecture

Contractor
Richard Crookes Construction
Purpose
Education

SAS**205**

University of Leeds, Nexus

Location
Leeds, UK
Architect
Associated Architects & AHR Architects

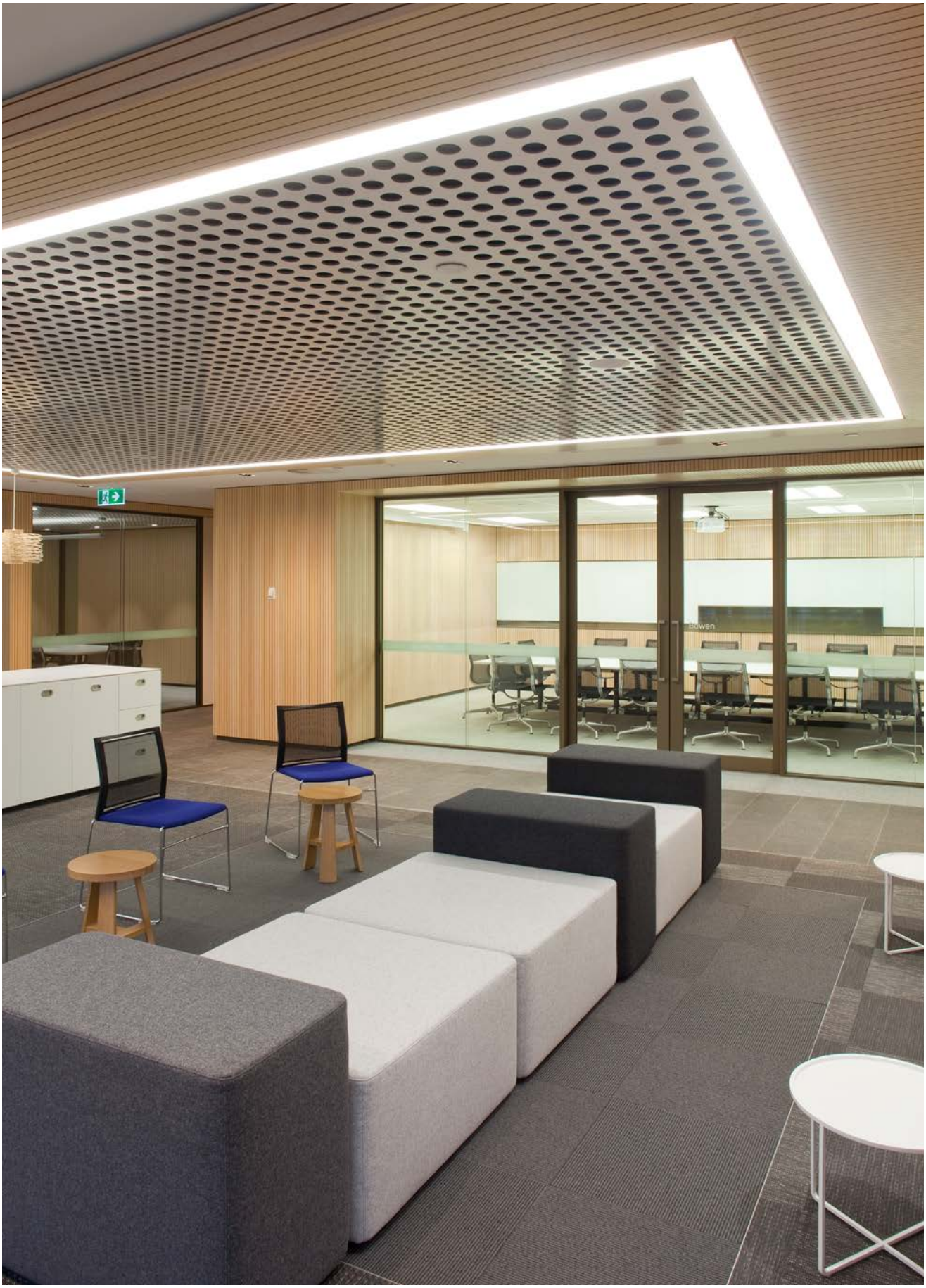
Contractor
Galliford Try Normantion
Purpose
Education

SAS**205**

Hospital General de Asturias, Oviedo

Location
Oviedo, Spain
Architect
Herraiz Arquitectura, S.L./Navarro Baldeweg Asociados S.L.P

Contractor
Constructora San Jose/ Sacyr Vallehermoso/ UTE Huca
Purpose
Healthcare

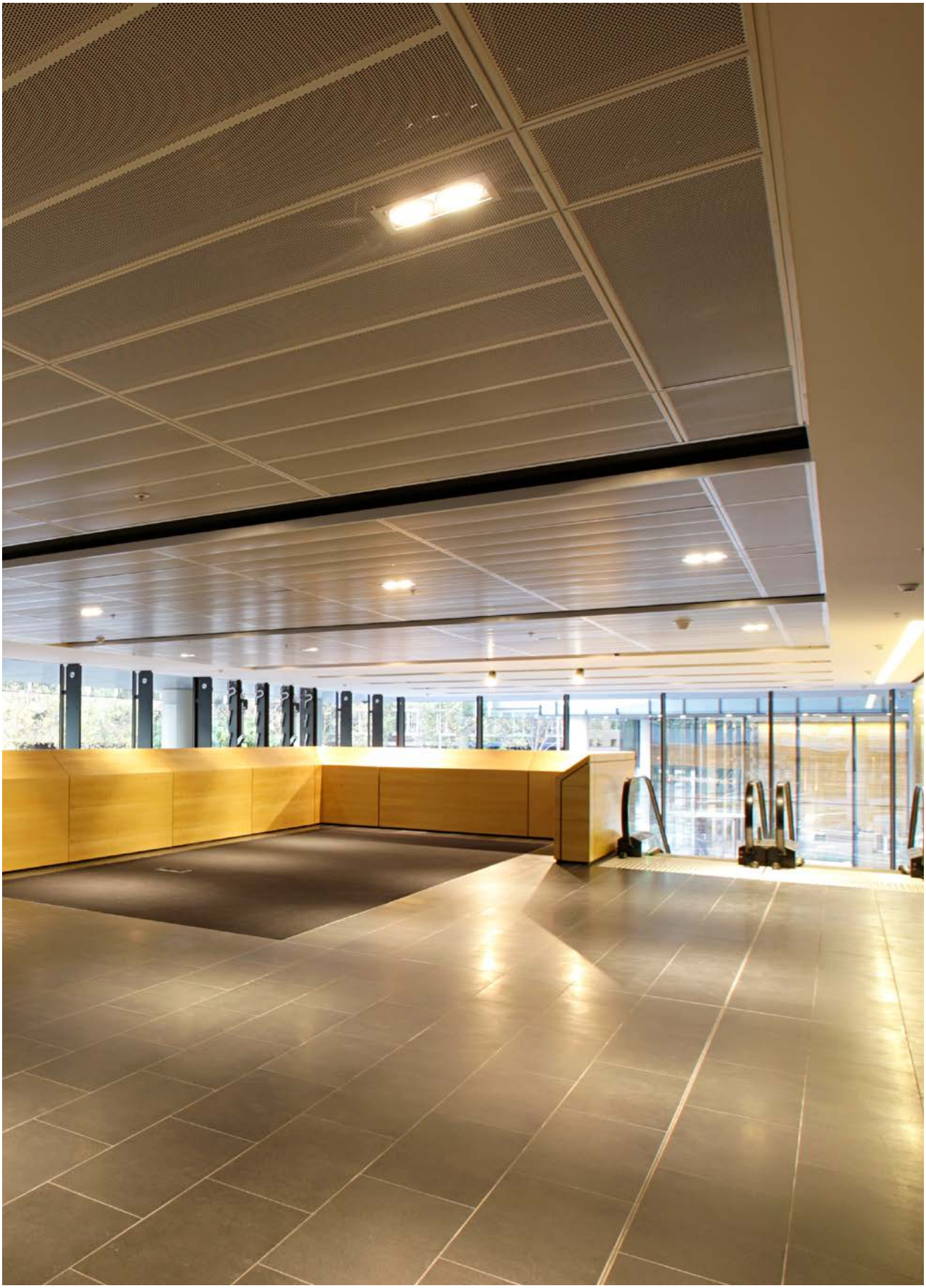


SAS**310**

Quantas Headquarters

Location
Sydney, Australia
Architect
Hassell Studio

Contractor
FDC
Purpose
Commercial



SAS**310**

Common Wealth Darling walk

Location
Sydney, Australia
Architect
Hassell Studio

Contractor
FDC
Purpose
Commercial

SAS**310**

Brookfield Multiplex

Location
Perth, Australia
Architect
Woods Bagot

Contractor
Brookfield Multiplex
Purpose
Commercial

SAS**320**

Grand Central, Birmingham

Location
Birmingham, UK
Architect
Haskoll Architects

Contractor
Mace Limited
Purpose
Retail

SAS**330**

KPMG

Location
Edinburgh, UK
Architect
Michael Laird Partnership

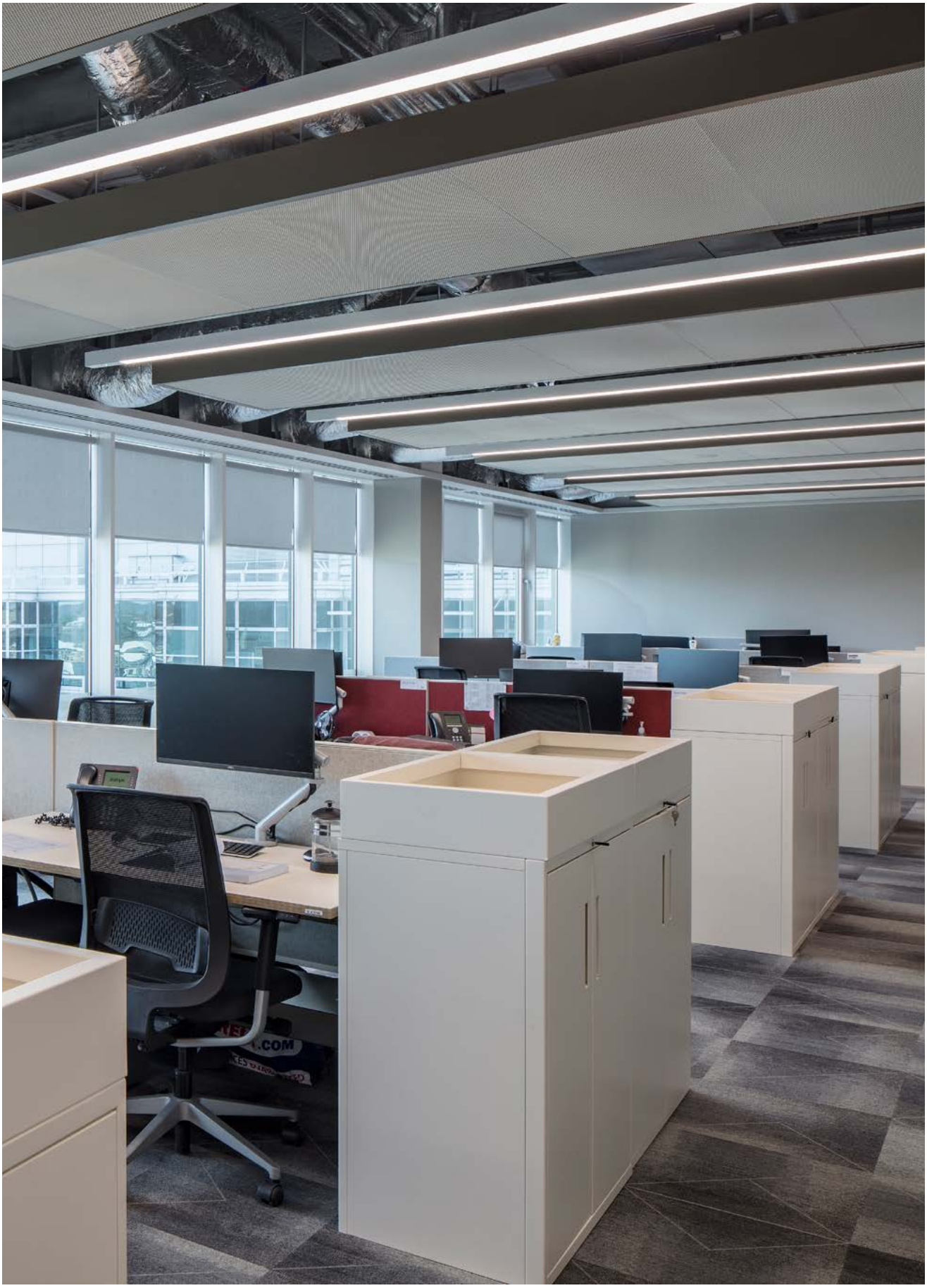
Contractor
GHI Contracts Ltd
Purpose
Commercial

SAS**330**

Tour Majunga

Location
Paris, France
Architect
Jean-Paul Viguier, S.A. D'Architecture

Contractor
Eiffage Construction
Purpose
Commercial



SAS**330**Mesh

TK Maxx

Location
Watford, UK
Architect
Sheppard Robson

Contractor
BW Workplace Experts
Purpose
Commercial

SAS**330A**

Gilbert + Tobin, Barangaroo

Location
Sydney, Australia
Architect
Woods Bagot

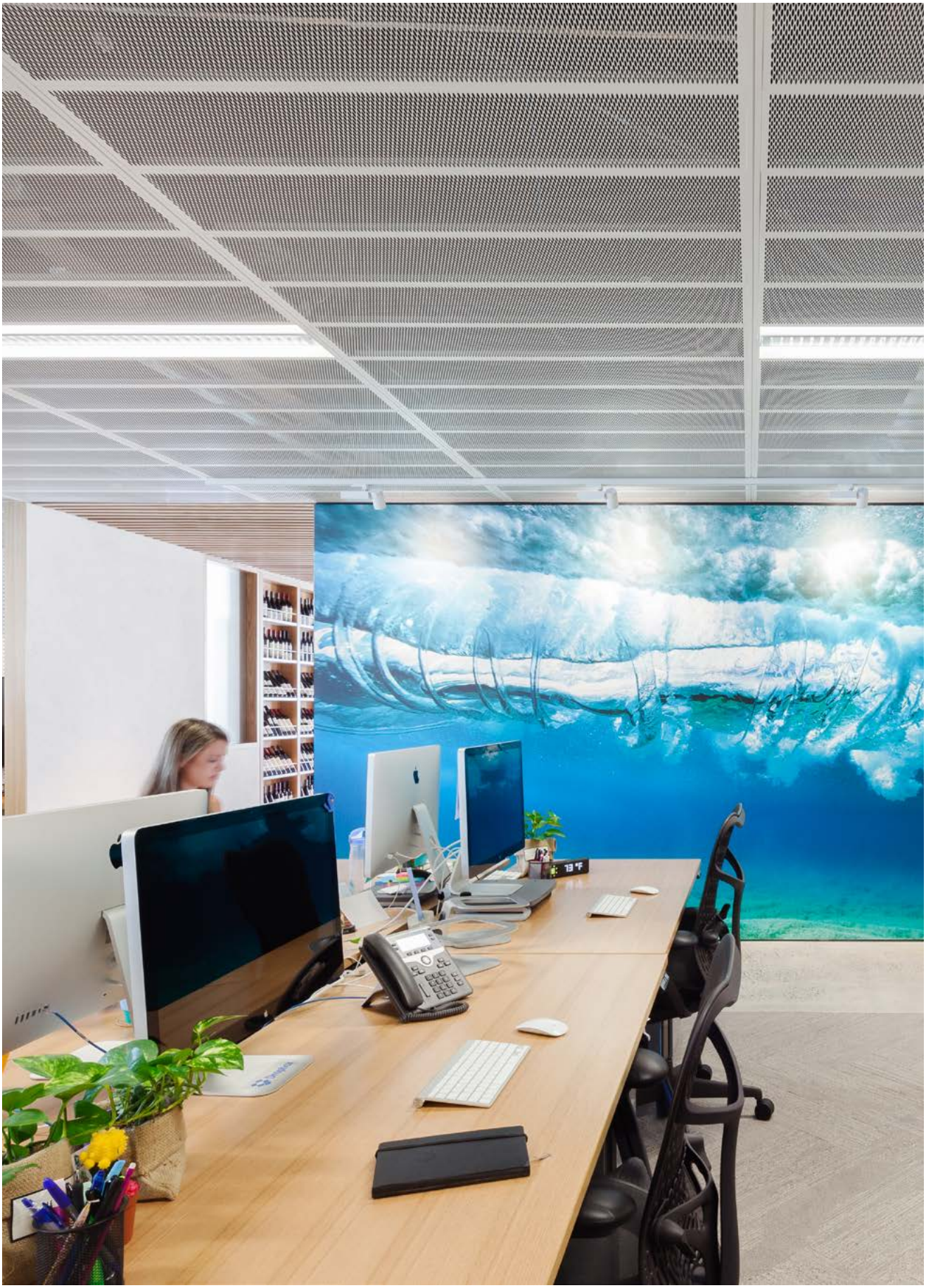
Contractor
Lendlease
Purpose
Commercial

SAS**330A**

Lendlease

Location
Sydney, Australia
Architect
Hassell Studio

Contractor
Lendlease
Purpose
Commercial



SAS**330A**

5 Martin Place

Location
Sydney, Australia
Architect
Johnson Pilton Walker Pty Ltd & Tanner Kibble Denton

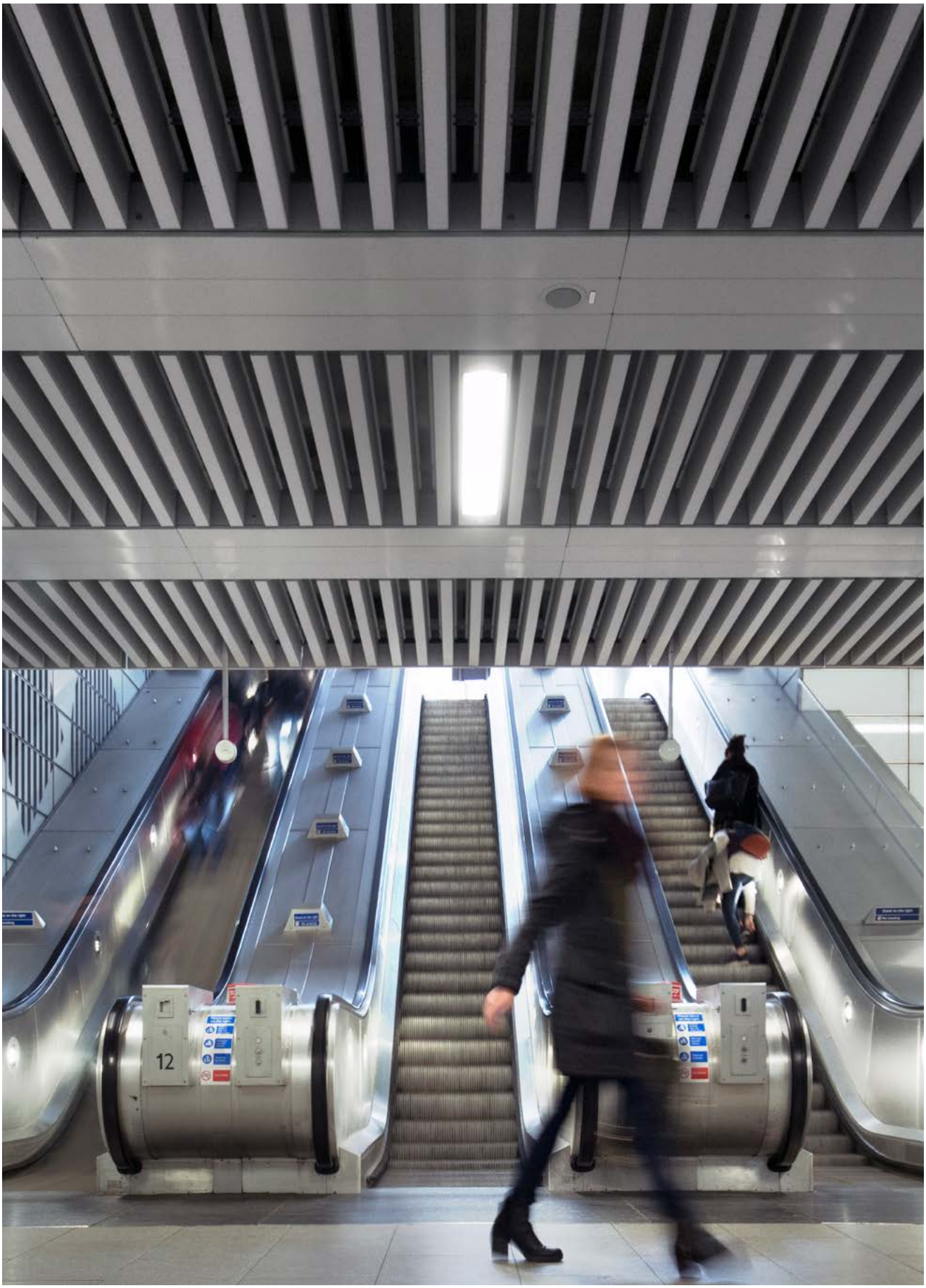
Contractor
Grocon
Purpose
Commercial

SAS**500**

Lendlease

Location
Sydney, Australia
Architect
Hassell Studio

Contractor
Lendlease
Purpose
Commercial



SAS**500**

Tottenham Station

Location
London, UK
Architect
Hawkins Brown Architects & Halcrow Consultant

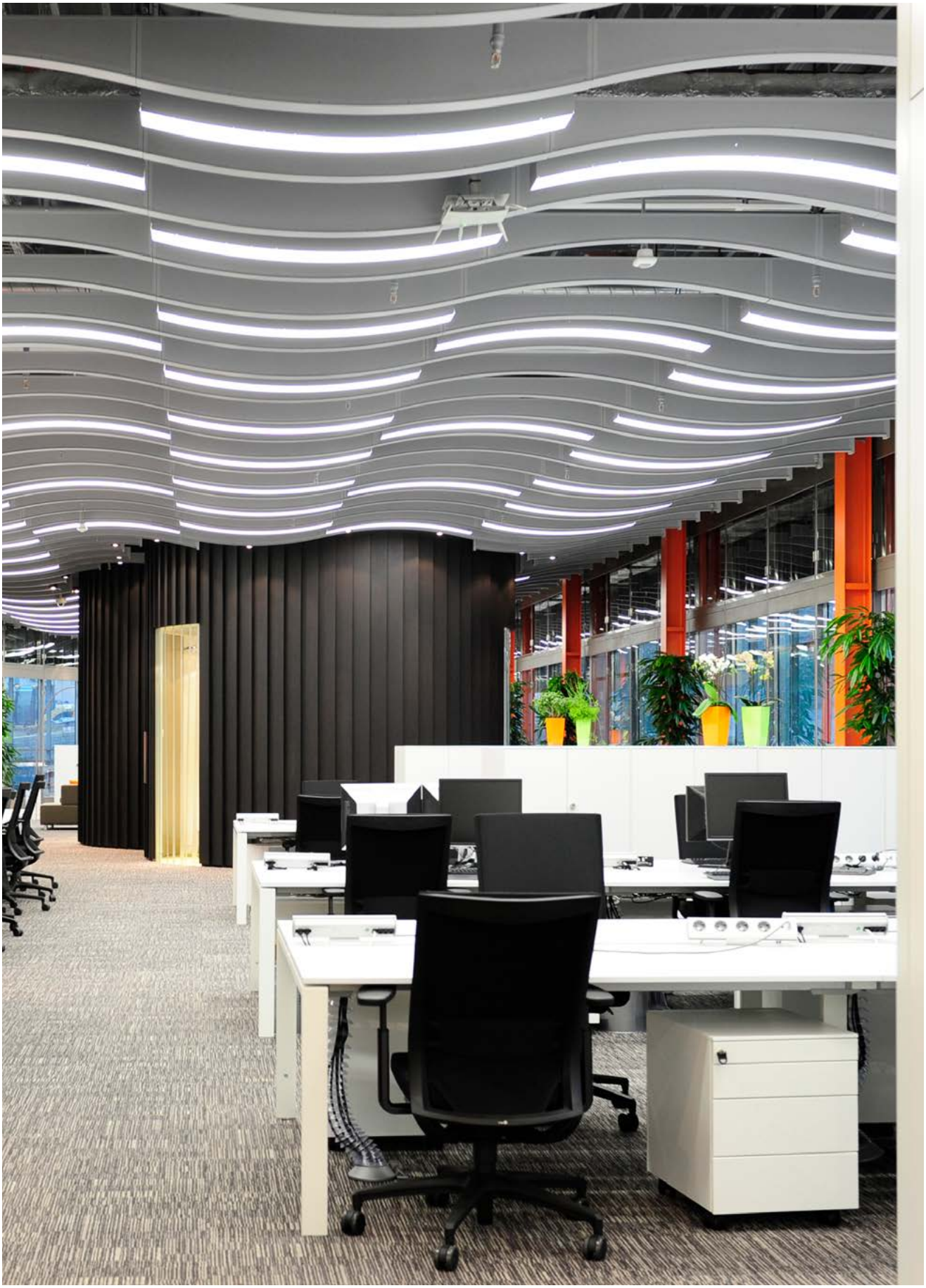
Contractor
Taylor Woodrow & BAM Nuttall JV
Purpose
Infrastructure

SAS**500**

Log Me In

Location
Dublin, Ireland
Architect
FKM

Contractor
FKM
Purpose
Infrastructure

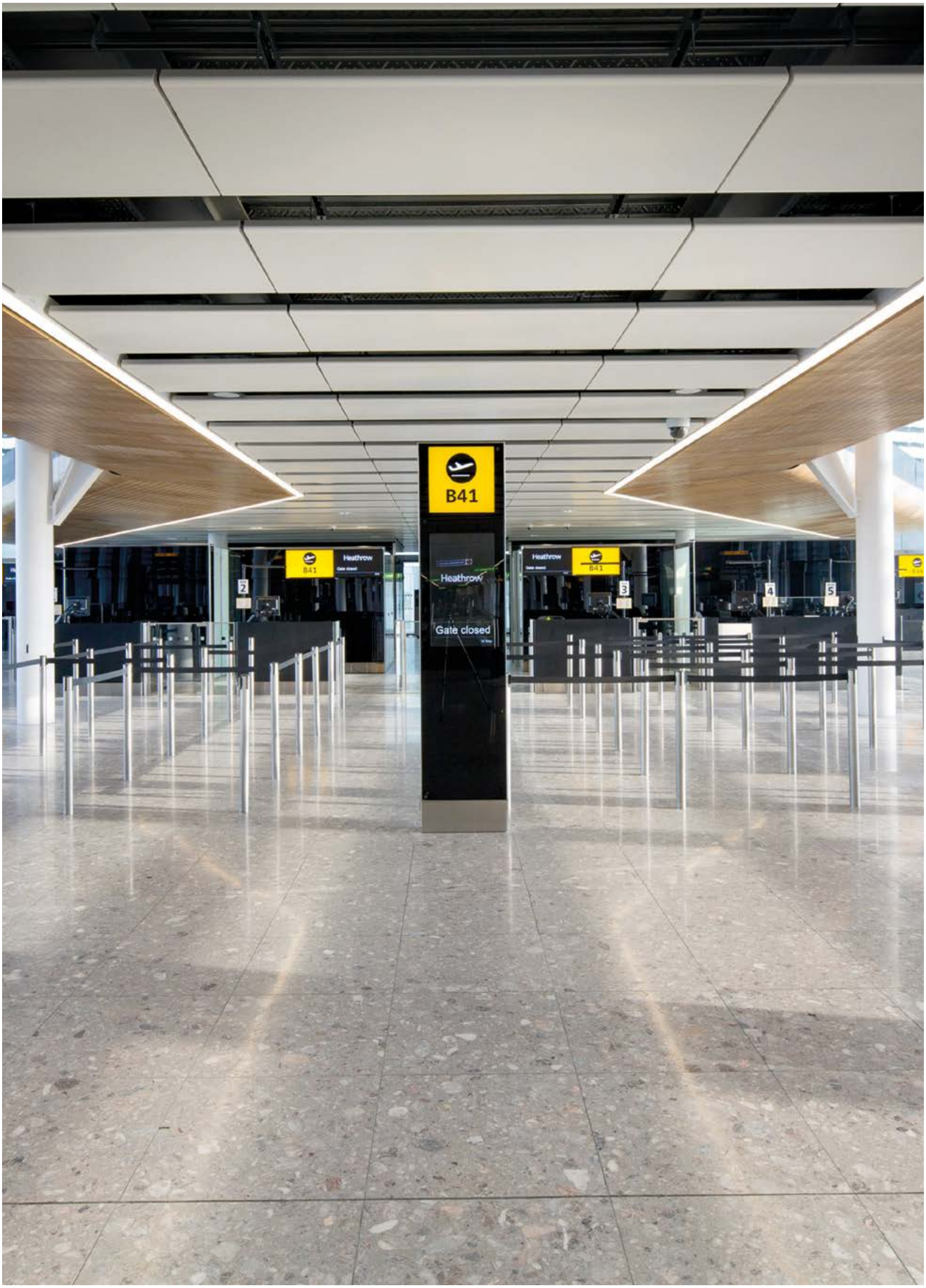


SAS**510**

Skype HQ

Location
Luxembourg
Architect
Walker & Martin Architects

Contractor
Skype
Purpose
Commercial



SAS**600**

Heathrow Airport T2

Location
London, UK
Architect
Nicholas Grimshaw & Partners Ltd

Contractor
Balfour Beatty
Purpose
Infrastructure

SAS**600**

Grant Thornton

Location
Dublin, Ireland
Architect
Michael Collins Associates

Contractor
Bennett Construction
Purpose
Commercial

SAS**600**

V&A Museum

Location
Dundee, Scotland
Architect
Kengo Kuma & Cre8 Architecture

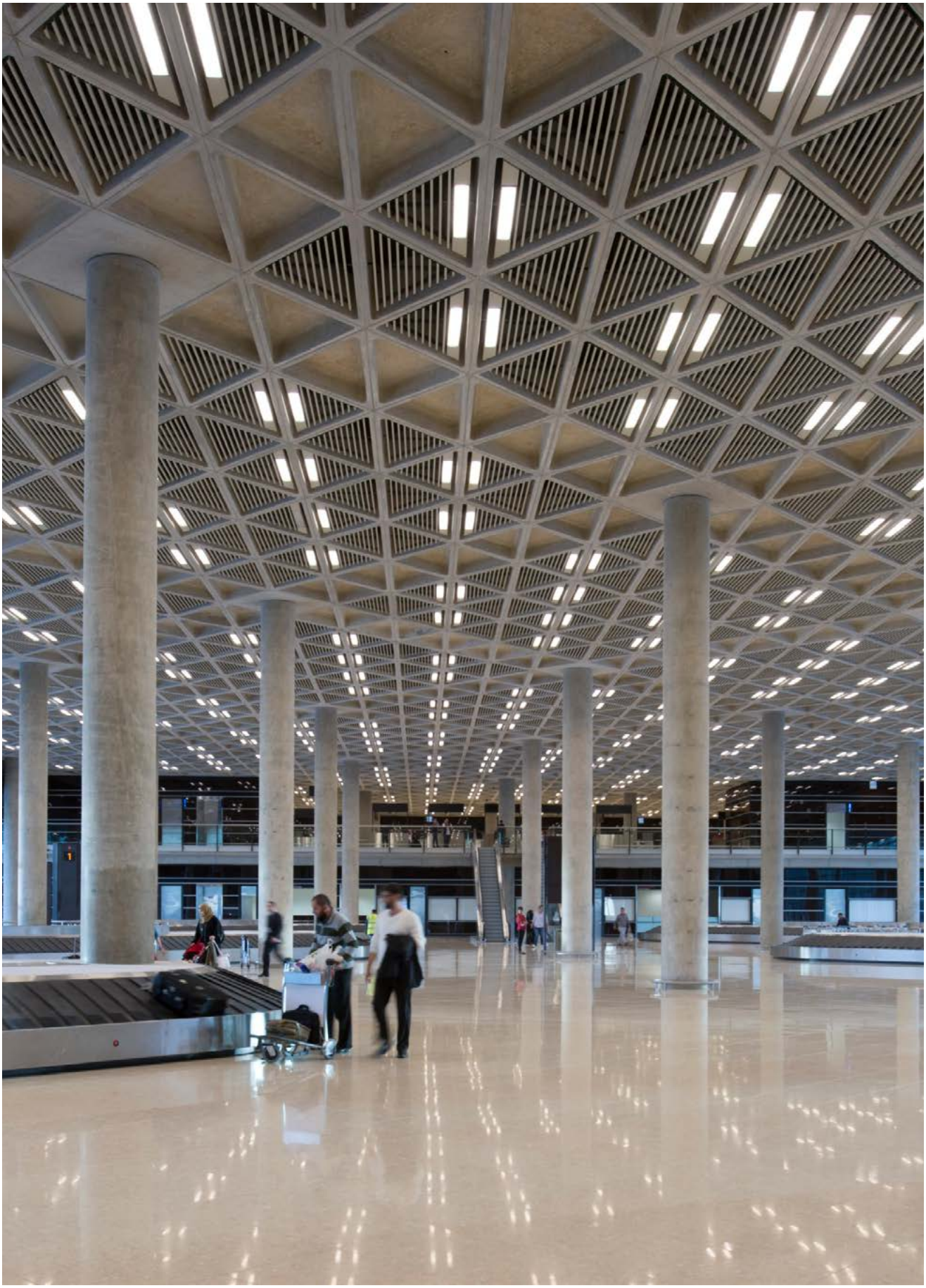
Contractor
BAM Construction Ltd: Scotland
Purpose
Leisure

SAS**700**

Meadowhall Shopping Centre

Location
Sheffield, UK
Architect
BDP

Contractor
Laing O'Rourke
Purpose
Retail



SAS**700**

Queen Alia Airport

Location
Amman, Jordan
Architect
Foster + Partners

Contractor
Joannou & Paraskevaides Overseas
Purpose
Infrastructure

SAS**720**

Zig Zag Building, London

Location
London, UK
Architect
HLW International

Contractor
BW Interiors Ltd
Purpose
Commercial

SAS**720**

Standard Chartered

Location
Dublin, Ireland
Architect
MCA Architects

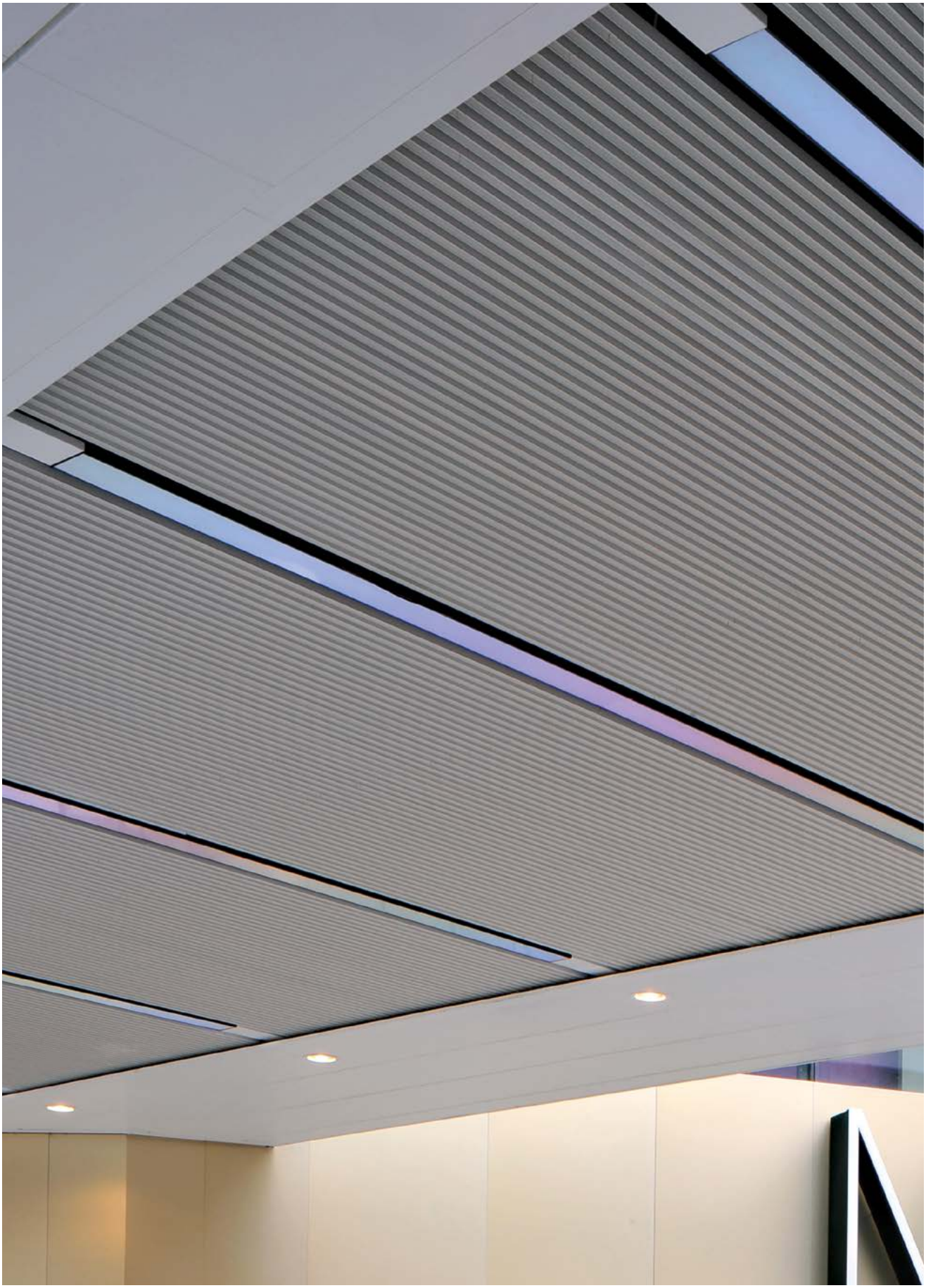
Contractor
T&I Fitouts
Purpose
Commercial

SAS**720**

University of Aberdeen Library

Location
Aberdeen, UK
Architect
Schmidt Hammer Lassen

Contractor
PIHL UK
Purpose
Education



SAS**730**

Westfield, Stratford City

Location
London, UK
Architect
Westfield Shopping Towns Ltd

Contractor
Westfield Shopping Towns Ltd
Purpose
Retail

SAS**740**

Bracken House

Location
London, UK
Architect
John Robertson Architects and Perkins & Will

Contractor
McLaren Construction
Purpose
Commercial

SAS**740**

Auckland Airport

Location
Auckland, New Zealand
Architect
Gensler Australia Pty. Ltd

Contractor
Forman Commercial Interiors
Purpose
Transport

SAS**740**

University of Leeds, Nexus

Location
Leeds, UK
Architect
Associated Architects & AHR Architects

Contractor
Galliford Try Normantion
Purpose
Education

SAS**750**

50 Martin Place

Location
Sydney, Australia
Architect
Johnson Pilton Walker PTY Ltd

Contractor
Multiplex
Purpose
Commercial

SAS**750**

Minter Ellison

Location
Sydney, Australia
Architect
BVN Architecture

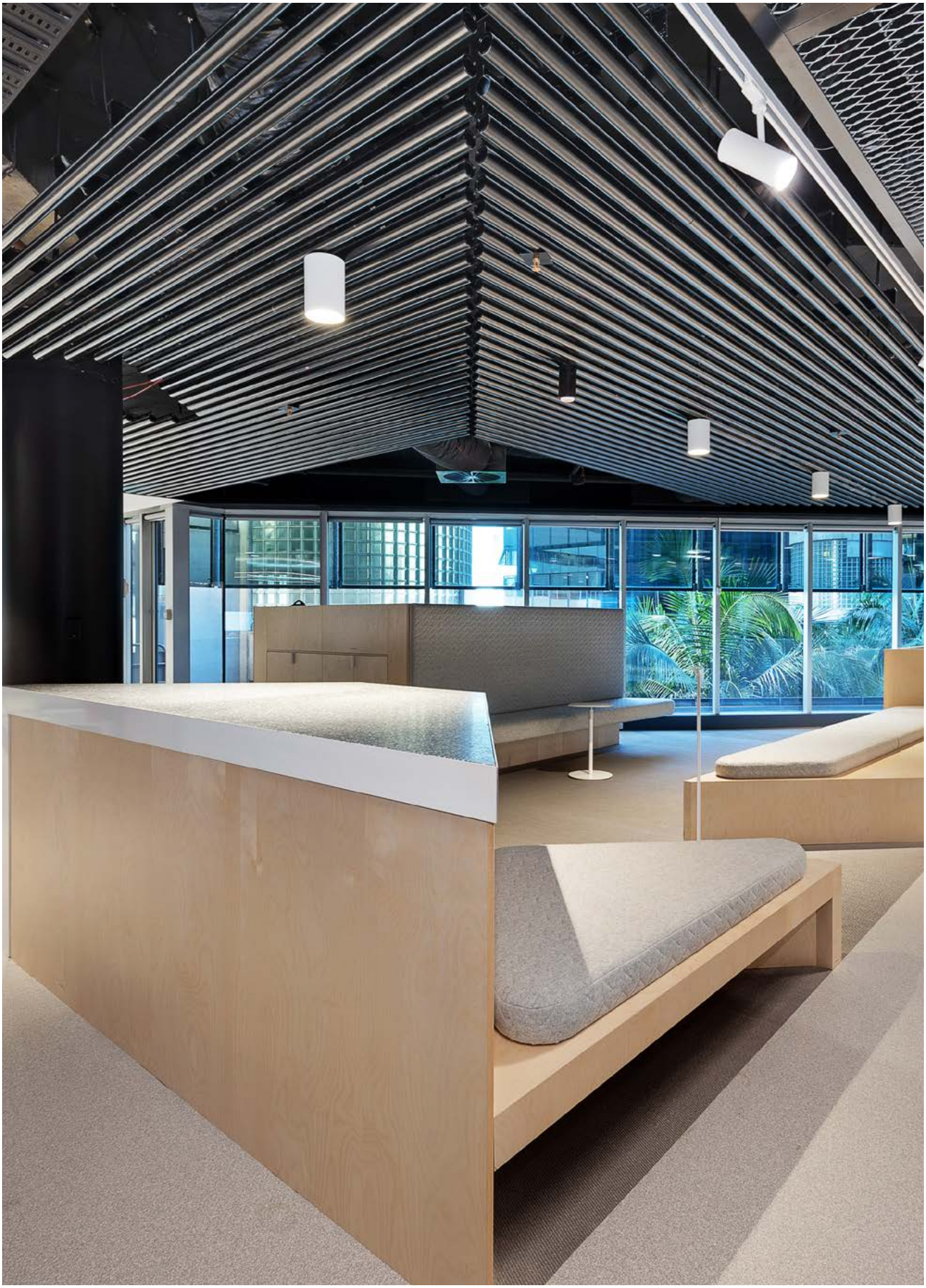
Contractor
Buildcorp
Purpose
Commercial

SAS**750**

Auckland Airport

Location
Auckland, New Zealand
Architect
Gensler Australia Pty. Ltd

Contractor
Forman Commercial Interiors
Purpose
Infrastucture



SAS**750**

Roads & Maritime Services

Location
Sydney, Australia
Architect
Brewster Murray

Contractor
Formula Interiors
Purpose
Commercial

SAS**800**

RMS Parramatta

Location
Sydney, Australia
Architect
GHD Woodhead Sydney

Contractor
Intrec Management Pty Ltd
Purpose
Commercial

SAS**800**

Westpac Barangaroo

Location
Sydney, Australia
Architect
RSHP & Geyer

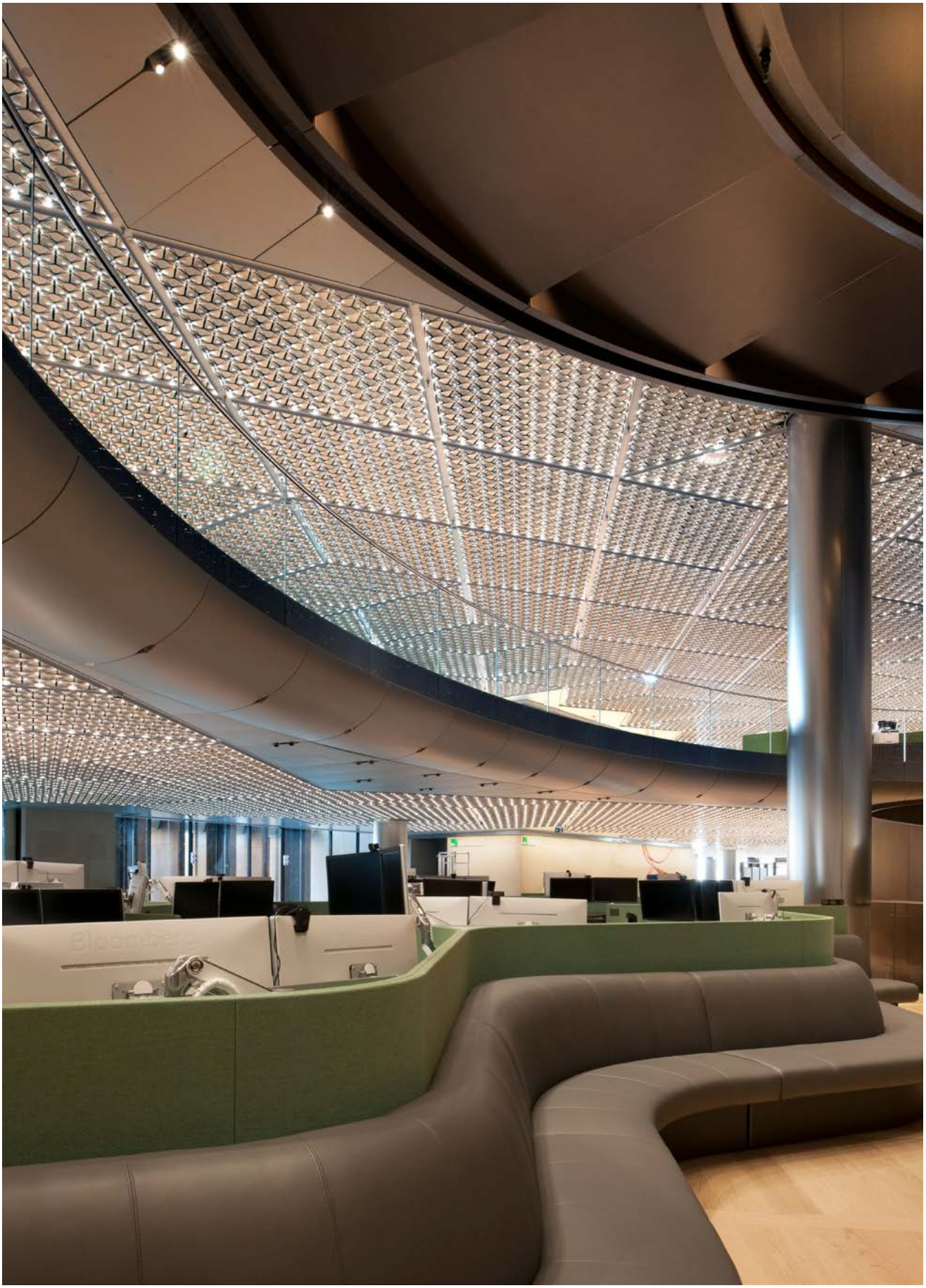
Contractor
Lendlease
Purpose
Commercial

SAS**810**

PWC

Location
Manchester, UK
Architect
BDP

Contractor
BAM Construct UK
Purpose
Commercial



Bespoke

Bloomberg HQ

Location
London, UK
Architect
Foster & Partners

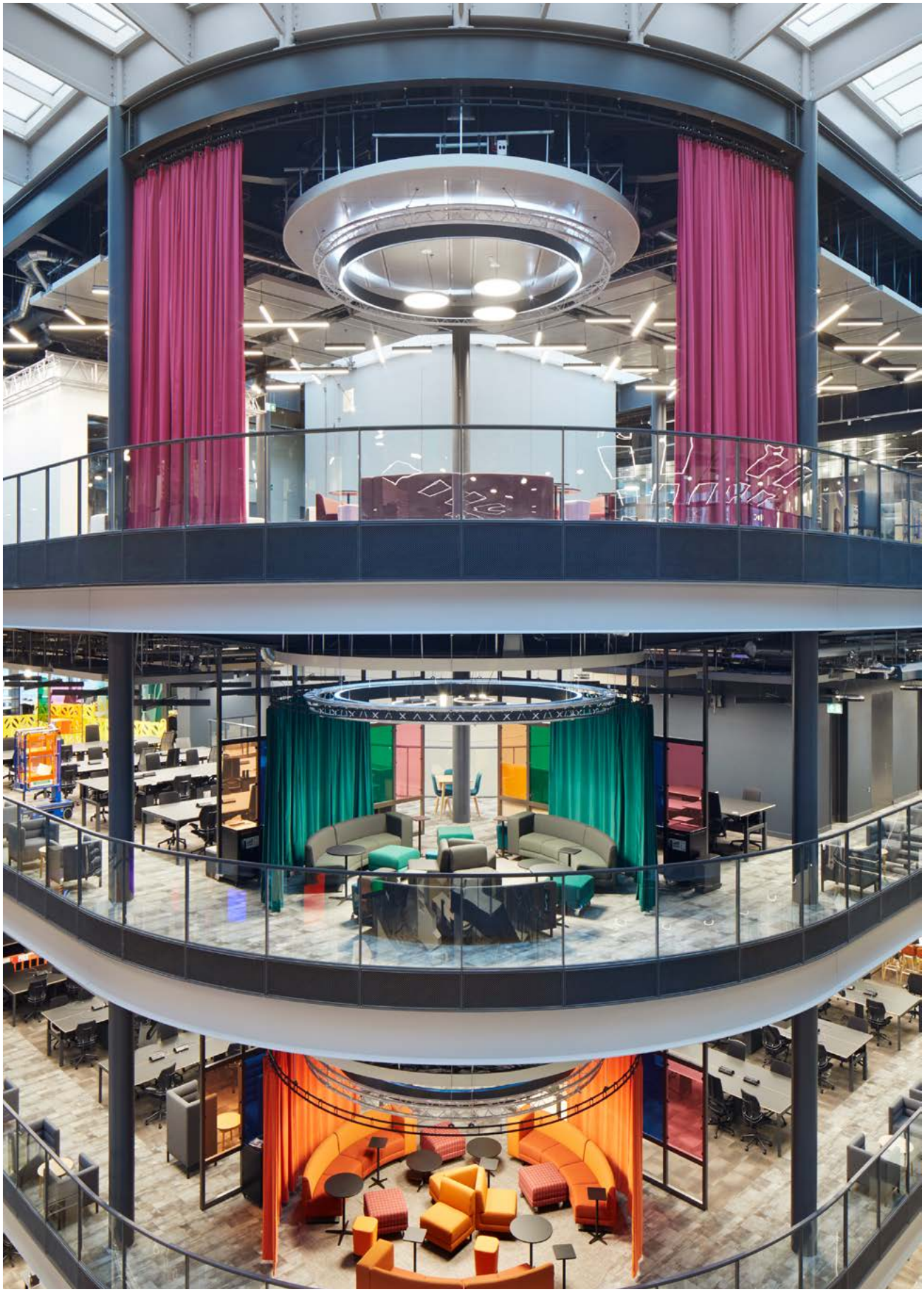
Contractor
Sir Robert McAlpine
Purpose
Commercial

Bespoke

Westfield Sheppards Bush

Location
London, UK
Architect
UNStudio & Sheppard Robson

Contractor
Westfield Construction
Purpose
Retail



Bespoke

BBC HQ

Location
Wales, UK
Architect
Sheppard Robson

Contractor
Bridgeplex Ltd.
Purpose
Commercial

Perforations

Perforations | Overview

SAS Perforation Codes
To aid the specification and understanding of perforation patterns, SAS perforation codes break down into three simple sections.

For example:

S1820

So, S1820 has a square pitch with 1.8mm punched perforation and 20% open area.

D
Diagonal
S
Square

The first letter (D or S) indicates whether the pitch is diagonal or square to the edge of the tile.

18
Diameter

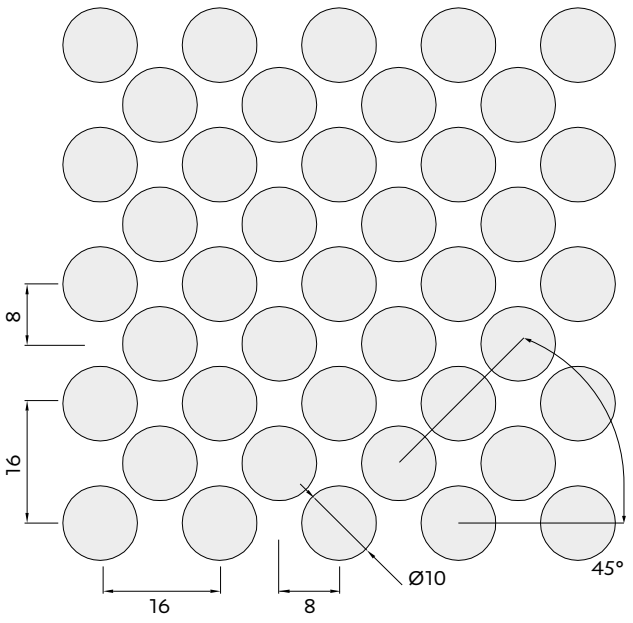
The first two numbers indicate the size of the punched hole. 18 indicates 1.8mm diameter.

20
Open area

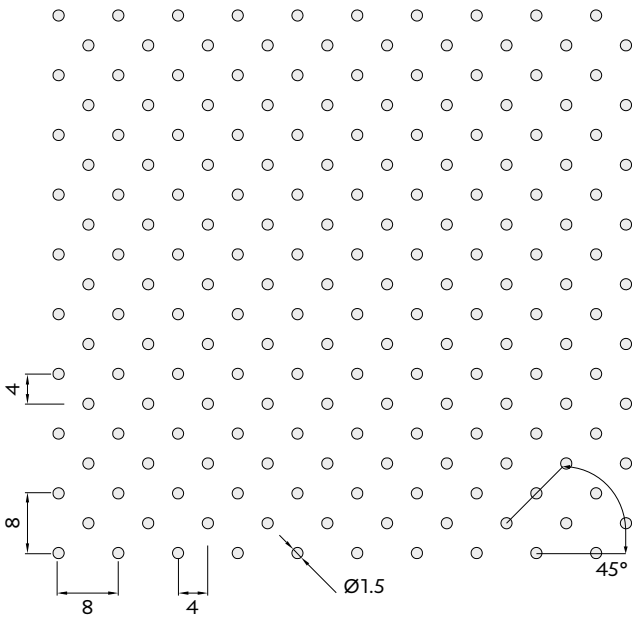
The final two numbers indicate the percentage of open area. 20 indicates a 20% open area (before paint).

Complete flexibility on perforation subject to acoustic requirements, please contact technical team.

D1061
Ø10.0mm, 61% Open Area



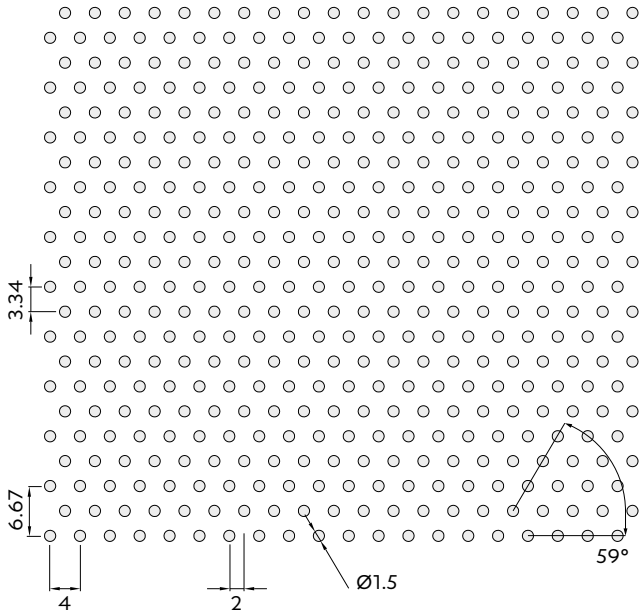
D1505
Ø1.5mm, 5% Open Area



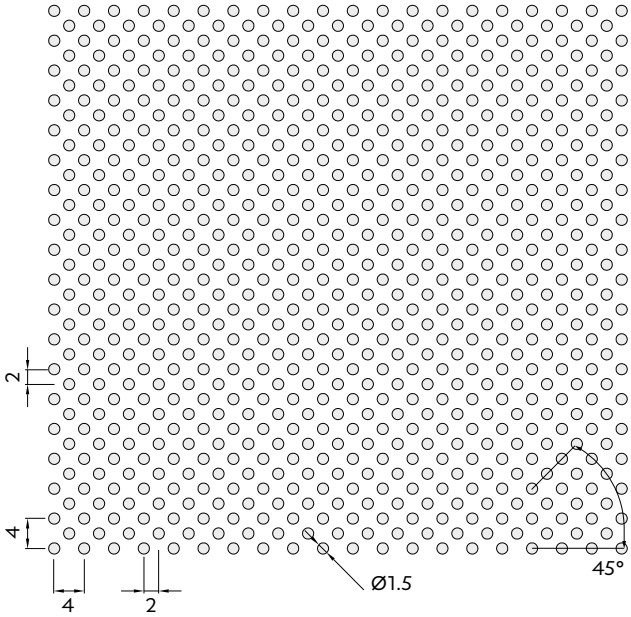
All dimensions are in mm.

Perforations | Overview

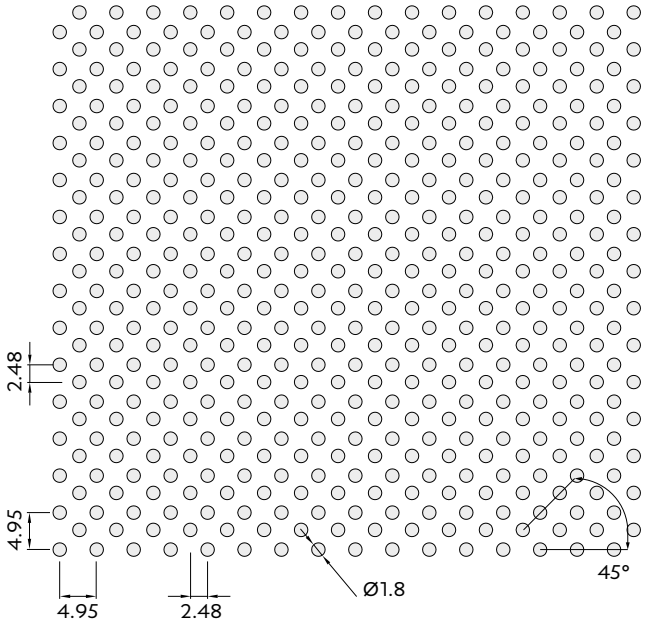
D1513 *
Ø1.5mm 13% Open Area



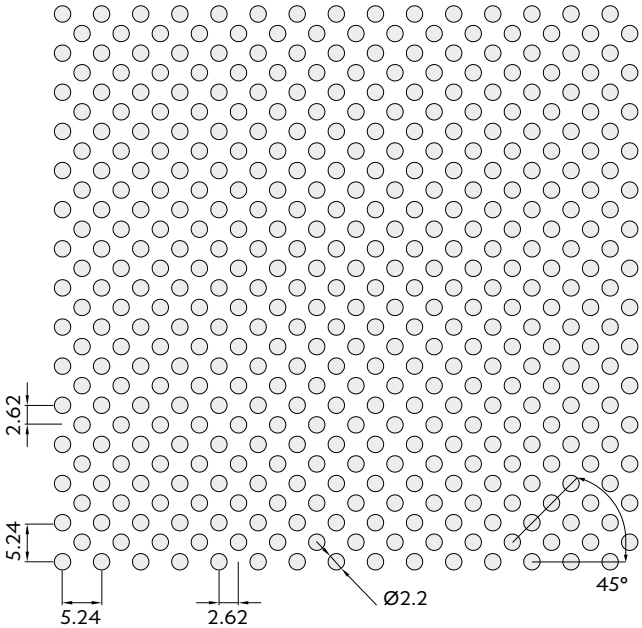
D1522
Ø1.5mm, 22% Open Area



D1821
Ø1.8mm, 21% Open Area



D2227
Ø2.2mm, 27% Open Area

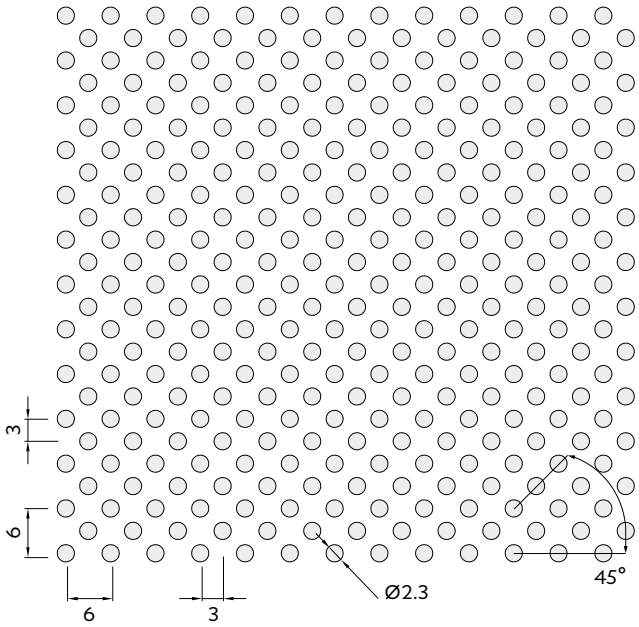


* Perforation appears differently when turned 90°

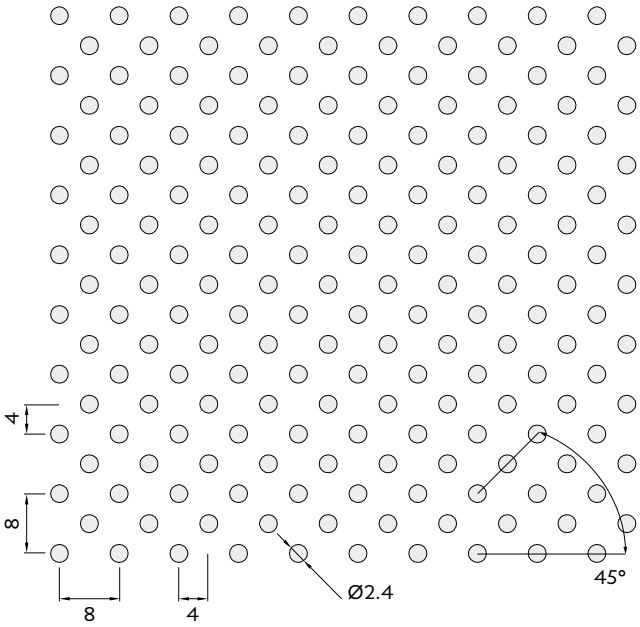
All dimensions are in mm.

Perforations | Overview

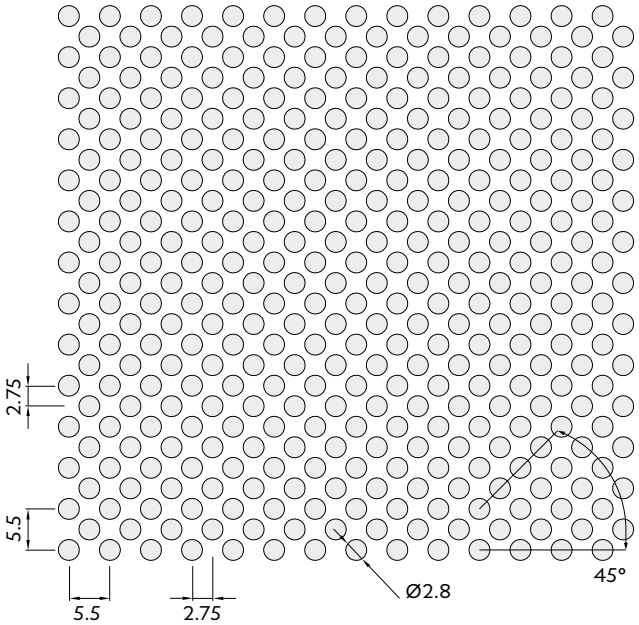
D2324
Ø2.3mm, 24% Open Area



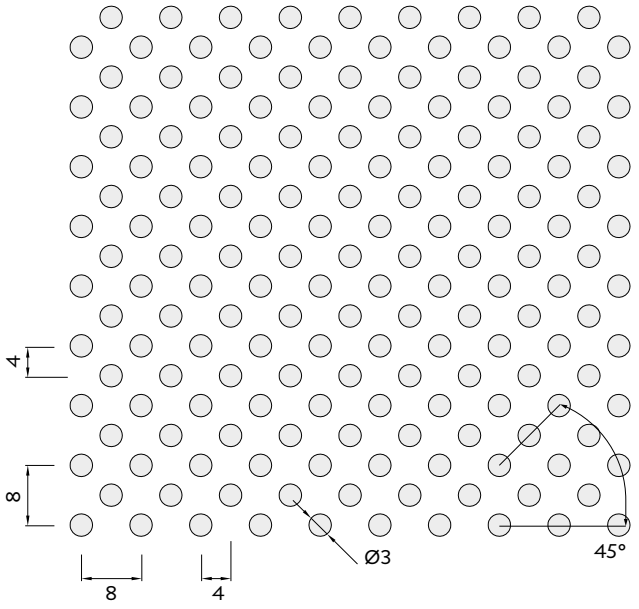
D2414
Ø2.4mm, 14% Open Area



D2841
Ø2.8mm, 41% Open Area



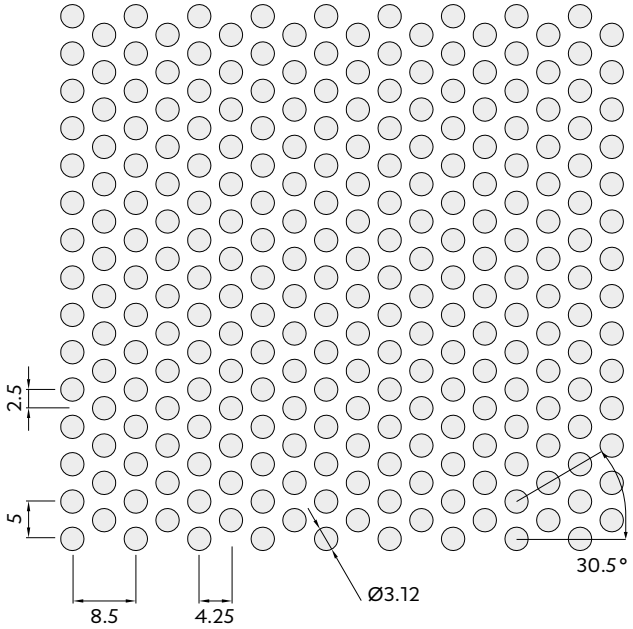
D3022
Ø3.0mm, 22% Open Area



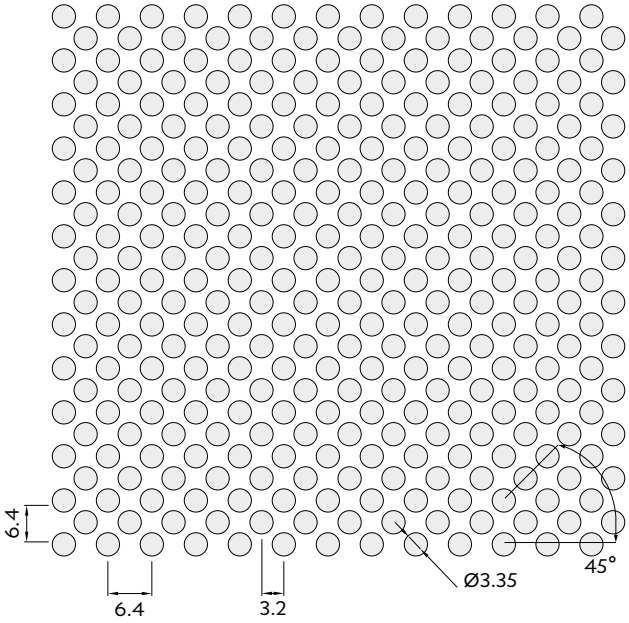
All dimensions are in mm.

Perforations | Overview

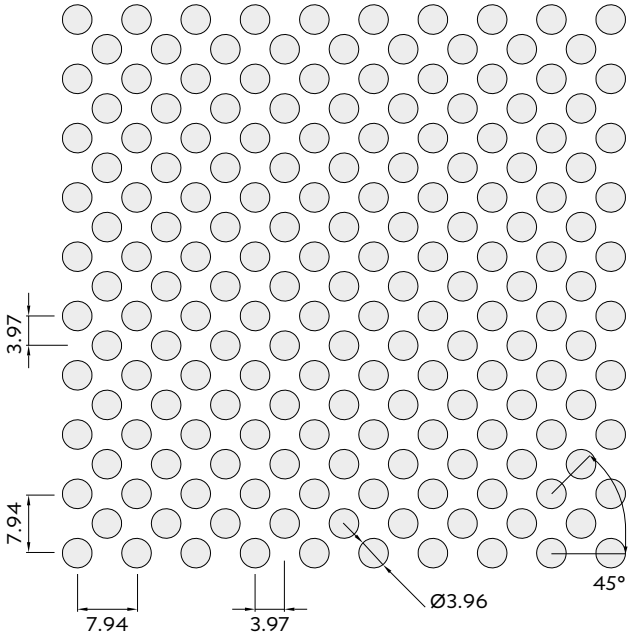
D3136 *
Ø3.12mm, 36% Open Area



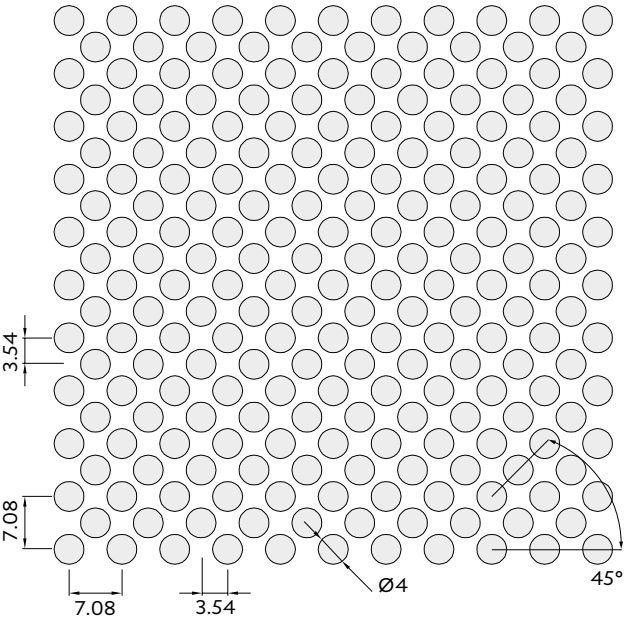
D3343
Ø3.35mm, 43% Open Area



D3939
Ø3.96mm, 39% Open Area



D4050
Ø4.0mm, 50% Open Area

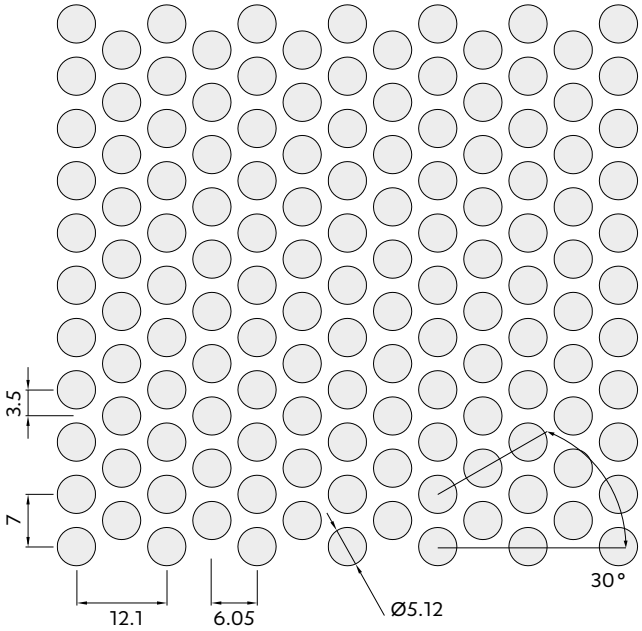


* Perforation appears differently when turned 90°

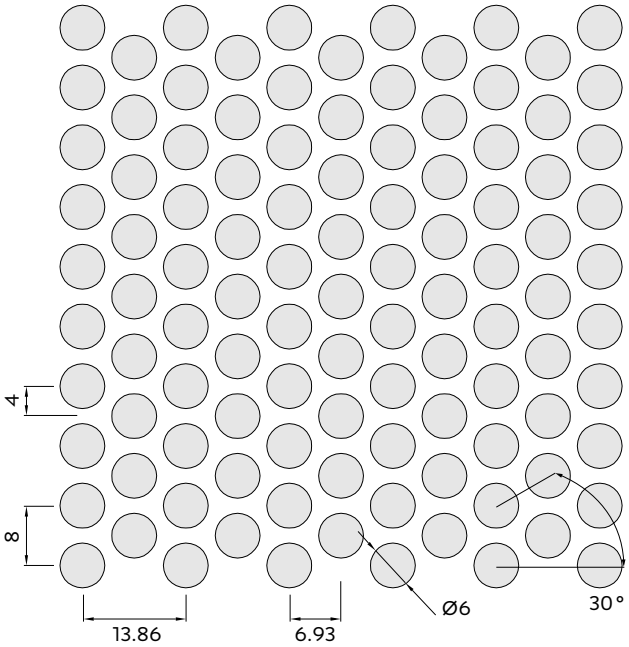
All dimensions are in mm.

Perforations | Overview

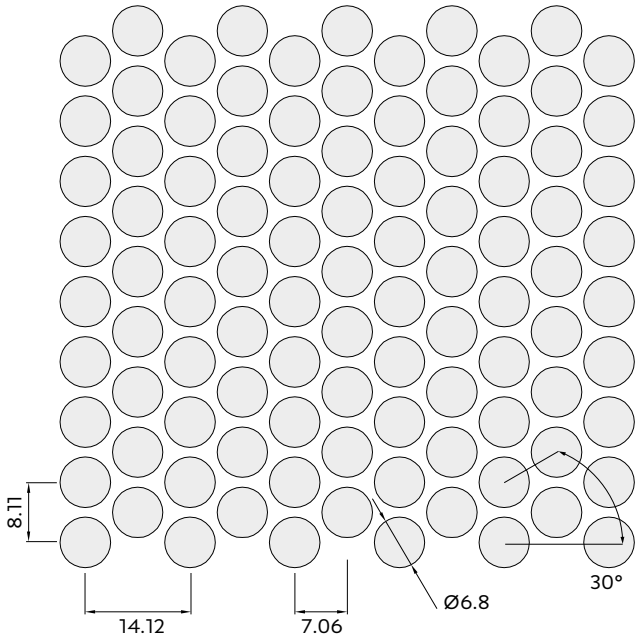
D5149 *
Ø5.12mm, 49% Open Area



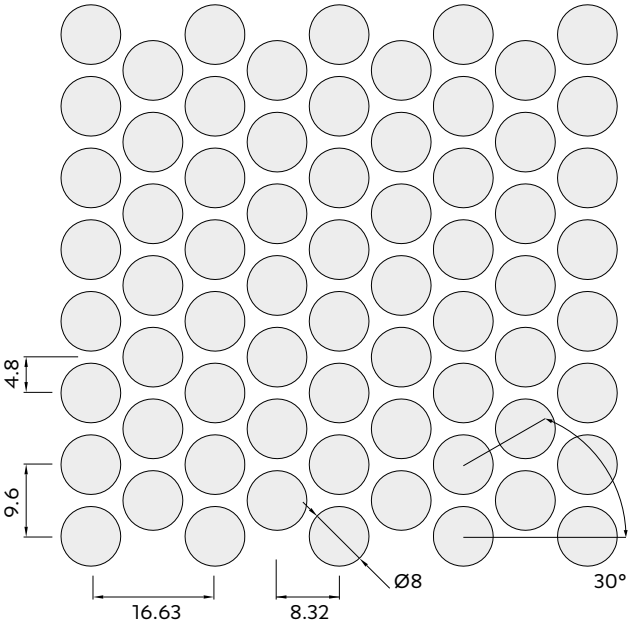
D6051 *
Ø6.0mm, 51% Open Area



D6863 *
Ø6.8mm, 63% Open Area



D8063 *
Ø8.0mm, 63% Open Area

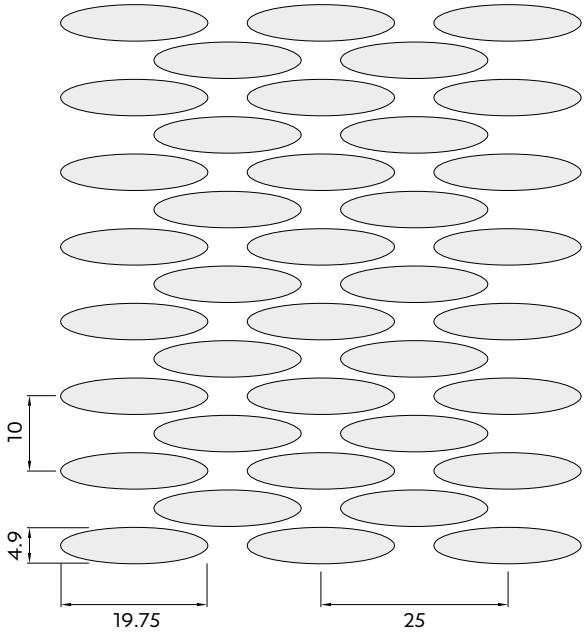


* Perforation appears differently when turned 90°

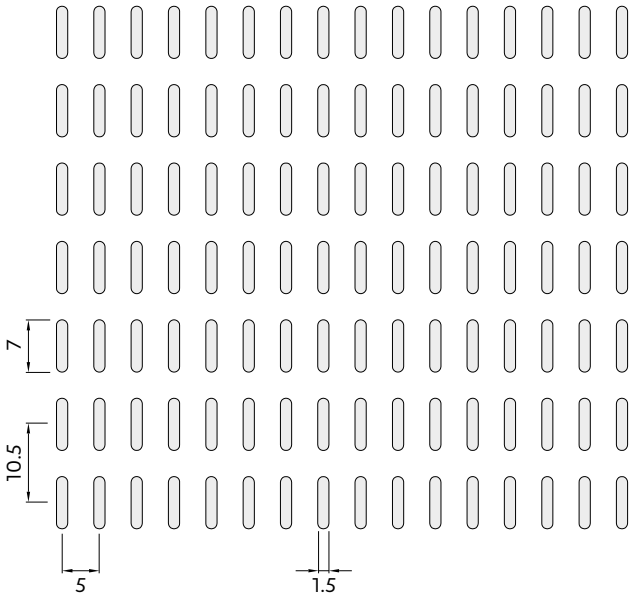
All dimensions are in mm.

Perforations | Overview

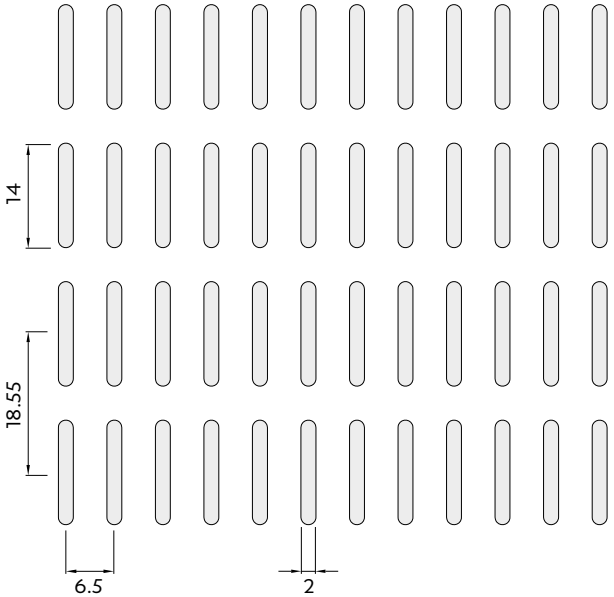
EL60 *
19.75 x 4.9mm, 60% Open Area



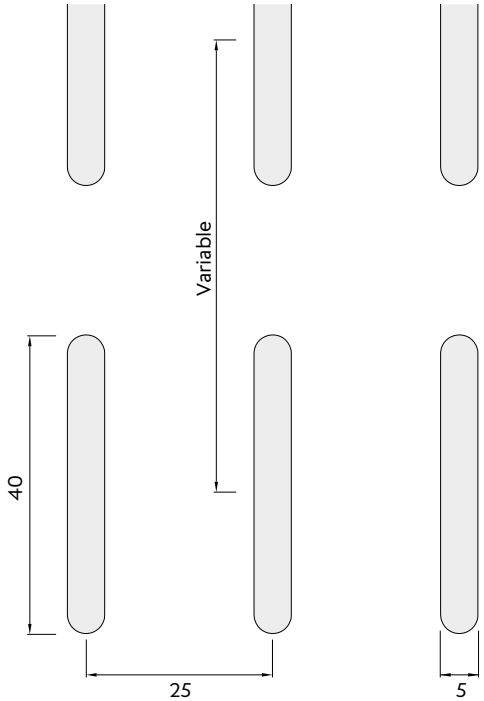
OB19 *
1.5 x 7.0mm, 19% Open Area



OB23 *
2.0 x 14.0mm, 23% Open Area



OB40 *
5 x 40.0mm, Dependent on pitch

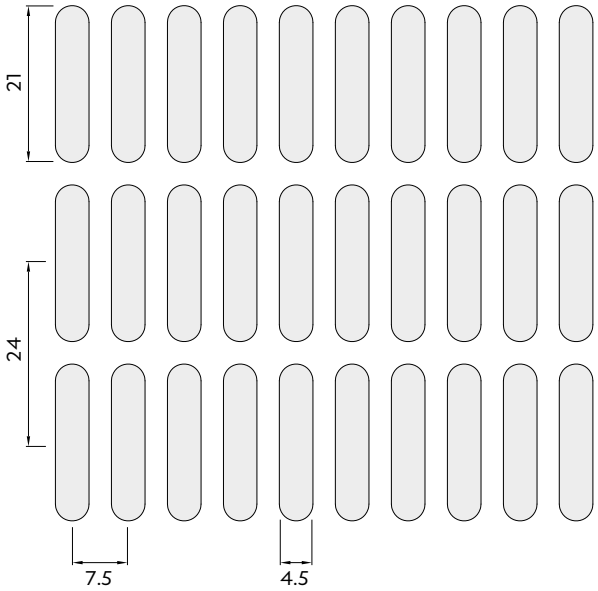


* Perforation appears differently when turned 90°

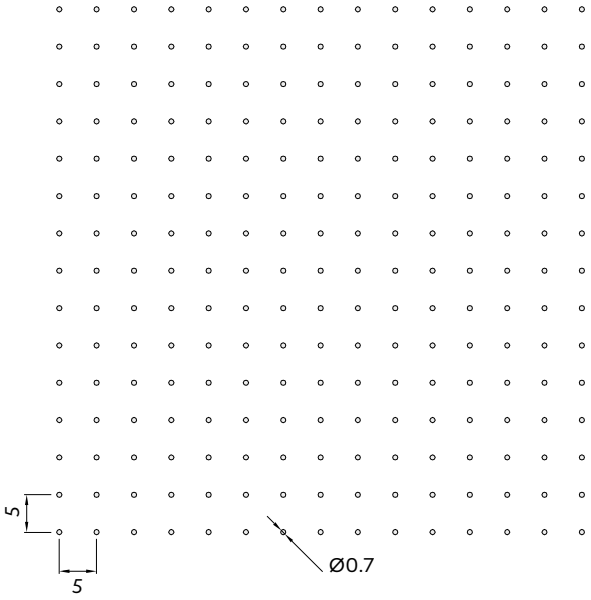
All dimensions are in mm.

Perforations | Overview

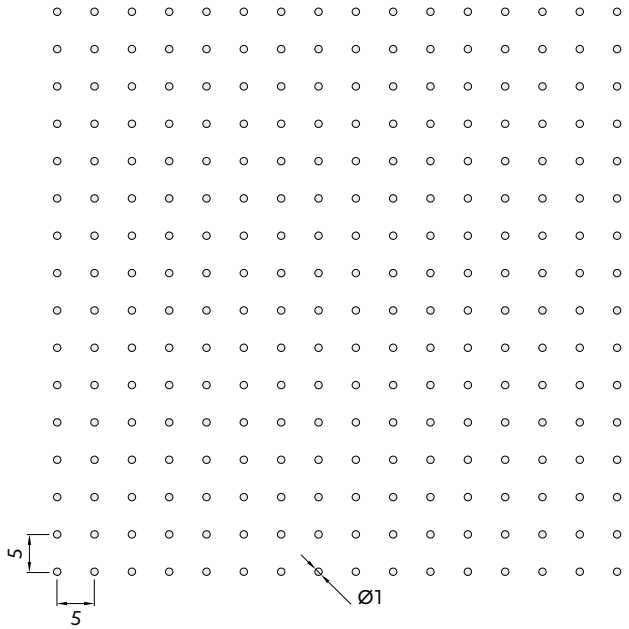
OB50 *
4.5 x 21.0mm, 50% Open Area



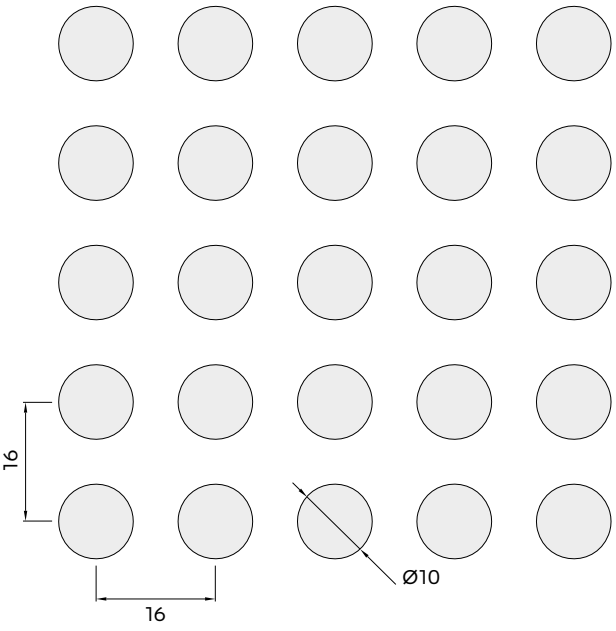
S0702 Ultramicro
Ø0.7mm, 2% Open Area



S1003 Ultramicro
Ø1.0mm, 3% Open Area



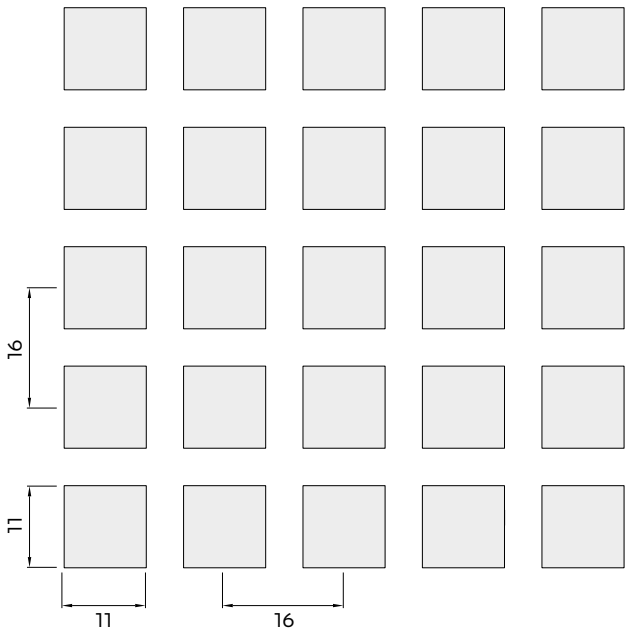
S1030
Ø10.0mm, 30% Open Area



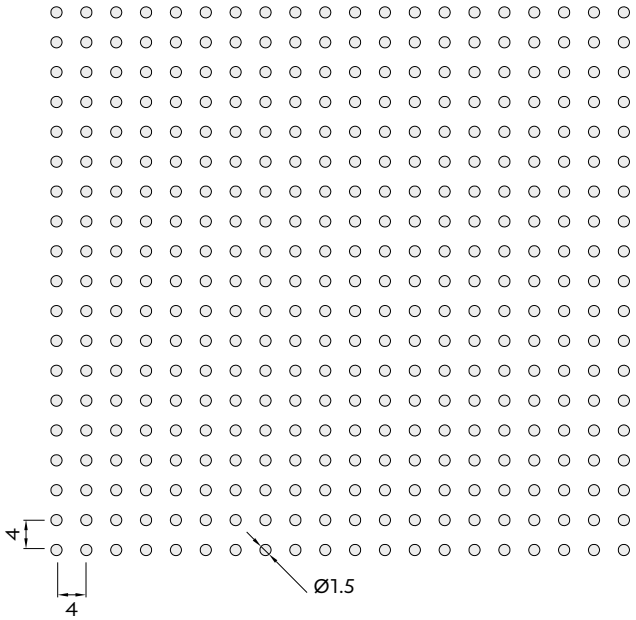
All dimensions are in mm.

Perforations | Overview

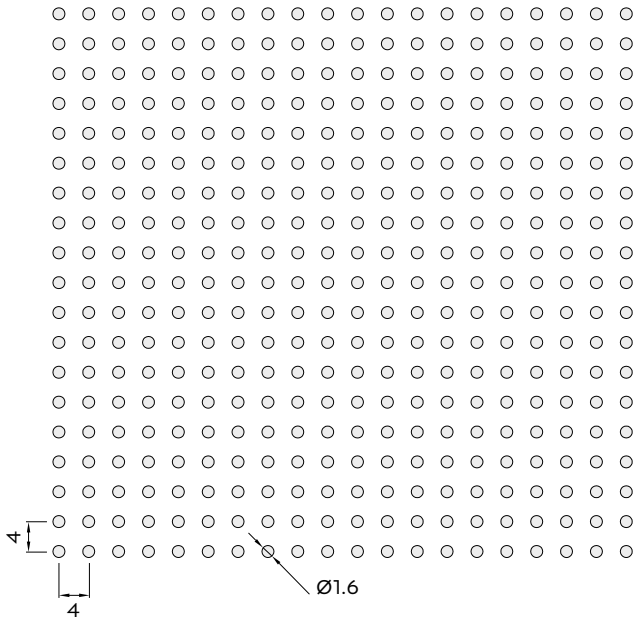
S1147
11.0 x 11.0mm, 47% Open Area



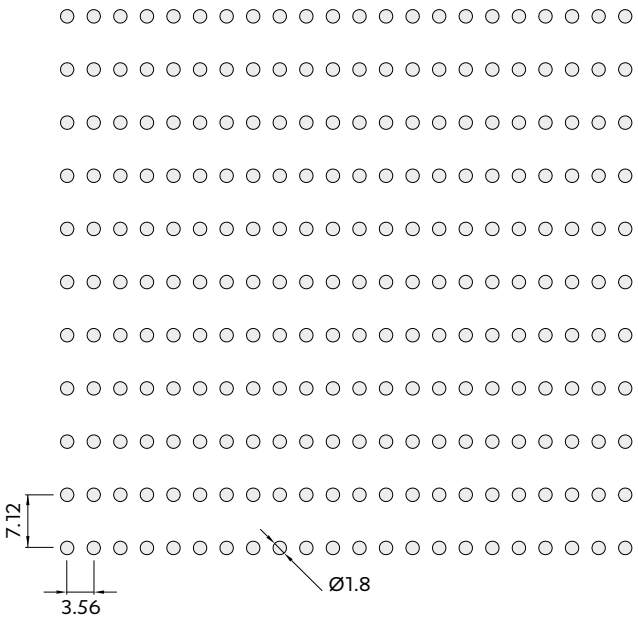
S1511
Ø1.5mm, 11% Open Area



S1612
Ø1.6mm, 12% Open Area



S1810 *
Ø1.8mm, 10% Open Area

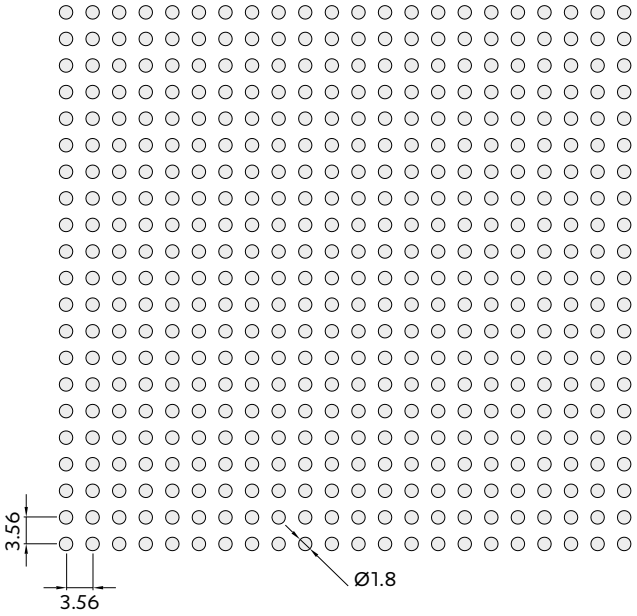


* Perforation appears differently when turned 90°

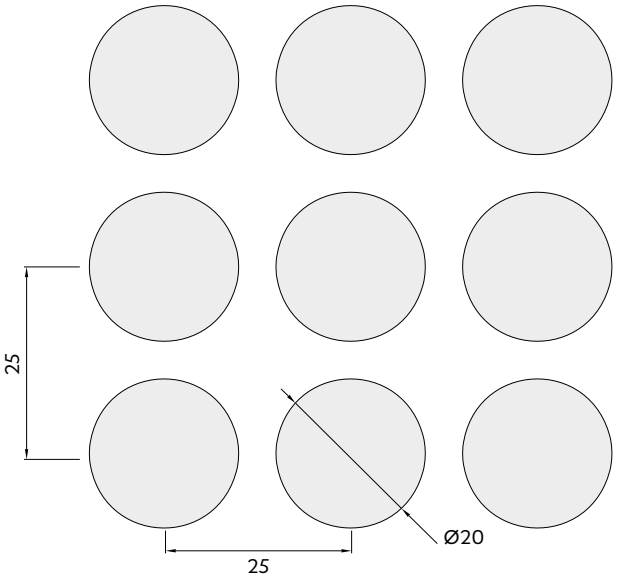
All dimensions are in mm.

Perforations | Overview

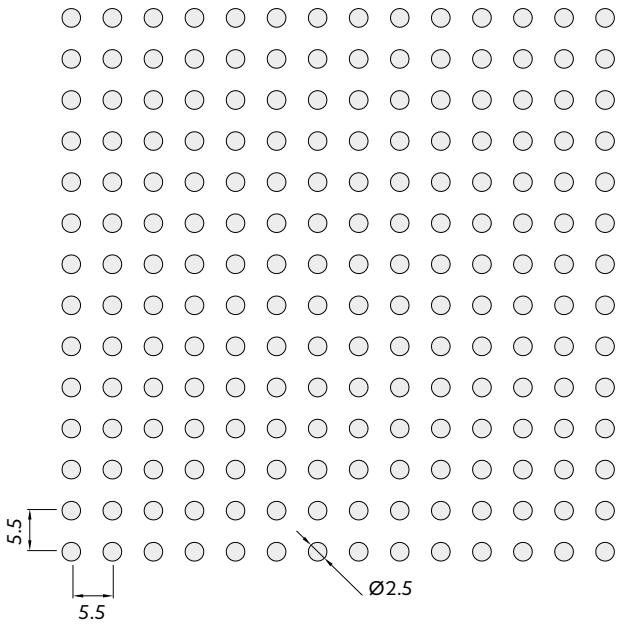
S1820
Ø1.8mm, 20% Open Area



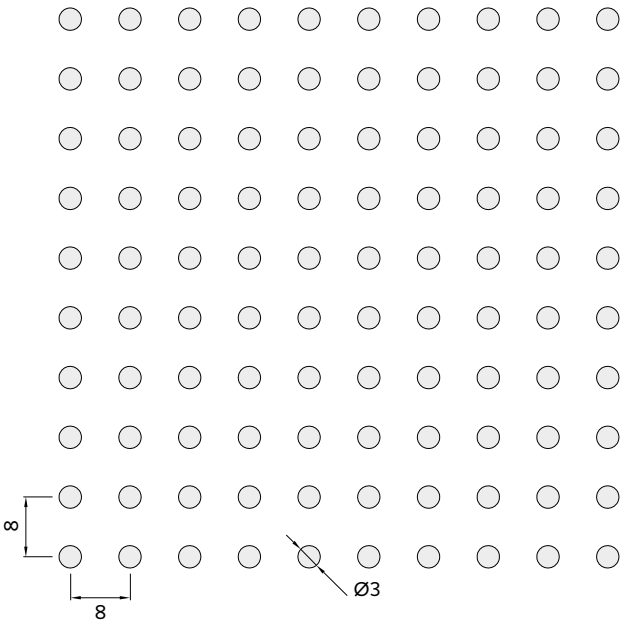
S2051
Ø20.0mm, 51% Open Area



S2516
Ø2.5mm, 16% Open Area



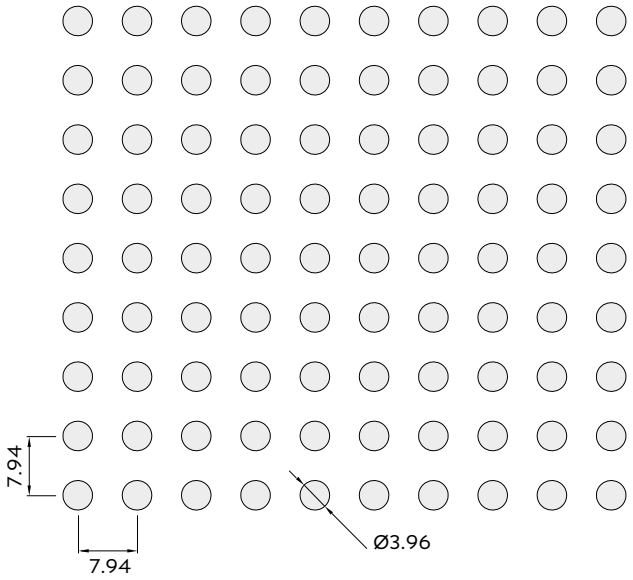
S3011
Ø3.0mm, 11% Open Area



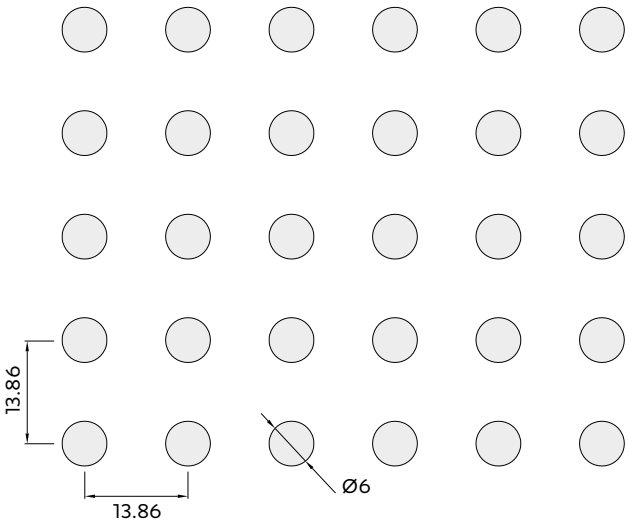
All dimensions are in mm.

Perforations | Overview

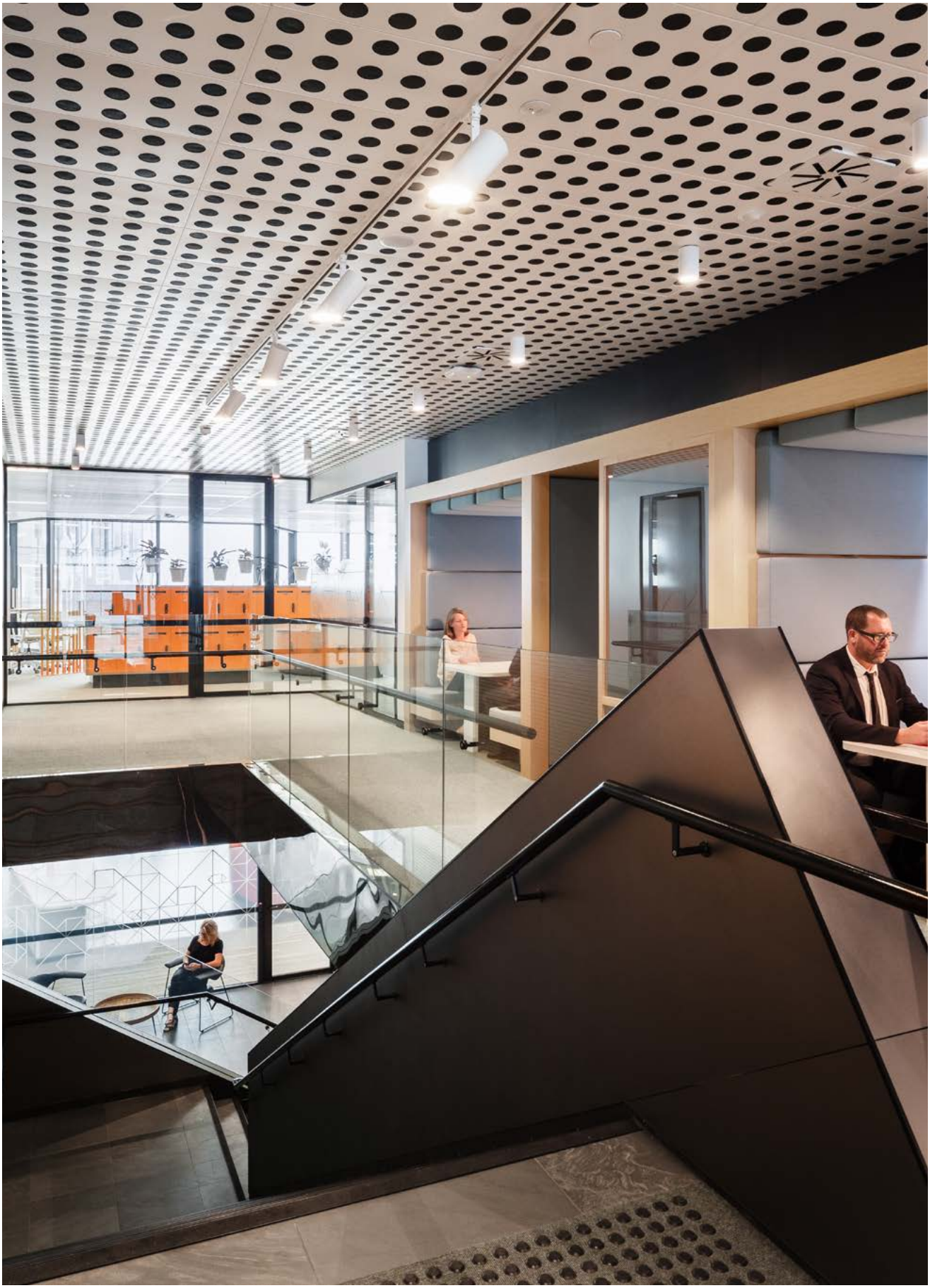
S3920
Ø3.96mm, 20% Open Area



S6015
Ø6.0mm, 15% Open Area



All dimensions are in mm.



SAS**150**

HSBC, Barangaroo

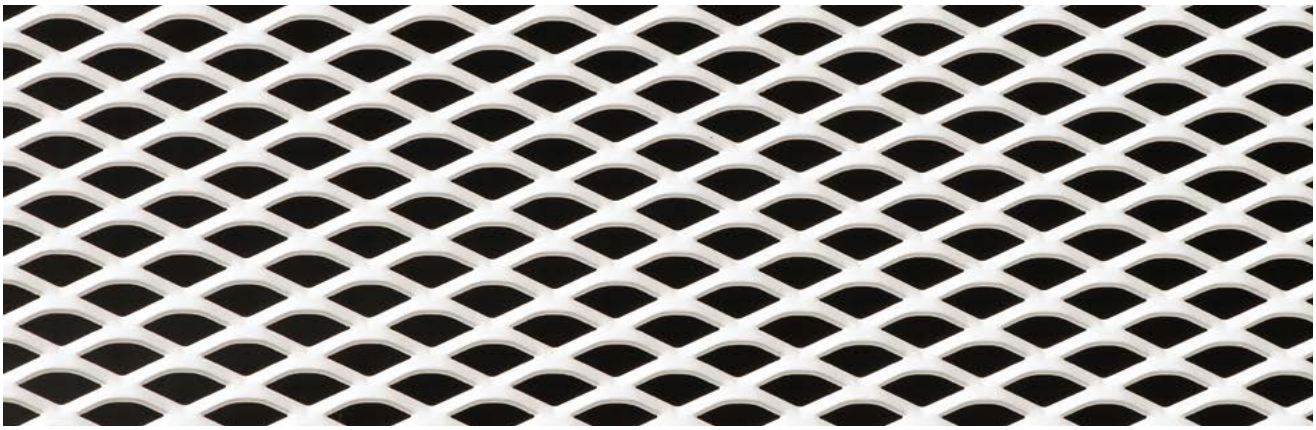
Location
Sydney, Australia
Architect
Davenport Campbell

Contractor
Lendlease
Purpose
Commercial

Mesh

Mesh

Mesh | Overview



An increasingly popular material option, mesh is an ideal choice to achieve contemporary design aesthetics and is an alternative option to exposed soffit. Across commercial, infrastructure, retail, leisure and educational sectors, we work directly with architects, designers and contractors to meet the desired aesthetic and functional needs of the project.

SAS Mesh has a wide range of pattern and finish options and can be manufactured to the specifiers shape and design.

System Features
Specified for its textured appearance, the additional main features of SAS International mesh panels include:

- Compatible with multiple SAS systems
- Available in four patterns and the full range of RAL colours
- Incorporates M&E services and complex building layouts
- Adjustable to bespoke designs

Tile Shape & Design
Mesh can be designed and manufactured in a wide range of patterns including profiles that are round, square, diamond and hexagonal.

For best results and to maximise the strength of the material, mesh should be specified with the long-way pattern direction across the tile width.

Specification considerations for mesh include:

- Visible face ('A' face as standard)
- Open view orientation
- Longway direction (across width as standard)
- Pattern selection
- Finishes and integration requirements

Bespoke Designs
Non-standard, bespoke options can also be manufactured to specification. Please contact our technical design team for more information on bespoke mesh patterns and applications, access, security, service integration and load support.

Finishes Availability

- Coating – Polyester powder coat
- Colour – Available in a full range of RAL PPC

Lighting and Integration
Various effects can be achieved using light location. From discreet illumination to bold up-lighting, the expanded metal provides multiple possibilities.

Like other suspended metal ceilings, the system can also be designed with cut outs for lights and sensors. For precise and secure integration, flanged lights and vents are recommended and should be independently supported.

Texture (A and B side)
The mesh manufacture process results in the material having a different appearance depending on which face is visible. Tiles are manufactured with the 'A Face' visible as standard but if desired the 'B face' could be specified as the finished face.

The 'A' side of the tile is smoother with more gentle curves while the "B" side has a more pronounced texture. Depending on aesthetic preference, specifiers will need to choose their preferred visible face.

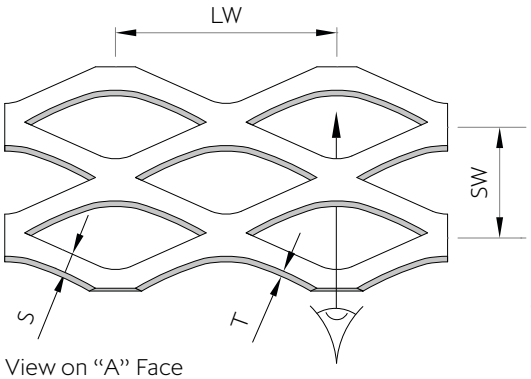
Acoustic Performance
Acoustic mineral wool pad tissue wrapped.

Other acoustic treatments are available, depending on project requirement. Please contact our technical department for more information.

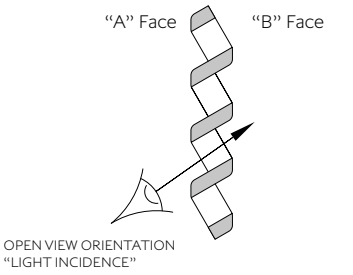
Storage and Handling
Full PPE must be worn due to the nature of mesh.

Mesh | Overview

Orientation
Mesh is an excellent architectural material because of its textured surface providing depth and visual interest. The appearance of mesh changes when viewed from different angles defined as 'open view' and 'closed view'. The 'open view' allows light to pass through the gaps while the 'closed view' reflects light on the surface depending on the viewer's perspective.

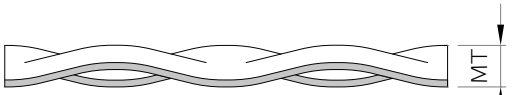


View on "A" Face



Section Through
"Shortway" Direction

LW Long Way
SW Short Way
S Strand Width
T Strand Thickness
MT Mesh Thickness



Section Through
"Longway" Direction

Compatible Systems
SAS systems compatible with mesh are:

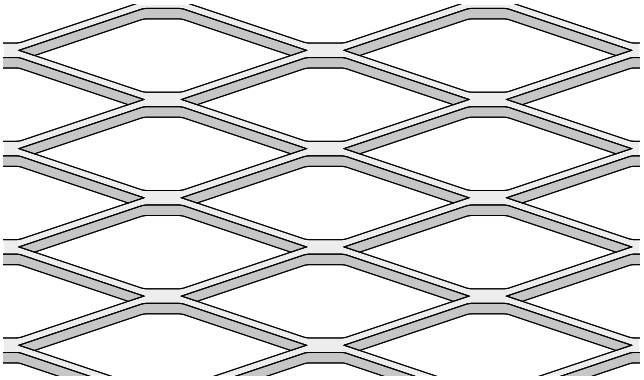
- SAS200 and SAS205
- SAS310 and SAS320
- SAS330 and SAS330A
- SAS600 rafts

Name	Reference	200/205	310	320	330	330A	600	Pattern Sw (mm) LW x SW – S x T	Open Area % (approximate)
Celtic	SAS-DL							43 x 13 – 2.5 x 1.5	60%
Tene	SAS-DML							28 x 10 – 2 x 1.5	55%
Brig	SAS-DM							16 x 8 – 2 x 1	50%
Kells	SAS-HM							15 x 6.5 – 1.3 x 1	63%

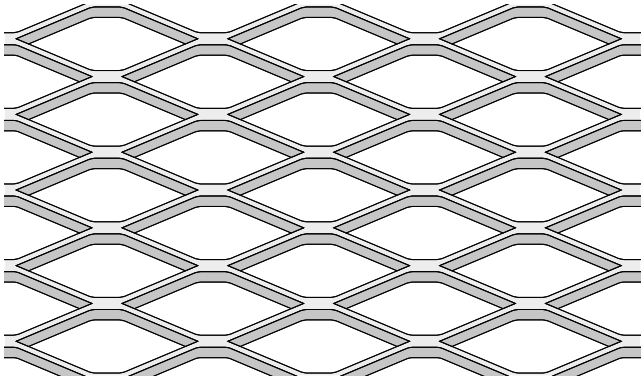
Non-standard, bespoke options can also be manufactured to specification. For more information on bespoke mesh patterns and applications, please contact our technical design team.

Mesh | Overview

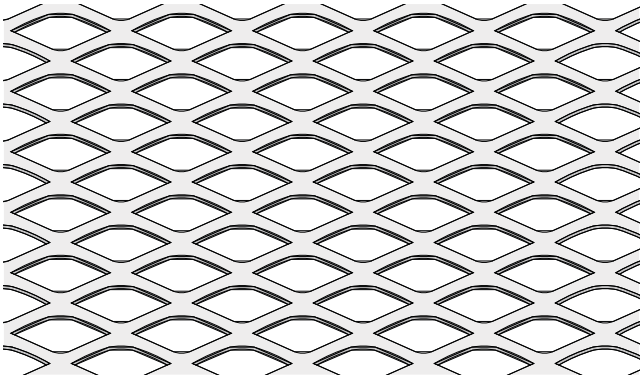
Celtic
Reference: SAS-DL
Size (mm): 43 (LW) x 13 (SW) – 2.5 (S) x 1.5 (T)



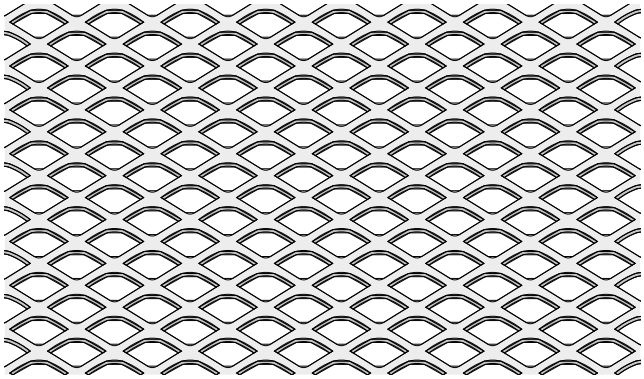
Tene
Reference: SAS-DML
Size (mm): 28 (LW) x 10 (SW) – 2 (S) x 1.5 (T)



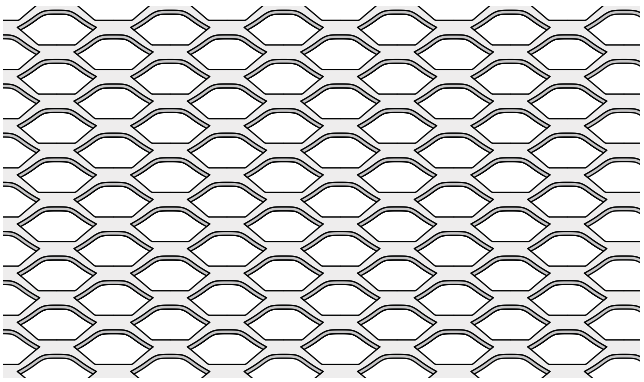
Brig
Reference: SAS-DM
Size (mm): 16 (LW) x 8 (SW) – 2 (S) x 1 (T)



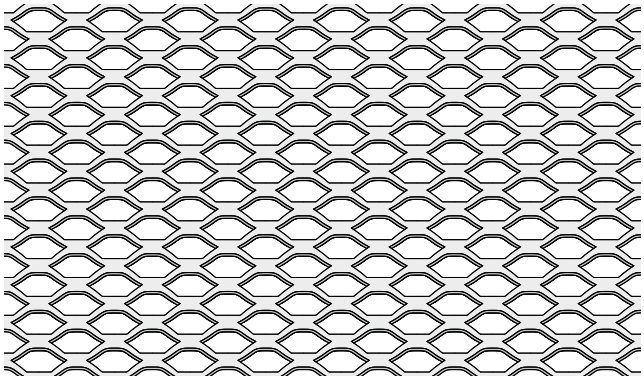
Tara
Reference: SAS-DS
Size (mm): 10 (LW) x 5.8 (SW) – 1.5 (S) x 1 (T)



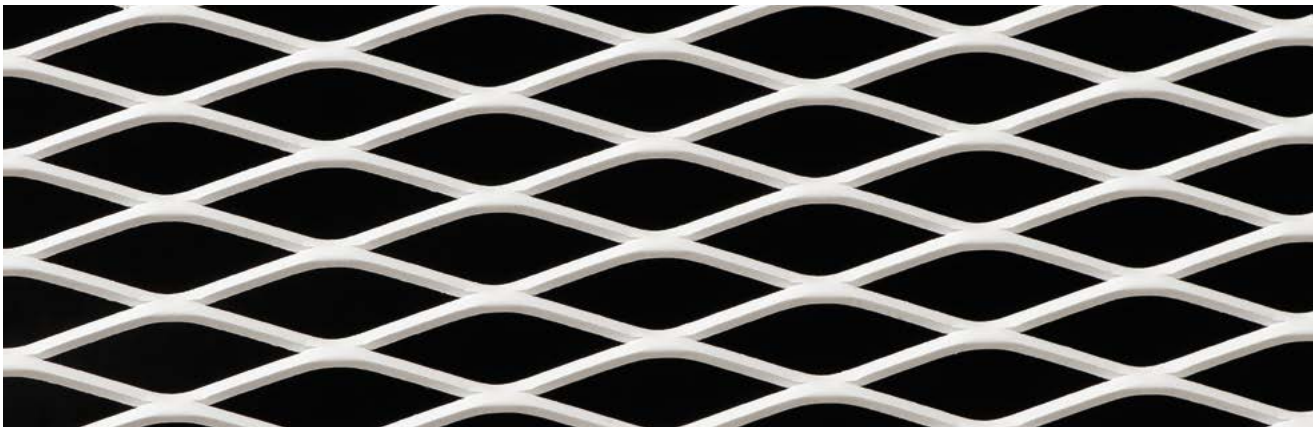
Kells
Reference: SAS-HM
Size (mm): 15 (LW) x 6.5 (SW) – 1.3 (S) x 1 (T)



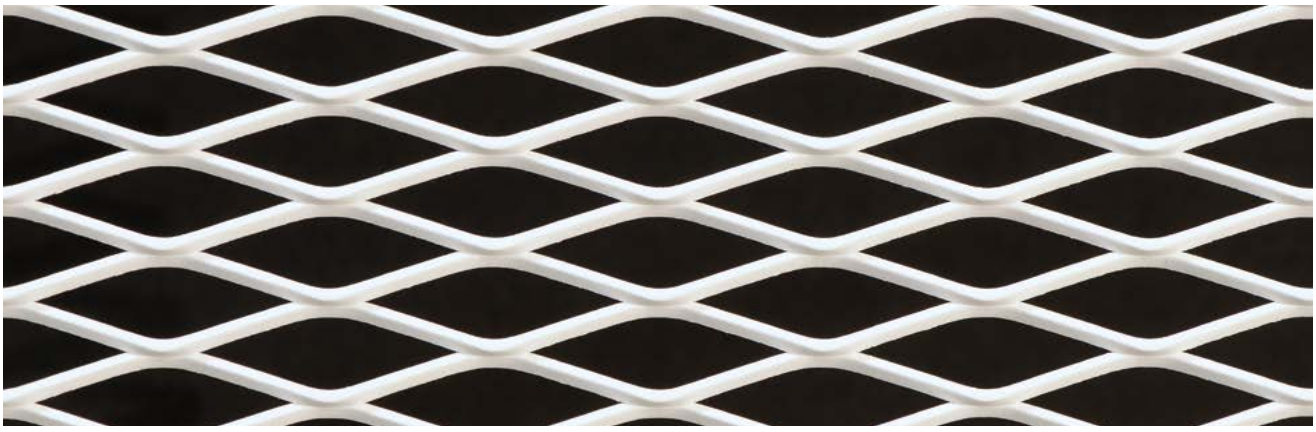
Vix
Reference: SAS-HS
Size (mm): 10 (LW) x 5 (SW) – 1 (S) x 1 (T)



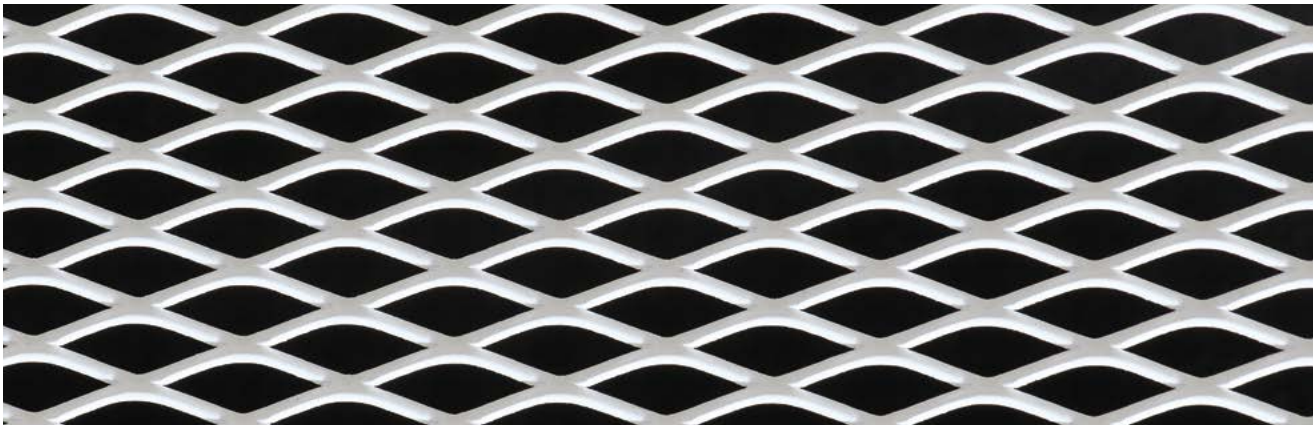
Celtic
A Face



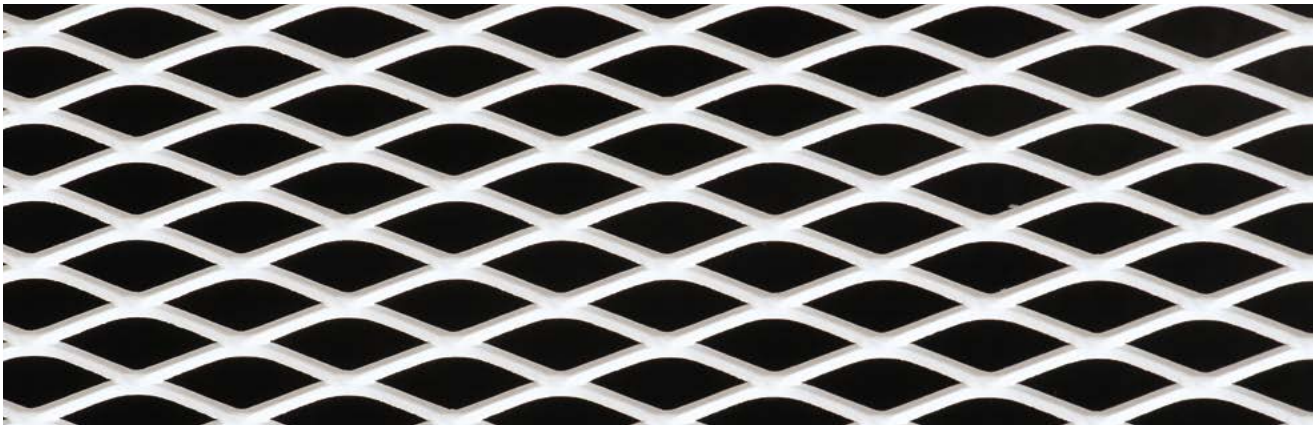
B Face



Tene
A Face

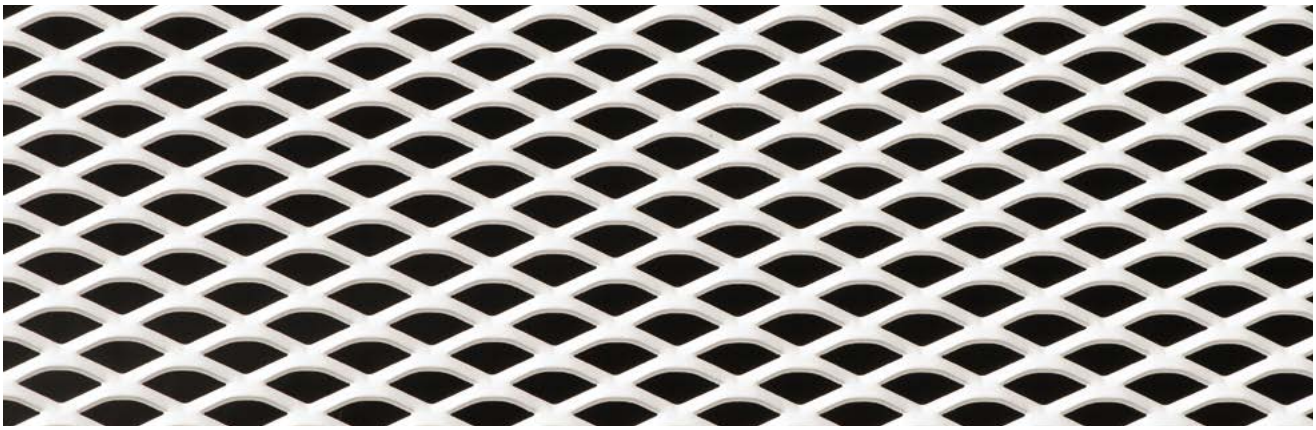


B Face

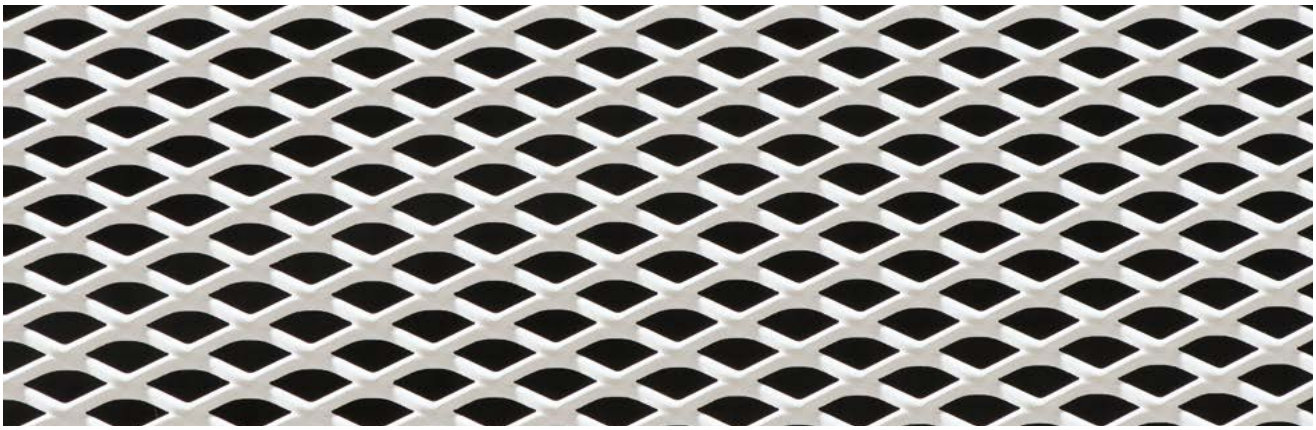


Brig

A Face

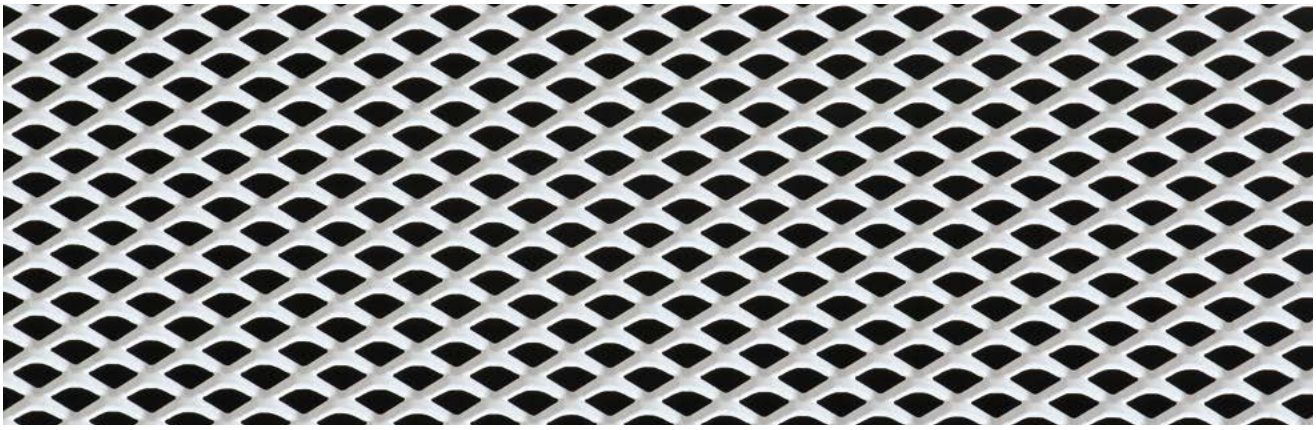


B Face

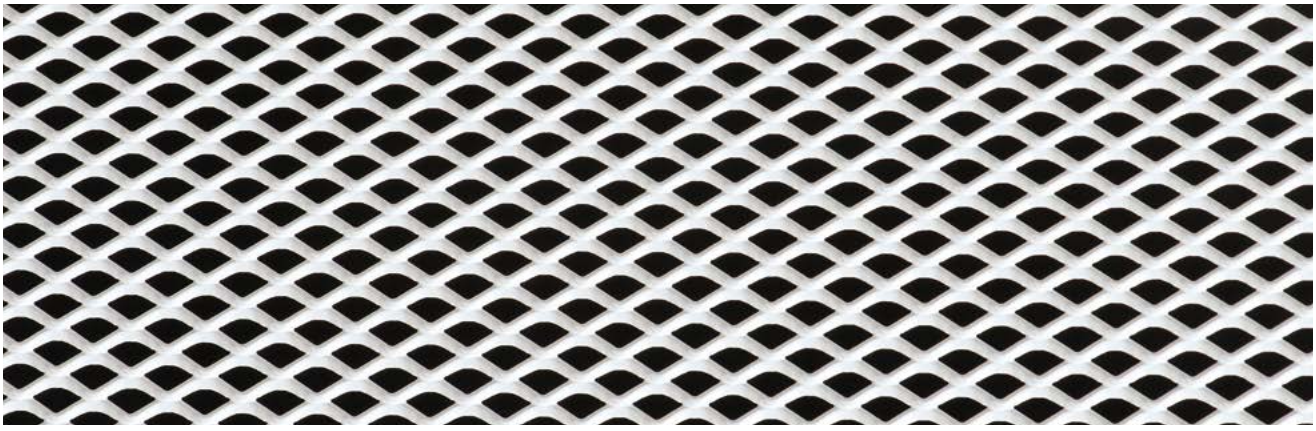


Tara

A Face

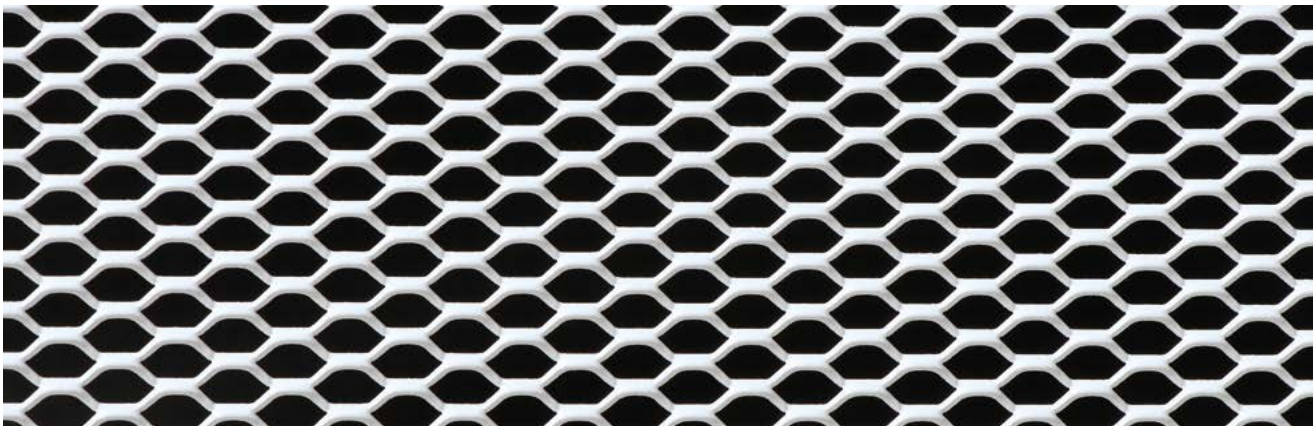


B Face

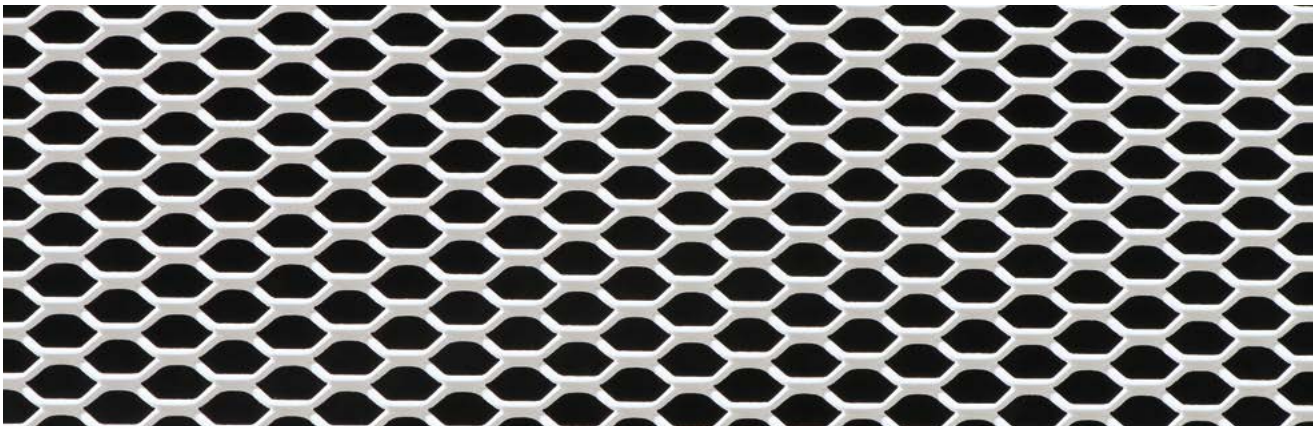


Kells

A Face

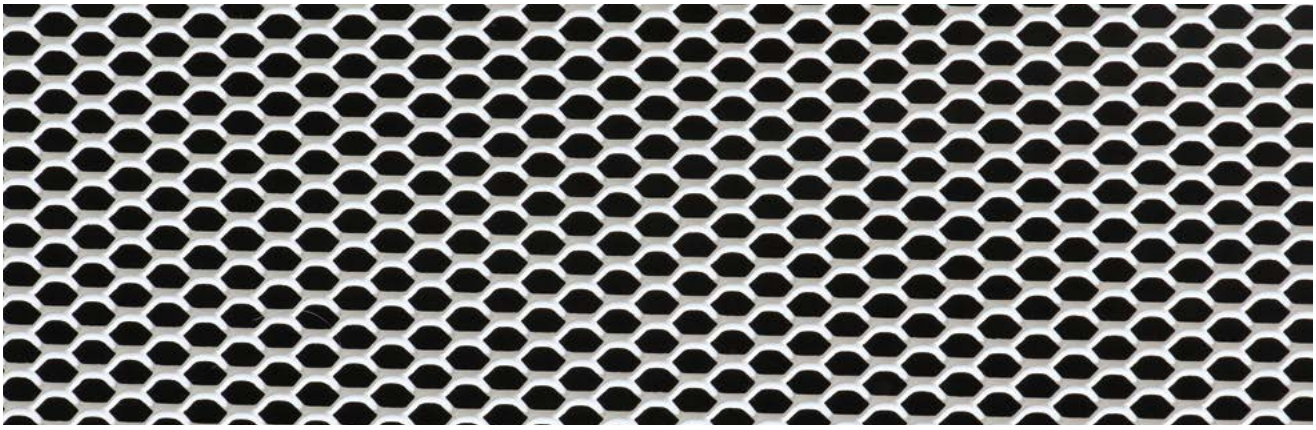


B Face

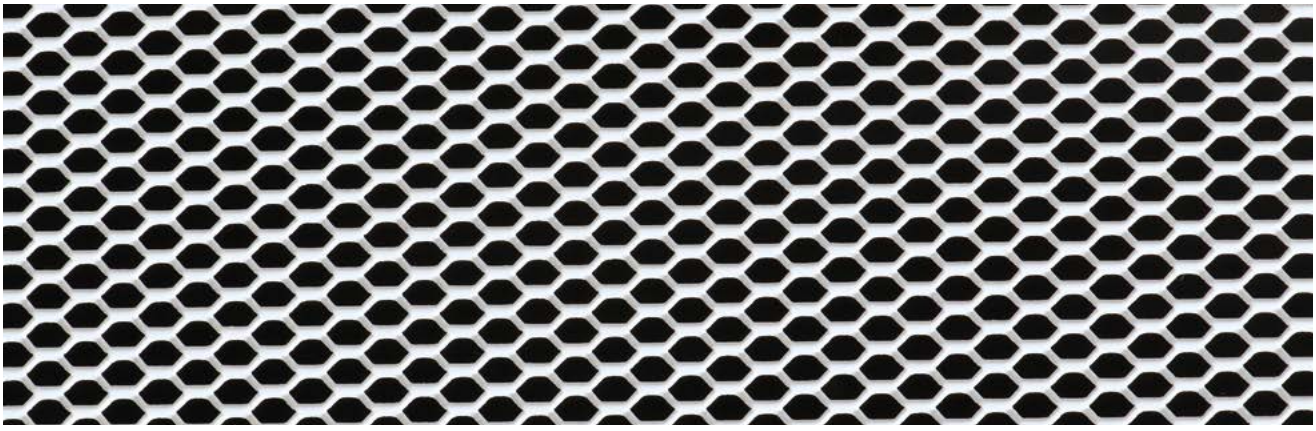


Vix

A Face



B Face



Mesh

Atrium

Location
Dublin, Ireland
Architect
Plus Architecture

Contractor
Mac Interiors
Purpose
Commercial

Finishes

Finishes

Strategic investment in quality aesthetics offers a significant return. On average, 80% of operational spend within an organisation can be attributed to staff-related costs. Beautiful interiors attract staff, increase their retention, positively improve employee wellbeing and communicate the right values to potential clients. A desirable building in the right location minimises these staff-related costs, improving profitability for both occupiers and owners.

PPC
Polyester powder coating is the process of electrostatically applying dry powder to a substrate and heating to melt the powder forming a 'skin' around the material.

The main benefits of this process over traditional wet paint is the durability of the finish, additionally no solvents are required during the application process.

PPC is typically a smooth finish available in a range of gloss levels however textured finishes are available and give the illusion of a lower gloss level.

Antibacterial and Anti-graffiti variants are also available.

Enhanced Performance PPC
Enhanced performance PPC is designed to be used in corrosive environments. Specialised powder and additional processes during the application ensure paint can withstand harsh environments.

Anodised
Anodising is the process of finishing on aluminium using electrical currents, this gives an altered aesthetic and improved corrosion resistance. A wide variety of colours and surface treatments are available, please enquire for further details.

Please note Aluminium will normally be used as the base material. Fixings and cut details will need to be carefully reviewed to ensure the integrity of the finish is not compromised.

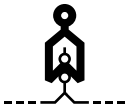
Special PPC's
Special PPC's are bespoke powders designed to simulate certain materials. There is a vast array of finishes available such a mirror finishes, high gloss and anodic effects. Please enquire for further details.

Timber Effect
Timber effect paint finishes give the effect of real wood, however offer the benefits of metal. They can be perforated to give a high level of acoustic absorption, larger panels are possible due to lighter weight, stability of product and higher reaction to fire performance. Almost any timber can be replicated through a number of processes.

Natural Finishes
Exposing the natural finish of the material is also possible. A range of techniques, from clear powder coat to hand applied patination are possible. Unfinished metal is never recommended and processing marks will be visible whenever exposing the natural finish of the base material.

For further information on finishes please contact the technical design team.

SAS**150**



A highly versatile and easily maintained clip-in suspended ceiling system with convenient hinge-down access and secure void option.

SYSTEM GROUP	GRID
	
Suspended ceiling	Concealed Grid – SAS shallow or deep Omega Bar

TILE	
	
Clip-in	Bevelled edges | Closed butt-joints

ACOUSTICS	
A–D	**15-41dB**
Absorption class	Insulation

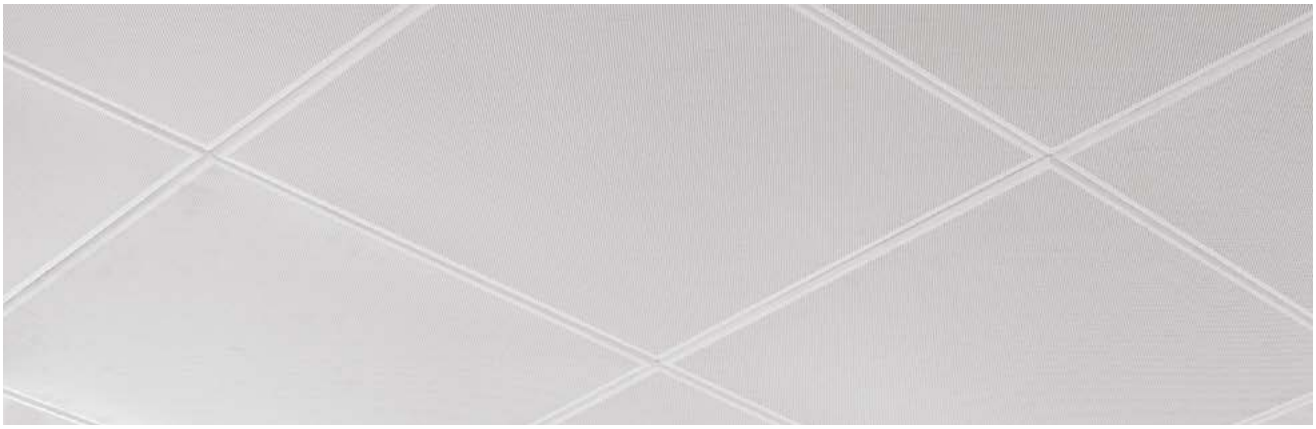
ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**9kg/m²** Approx.	**25yr**
Full – hinge and slide tiles	Based on 600 x 600mm tiles*	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**150**



SAS150 offers the convenience of hinge-down access minimising risk of damage. Clip-in systems allow for upward cleaning pressure without dislodging or displacing tiles. If required, voids can be secured through the use of a simple clip mechanism.

Hospitals and food preparation areas are ideal examples of appropriate environments, however the system is suitable for numerous applications.

Module Sizes (mm) with 4mm bevel

300 x 300	500 x 500
300 x 600	500 x 1500
300 x 900	600 x 600
300 x 1200	600 x 1200
300 x 1500	750 x 750 with 2mm bevel

Bespoke module sizes and shapes are available on request.

Access
Hinge down and slide – The void is completely accessible with the use of a simple tool.

Alternatively, in areas where security is paramount optional security clips are available. This restricts access to the void to minimise security concerns.

Finishes
SAS150 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
Typically supplied with 1522 (available as stock item), 1820 or 2516. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20.

Please note SAS150 is not suited to all SAS acoustic materials due to maximum loads on clip-in systems.

Service Integration
Tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services.

Please note SAS tiles will support loads up to 2.5Kg. SAS pattresses can be used to support loads up to 6Kg. Anything in excess of 6Kg requires independent suspension.

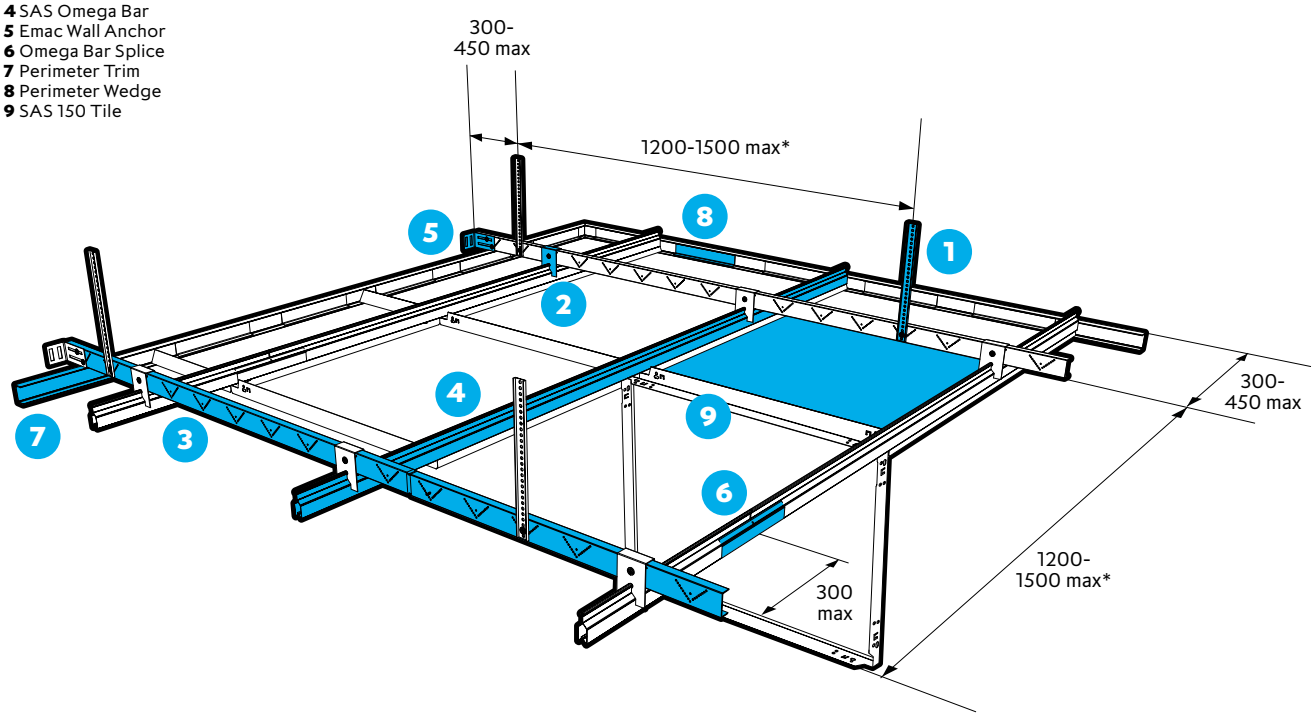
Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

SAS150

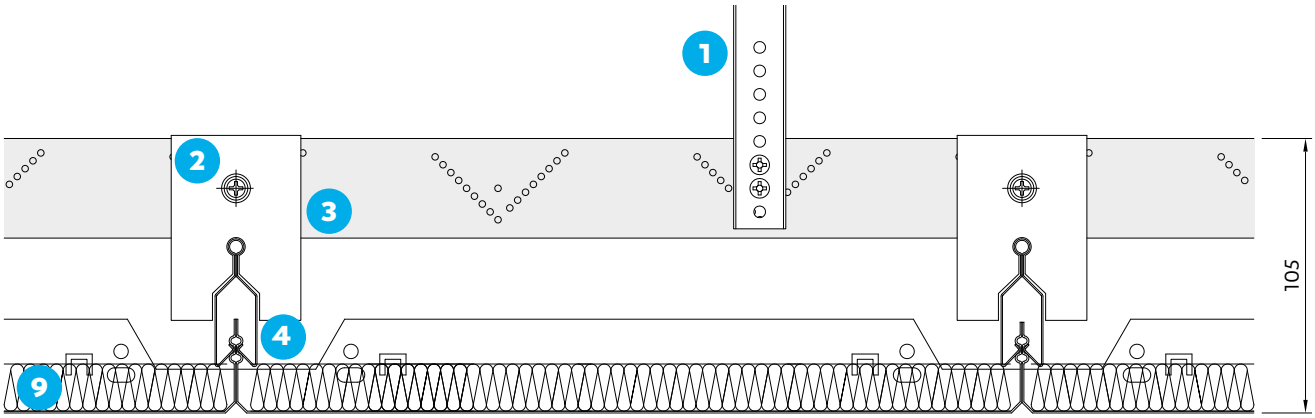
Perspective Drawing

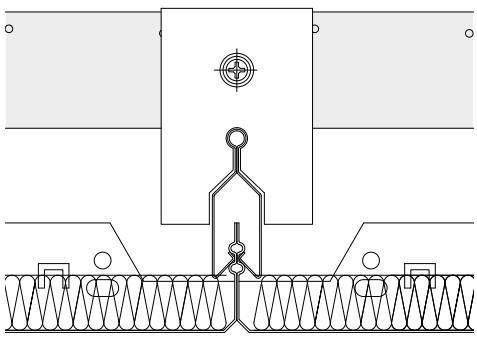
1 Emac Hanger
2 Omega Bar to Channel Bracket
3 Emac Channel
4 SAS Omega Bar
5 Emac Wall Anchor
6 Omega Bar Splice
7 Perimeter Trim
8 Perimeter Wedge
9 SAS 150 Tile

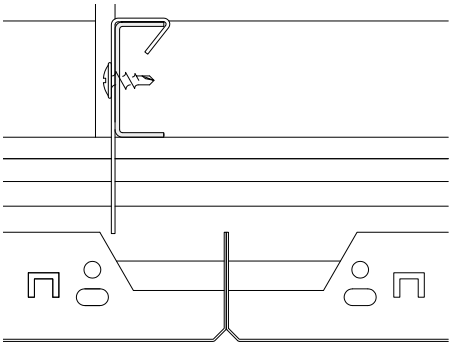
*Lightweight installations only, see page 246 for full details.



Section and detail drawings



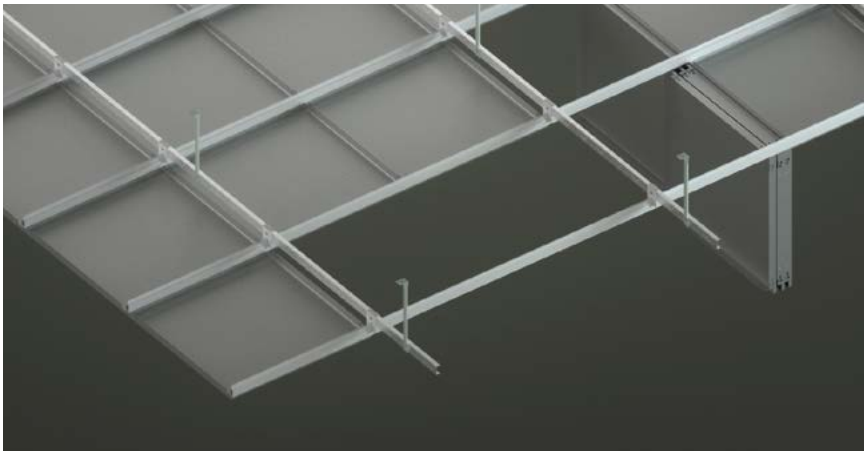




All dimensions are in mm.

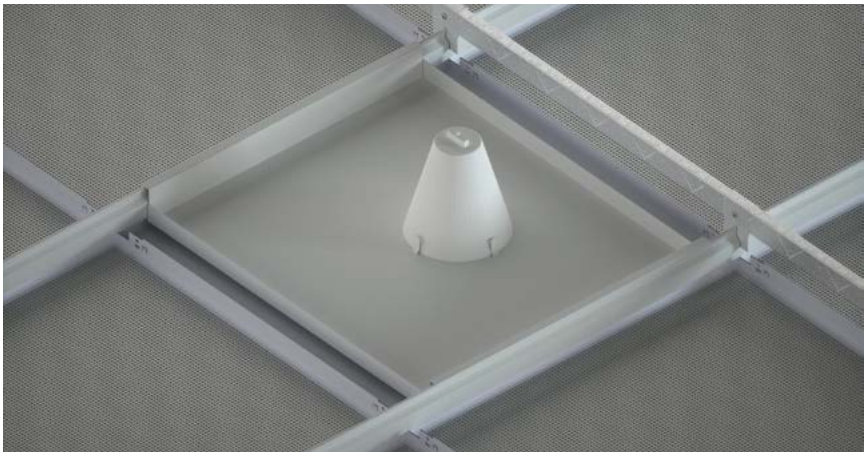
SAS**150** | Features

Hinge and Slide Facility



SAS150 allows every full tile to pivot and slide along the grid system. This feature facilitates easy access to large areas of the ceiling void for maintenance. Tiles are retained within the ceiling grid avoiding damage and eliminating the need for storage.

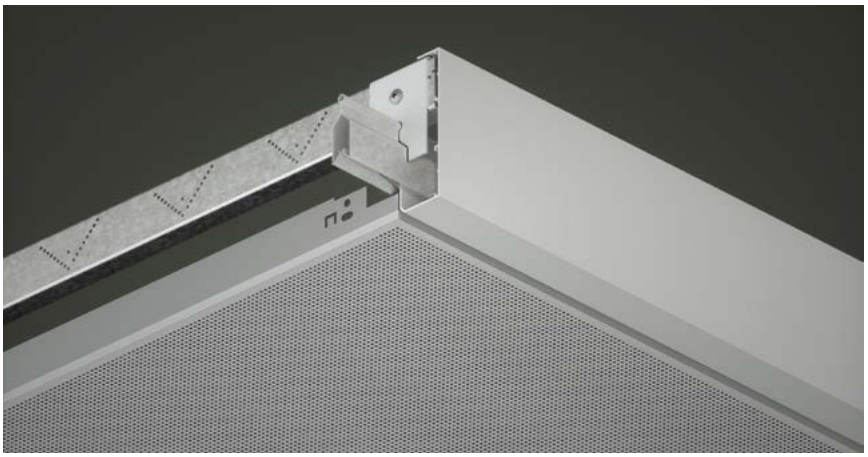
Service Integration



Lighting and other services can be integrated with SAS150. Modular lighting can be supported directly from the soffit. Where maximum point loads are exceeded (2.5Kg) the service must be supported independently or from the grid.

Loads in excess of 2.5Kg and up to 6Kg can be supported by an SAS Pattress. This distributes the load across the SAS Omega Bar and eliminates the need for complicated support arms. Loads in excess of 6kg must be supported independently. For more information on load support, please contact our technical design department.

Bulkhead Closure Panels



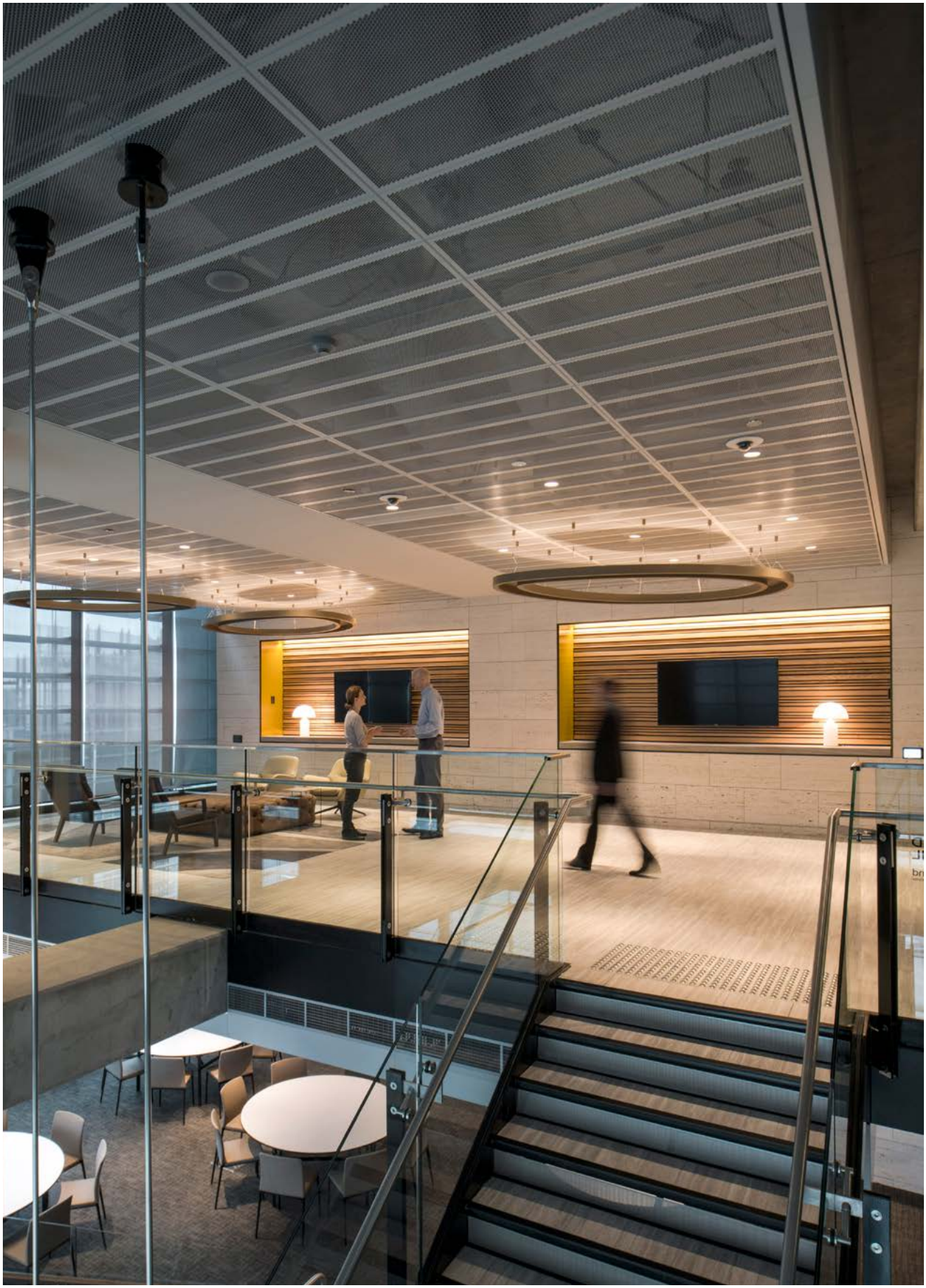
Bulkhead closure panels enable floating rafts and ceilings to be created using a standard clip in ceiling tile. The height of the closure panels can be manufactured to suit project requirements. For more information on closure panels, please contact our technical design department.

SAS**150**

Westpac, 275 Kent Street

Location
Sydney, Australia
Architect
Geyer & The Studio

Contractor
MPA
Purpose
Commercial



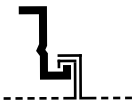
SAS**150**

Westpac, Barangaroo

Location
Sydney, Australia
Architect
Rogers Stirk Harbour + Partners & Geyer

Contractor
LendLease
Purpose
Commercial

SAS**200**



A concealed, hook-on suspended metal ceiling system ideal for ambitious design challenges.

SYSTEM GROUP	GRID
	
Suspended ceiling	Concealed grid SAS J-Bar suspension

TILE	
	
Hook-on	Square edge

ACOUSTICS	
A–D	**15-41dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**10kg/m²** Approx.	**25yr**
Lift and tilt	Based on 600 x 600mm tiles 30mm deep*	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**200**

SAS200 is a concealed grid suspended ceiling system offering significant creative flexibility. The highly adaptable system is often used as a basis for fully bespoke designs. Due to its inherent versatility, the J-Bar hook on system can be used in a wide variety of applications.

Module Sizes
There are no standard tile sizes for SAS200. Tiles can be up to 3000mm in length and no less than 300mm wide. Bespoke module sizes and shapes are available on request.

Access
Tiles can simply be lifted and removed from the grid.

Finishes
SAS200 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS200 can be manufactured with any standard SAS perforation. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20.

Service Integration
Tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services.

Please note Loads in excess of 6Kg require independent suspension.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

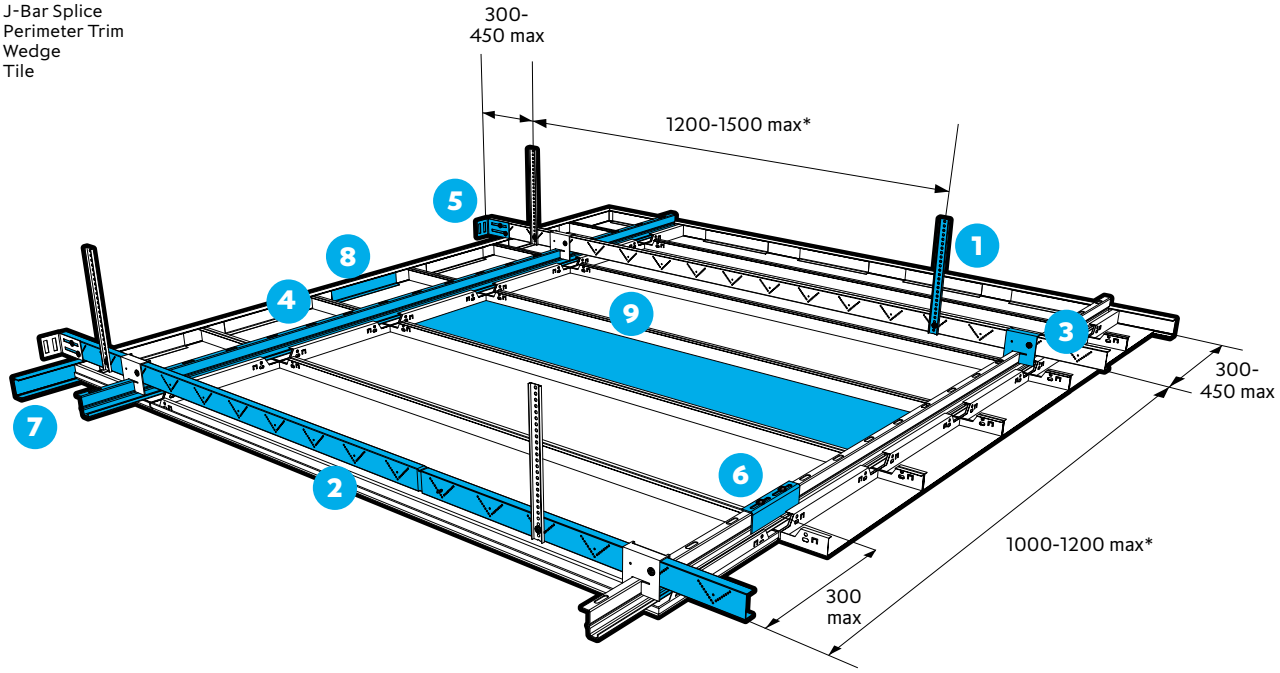
Please note Panels are supplied with a standard 3mm wide, black gasket.

SAS**200**

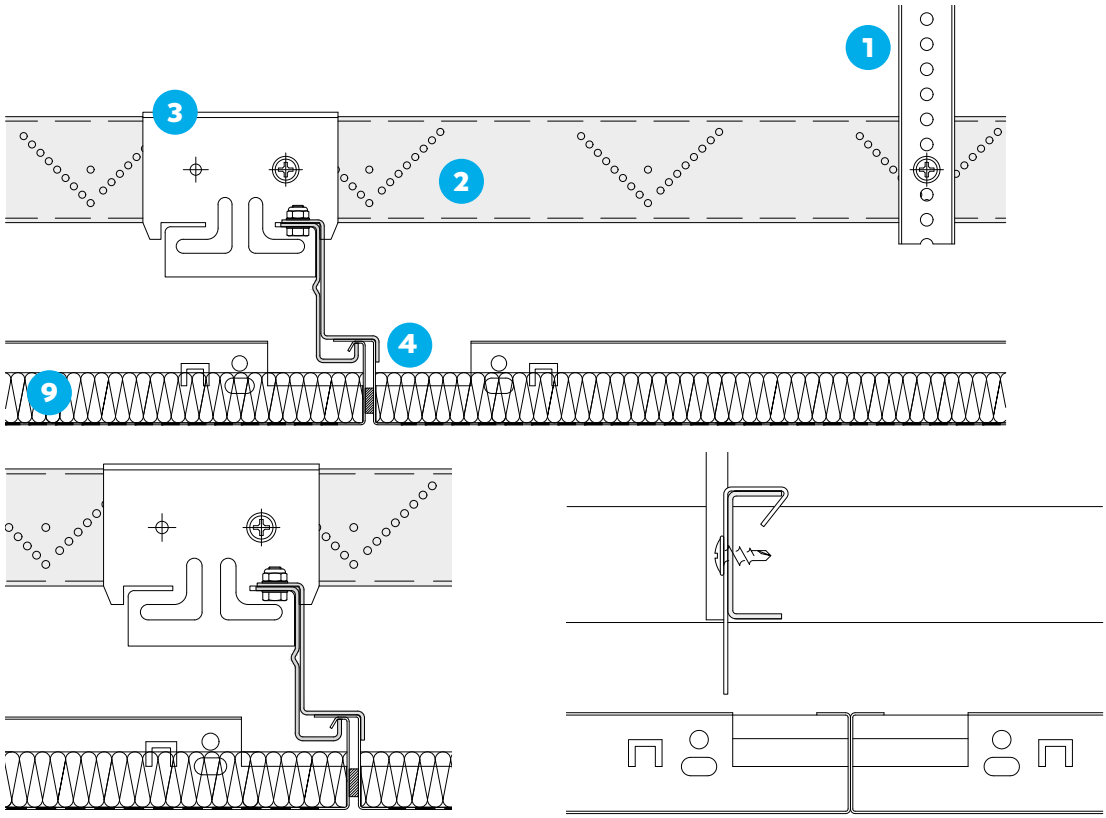
Perspective Drawing

1 Emac Hanger
2 Emac Channel
3 J-Bar to Channel Bracket
4 J-Bar
5 Emac Wall Anchor
6 J-Bar Splice
7 Perimeter Trim
8 Wedge
9 Tile

*Lightweight installations only, see page 246 for full details.



Section and detail drawings



All dimensions are in mm.

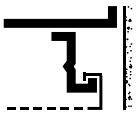
SAS**200**

Swiss RE

Location
Sydney, Australia
Architect
Hassell Studio

Contractor
Built Construction
Purpose
Commercial

SAS**205**



A concealed, hook-on suspended metal ceiling system specifically for corridor applications.

SYSTEM GROUP	GRID
	
Suspended Ceiling	Concealed Grid SAS J-Bar suspension

TILE

	
Hook-on	Square edge

ACOUSTICS

A–D	**15-41dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**9kg/m²** Approx.	**25yr**
Full – Lift and swing down	Based on 1200 x 300mm tiles 30mm deep*	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**205**

SAS205 is a SAS200 variant, designed specifically for corridor applications. The suspended ceiling system is supported at it's perimeters, up to a maximum of 3000mm widths.

Areas requiring frequent access for maintenance, such as hospitals, residential-blocks and hotels are ideal applications. SAS205 is also commonly specified for commercial offices to blend seamlessly with other SAS suspended ceiling systems.

Module Sizes
There are no standard tile sizes for SAS205. Tiles can be up to 3000mm in length and no less than 300mm wide. Bespoke module sizes and shapes are available on request.

Access
Swing down and hang. Tiles can pivot on one edge to hang in place, offering full void access while keeping tiles safe from harm. This access method is subject to corridor height and width.

Finishes
SAS205 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS205 can be manufactured with any standard SAS perforation. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20.

Service Integration
Tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services.

Please note Loads in excess of 2.5Kg require independent suspension.

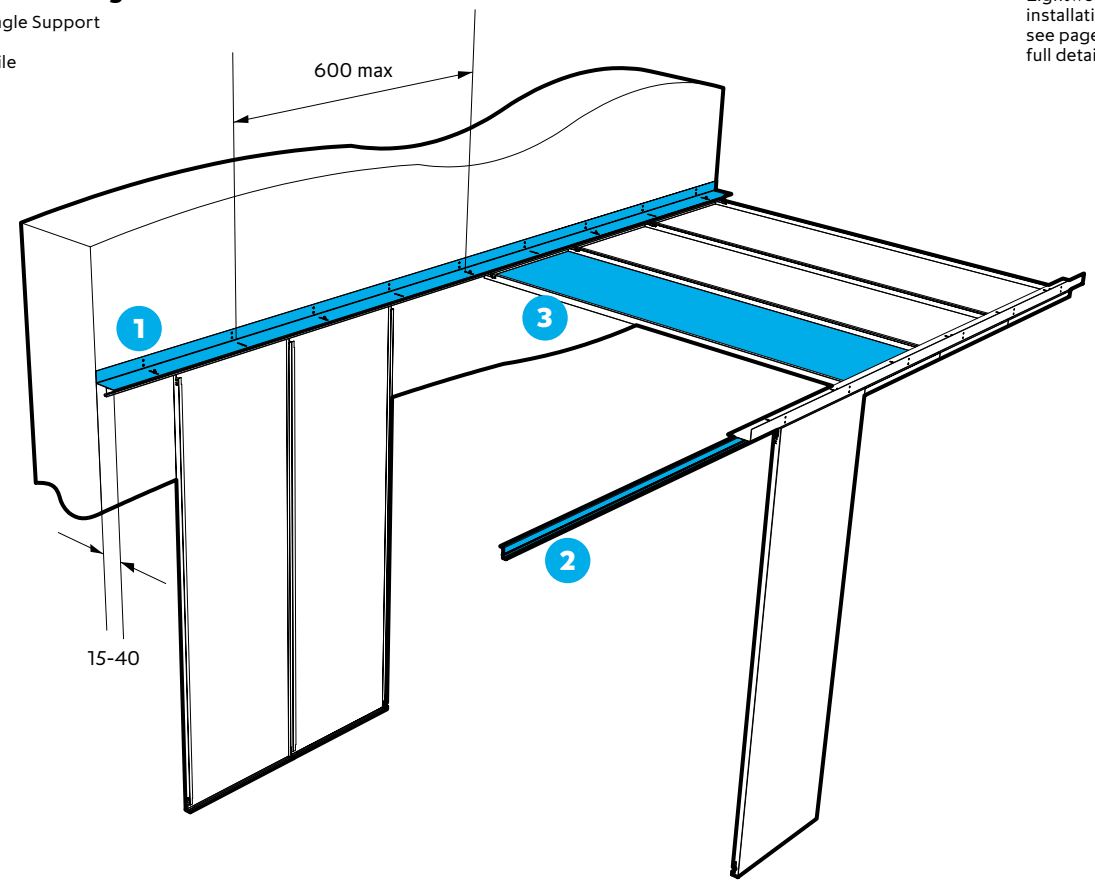
Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

SAS**205**

Perspective Drawing

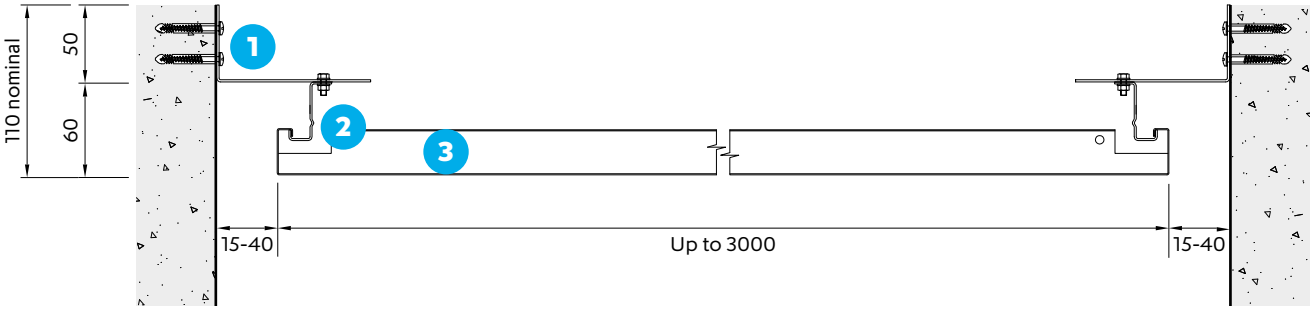
1 Closure Angle Support
2 J-Bar
3 SAS 205 Tile

*Lightweight installations only, see page 247 for full details.

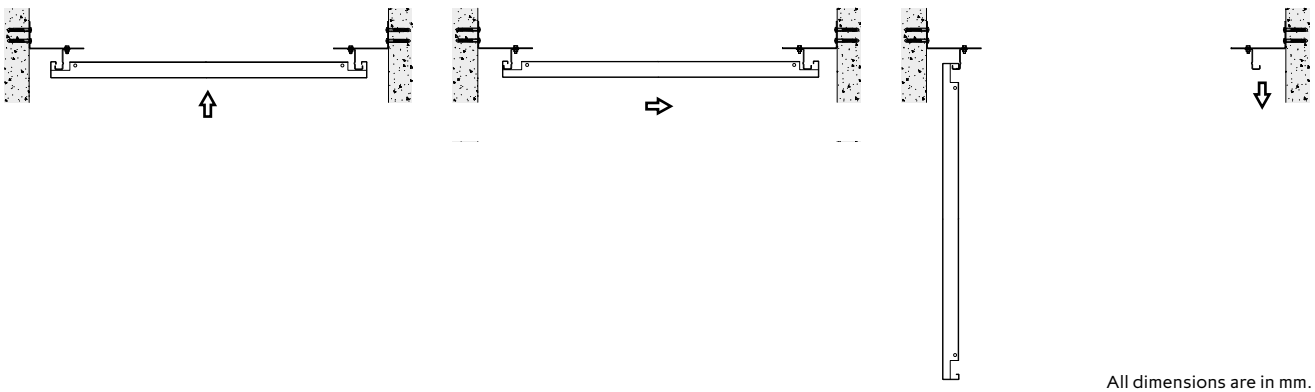


Section drawing

Overall construction depth



Swing Down Tile



All dimensions are in mm.

SAS**205**

Louis Vuitton

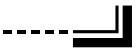
Location
London, UK
Architect
David Chipperfield Architects

Contractor
BAM Construct UK Ltd
Purpose
Commercial

SAS**310**

Suspended metal ceiling system
with lay-in tiles and exposed grid

SYSTEM GROUP	GRID
	
Suspended ceiling	Exposed Aluminium Grid

TILE	
	
Lay-in	Square edge

ACOUSTICS	
A - C	**15-50dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**6-7.5kg/m²** Approx.	**25yr**
Lift and tilt	Based on 25mm deep tiles*	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**310**

SAS310 is a lay-in tile system which offers the facility to design the metal pan suspended ceiling to suit any building module. The lay-in tiles are suspended from an exposed modular top hat or tee bar grid. SAS310 grid is typically specified as two-way, however one-way options are available on request.

Delivering on functionality and performance, the metal pan ceiling tiles are available in a range of shapes and sizes and can be specified with perforations up to 65% open area.

Module Sizes
SAS310 metal pan ceiling tiles can be made in mm increments to meet building module size. They are typically 1200 / 1500 mm long and 300 / 400 / 600 mm wide.

Access
The ceiling void is completely accessible by simply lifting and tilting the tiles with no need for tools.

Finishes
SAS310 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
Standard perforated metal pan ceiling tiles can be manufactured in conjunction with several acoustic backings for both absorption and attenuation specifications.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available depending on performance requirements, please refer to page 20.

Service Integration
Ceiling tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services. SAS310 panels may require stiffeners to support centrally mounted lighting.

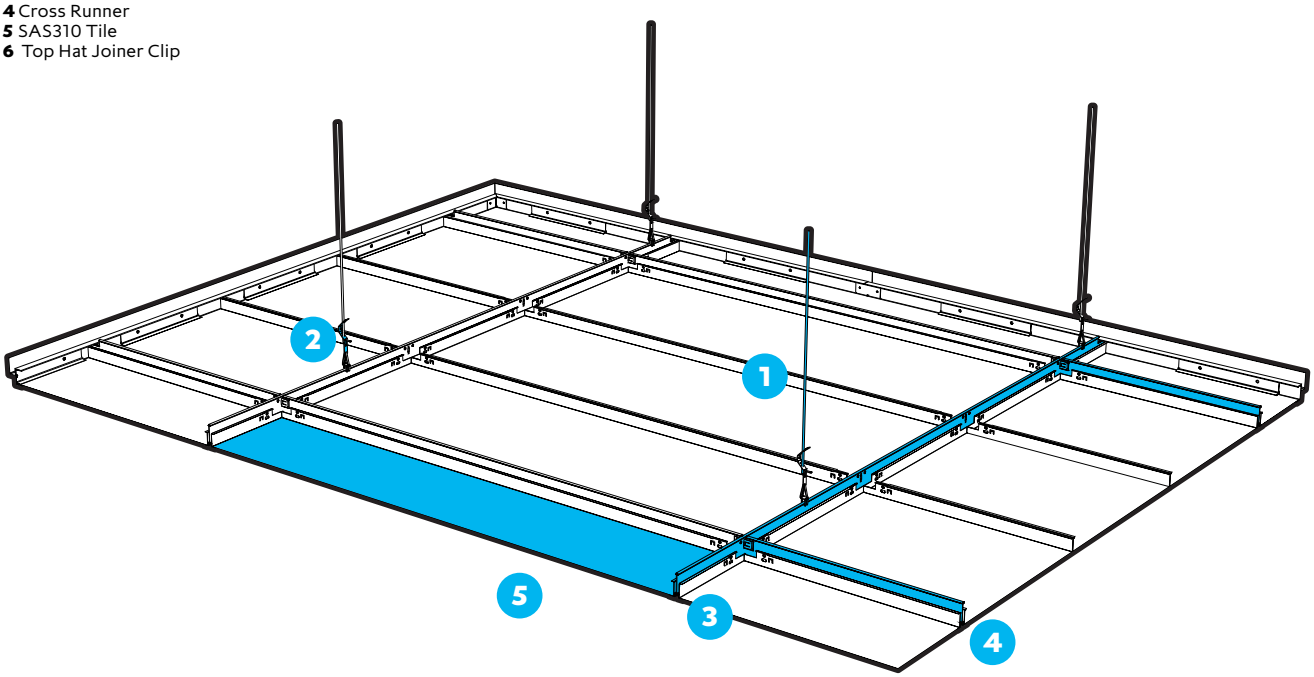
Please note Additional loads applied to SAS310 ceiling tiles must not exceed 7Kg. Anything in excess of 7Kg requires independent suspension.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

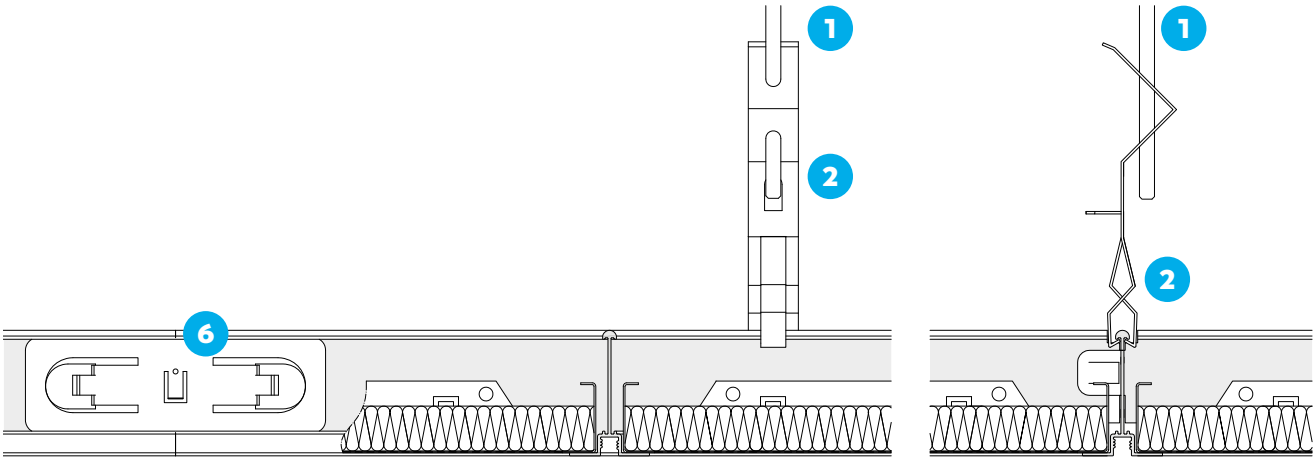
SAS**310** | Top Hat

Perspective Drawing

1 Hanger Rod by others
2 Hanger Bracket
3 Main Runner
4 Cross Runner
5 SAS310 Tile
6 Top Hat Joiner Clip



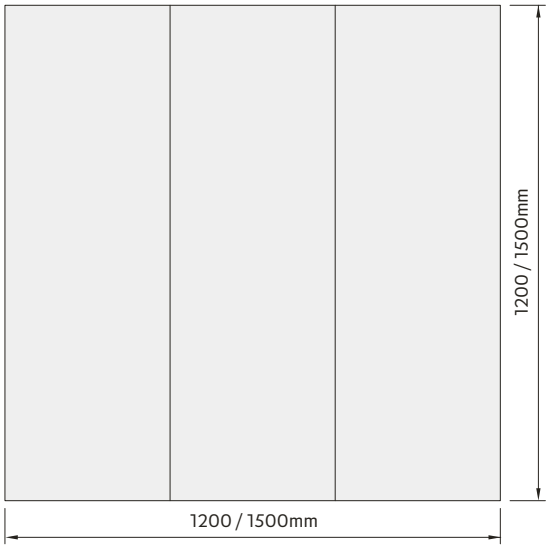
Section Drawings



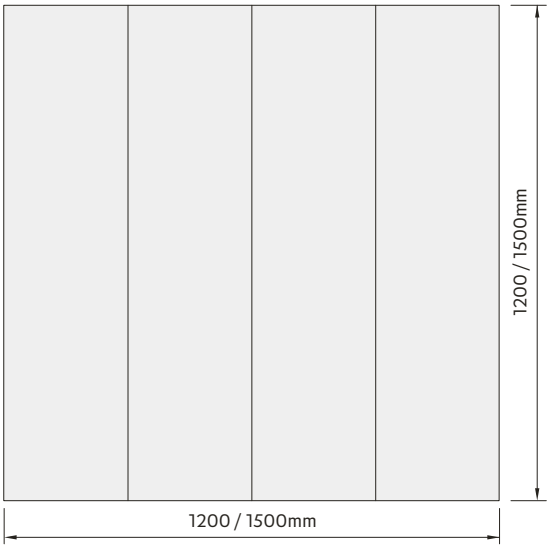
SAS**310** | Grid Options

Top Hat

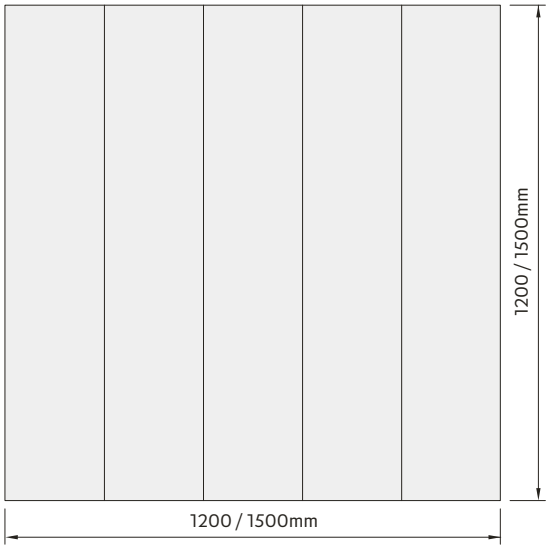
*3 x tiles per module

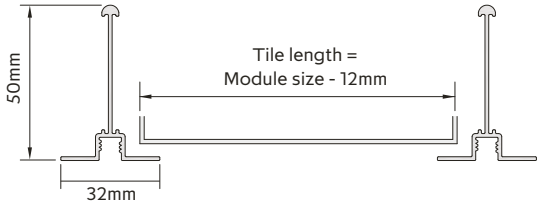


*4 x tiles per module

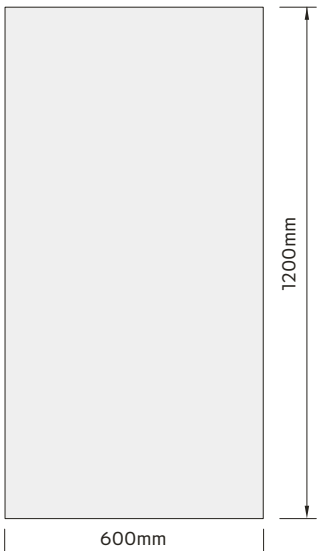


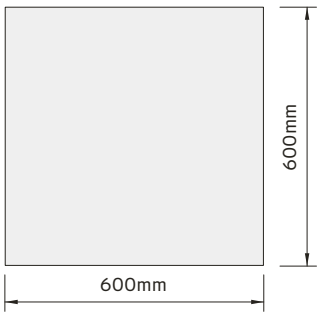
*5 x tiles per module

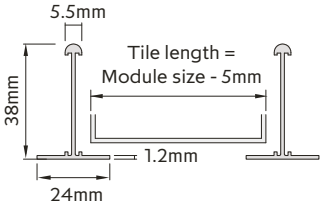




Tee Bar * 1x tile by module







SAS**320**

An acoustic tile lay-in system without grid, intended for use in corridor or plasterboard surround applications.

SYSTEM GROUP	GRID
Suspended ceiling	None – suspended from trims, lights etc.

TILE	
Lay-in	Square edge

ACOUSTICS	
A–C	**15-50dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Full – removable tiles	**7-9.5kg/m²** Approx.	**25yr**
	Based on 30mm deep tiles*	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**320**

A tile-only system, SAS320 has no gridwork, reducing costs and allowing for quick and simple installations. The system is suspended from edge trims or other suitable features such as lights or grilles. Intended for corridor and plasterboard surround applications, SAS320 is ideal for residential and commercial sectors with targeted acoustic demands. Tiles can be of any size to suit most building modules and trimmed for improved aesthetics across undulating walls.

Module Sizes
There are no standard tile sizes for SAS320. Tiles can be up to 3000mm in length and no less than 300mm wide. Bespoke module sizes and shapes are available on request.

Access
Tiles can be lifted and removed for void access. No gridwork offers clear access to services above.

Finishes
SAS320 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS320 can be manufactured with any standard SAS perforation, and Ultramicro perforation for a brighter finish. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20.

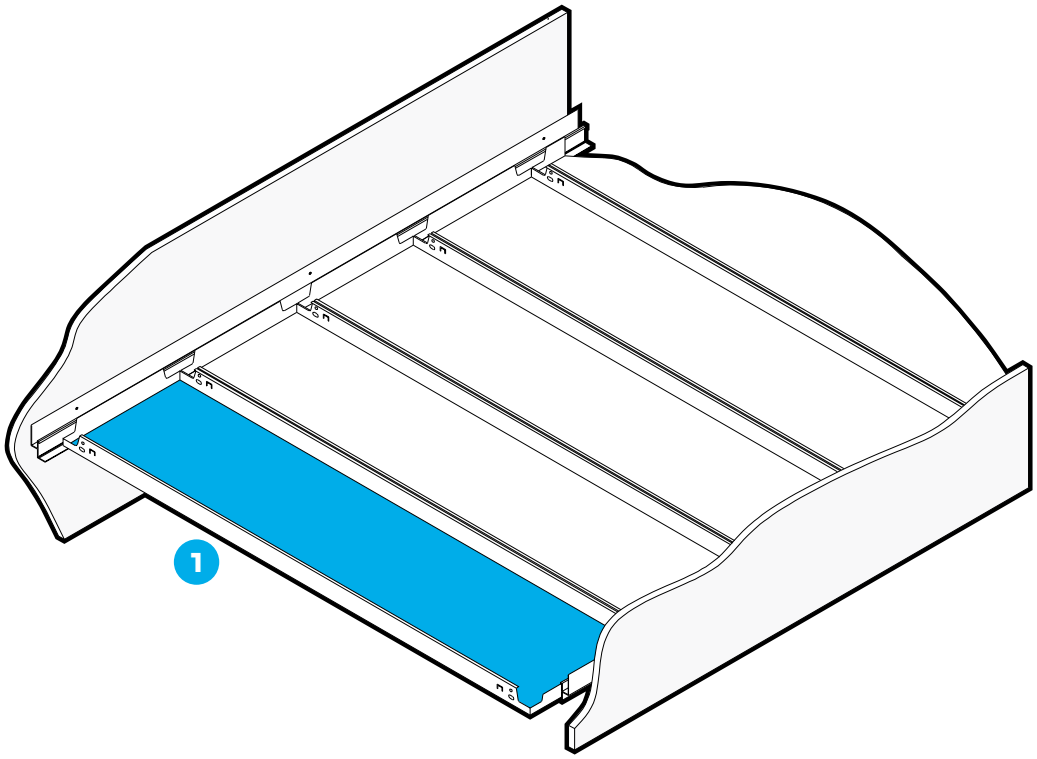
Service Integration
Tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services.

Please note Loads in excess of 7Kg require independent suspension.

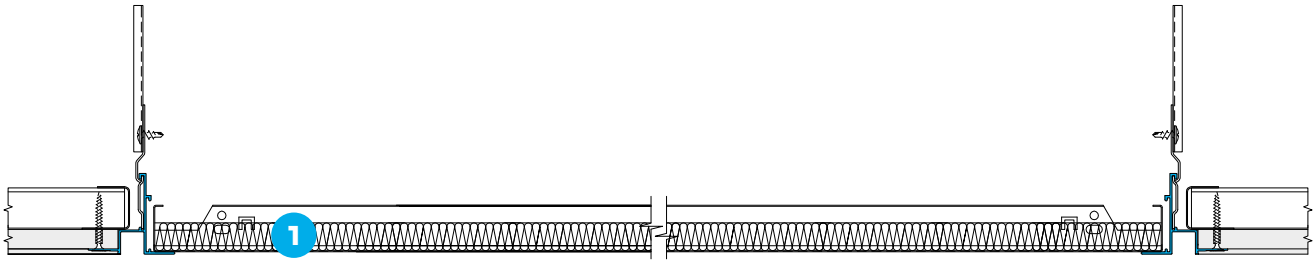
Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

Perspective Drawing

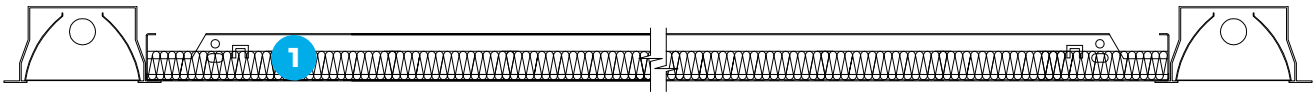
1 SAS320 Tile



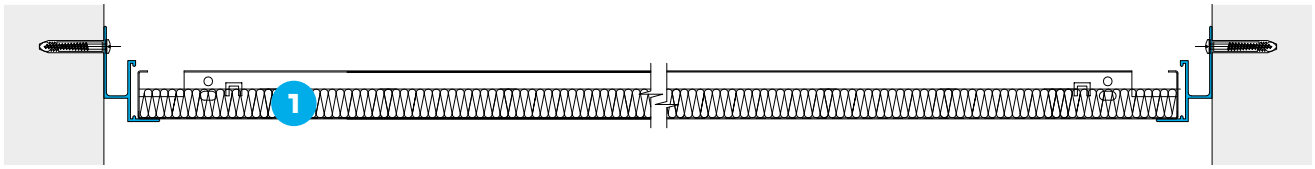
Section Drawings



Suspended within plasterboard ceiling.



Suspended between light profiles.



Suspended between walls using perimeter trims.
Perimeter trims also available.

All dimensions are in mm.

SAS**320**

Zig Zag Building, London

Location
London, UK
Architect
HLW International

Contractor
BW Interiors Ltd
Purpose
Commercial

SAS**330**

A highly versatile, premium suspended ceiling system with lay-on tiles and exposed grid.

SYSTEM GROUP	GRID
Suspended ceiling	Exposed grid – SAS C-Profile or Omega C-Profile suspension

TILE
Lay-on

ACOUSTICS	
A–C	**15-50dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	One-way grid approx. **14 Kg/m²** Two-way grid approx. **16 Kg/m²***	**25yr**
Lift and tilt	Based on 1500 x 1500mm module	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**330**

The industry benchmark suitable for any building module, the versatility of SAS330 has seen it specified in landmark projects worldwide. Available in one-way or two-way grid forms, the system combines beautiful aesthetics with high performance in equal measure.

Delivering unsurpassed creative potential, ceiling tiles can be curved, coffered and manufactured in virtually any polygonal shape. They are available in a variety of high quality finishes, both plain and perforated. In addition, SAS330 offers service integration details sympathetic to the overall design.

Access
The secure void is completely accessible by removing the lay-in tiles, with no need for specialist tools.

Module Sizes
SAS330 ceiling tiles can be manufactured in mm increments up to 3m lengths. The specifier should note that maximum panel sizes are limited by industry tolerance guidelines.

Finishes
SAS330 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS330 tiles can be manufactured with any standard SAS perforation pattern. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available depending on performance requirements, please refer to page 20.

Service Integration
Ceiling tiles and C-Profiles can be formed with apertures during manufacturing and post painted for integration with lights and other services. SAS330 panels may require stiffeners to support centrally mounted lighting.

For further information on service integration please contact the technical design team.

Please note Additional loads applied to SAS330 ceiling tiles must not exceed 7Kg. Anything in excess of 7Kg requires independent suspension.

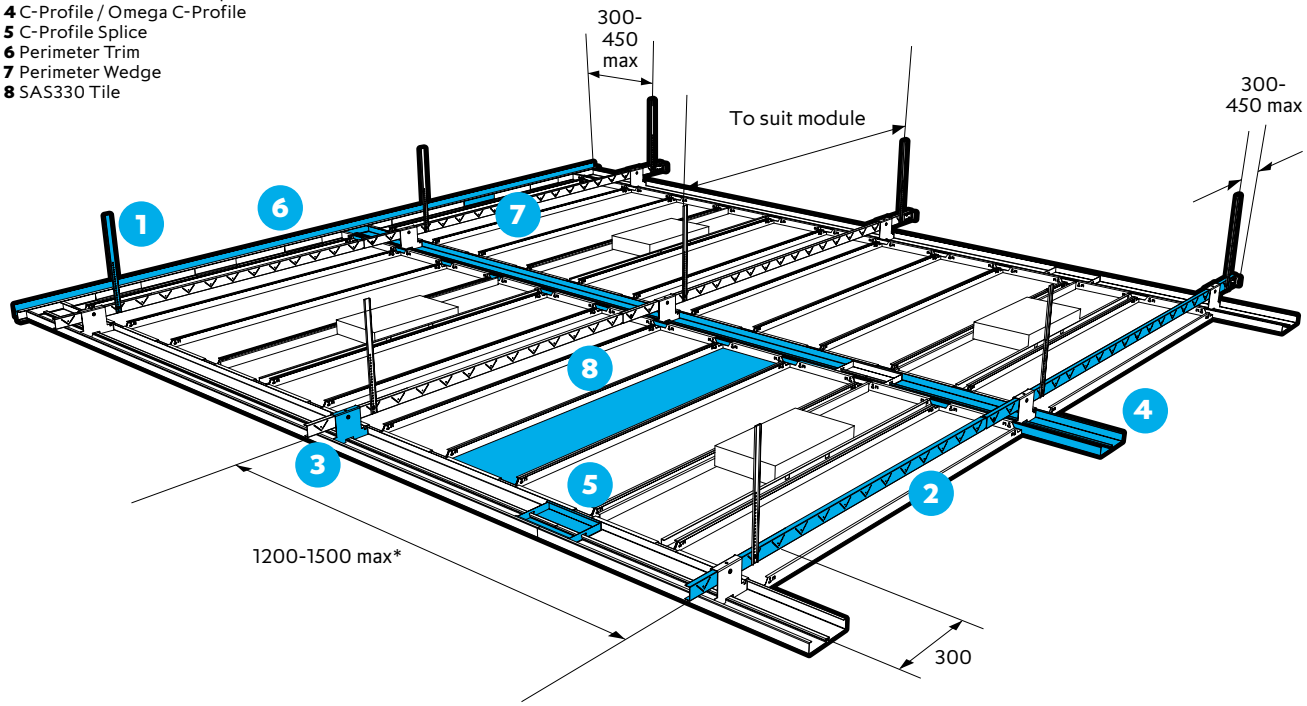
Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

SAS**330** | One-Way

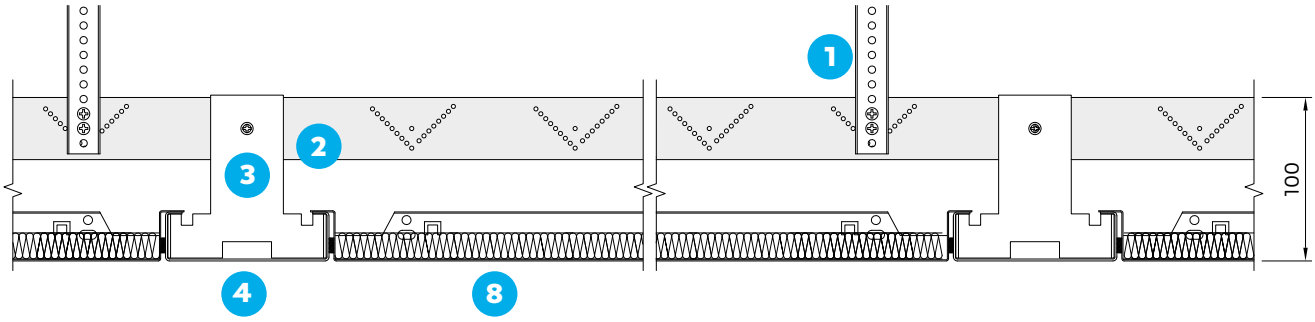
Perspective Drawing

One-Way
1 Emac Hanger
2 Emac Channel
3 C-Profile Hook-over Suspension Bracket
4 C-Profile / Omega C-Profile
5 C-Profile Splice
6 Perimeter Trim
7 Perimeter Wedge
8 SAS330 Tile

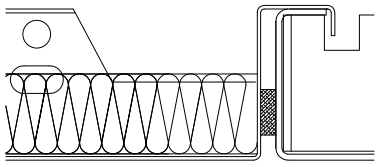
*Lightweight installations only, see page 248 for full details.



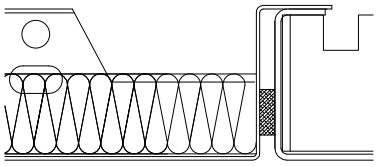
Section Drawing



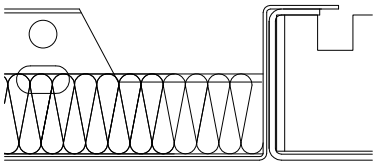
French hook



With gasket



Without gasket



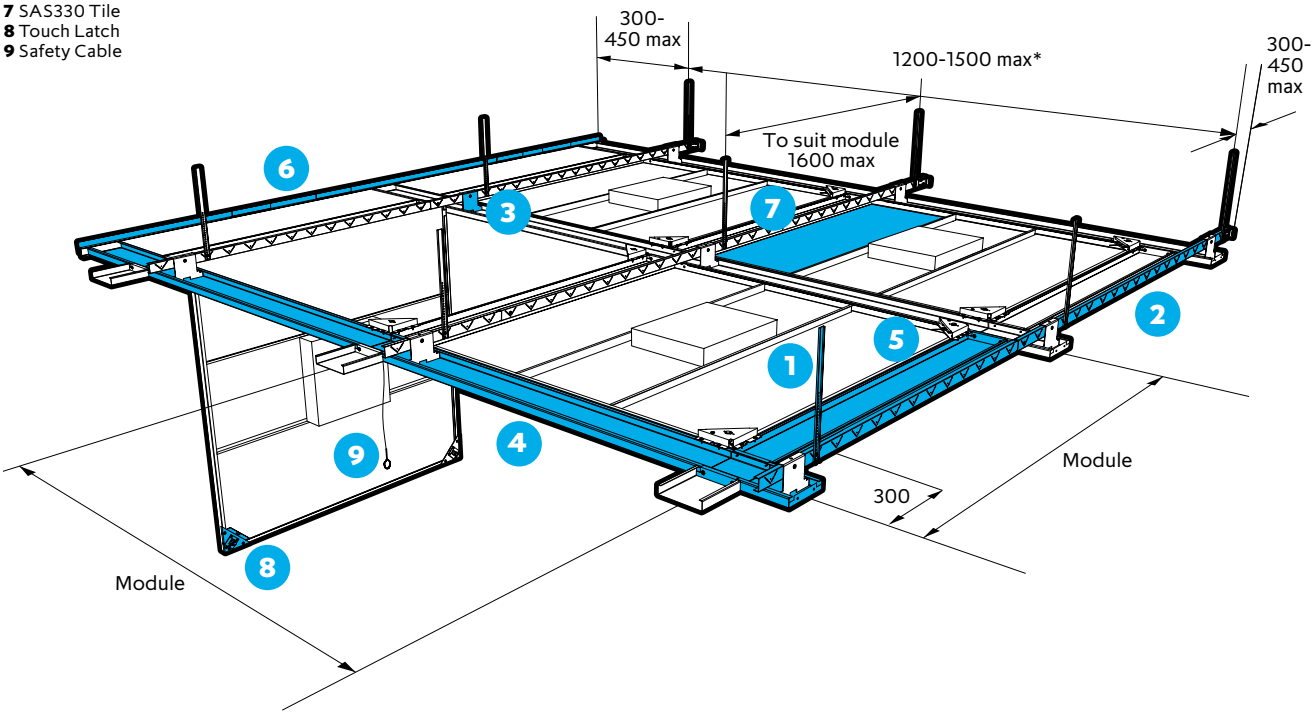
All dimensions are in mm.

SAS**330** | Two-Way

Perspective Drawing

Two-Way
1 Emac Hanger
2 Emac Channel
3 C-Profile Suspension Bracket for threaded Rod
4 C-Profile / Omega C-Profile
5 C-Profile Noggin
6 Perimeter Trim
7 SAS330 Tile
8 Touch Latch
9 Safety Cable

*Lightweight installations only, see page 248 for full details.



Grid Options

One-Way Grid
C-Profiles set out to run in one direction across the ceiling plane

Two-Way Grid
C-Profiles set out to run in two perpendicular directions (cross noggins) across the ceiling plane.

C-Profile
A flush, smooth finish C-Profile available in a range of widths up to 300mm.

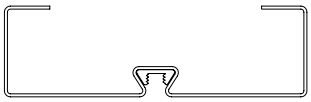
Omega C-Profile
Featuring a continuous thread-form facilitating easy location and relocation of partitioning. By means of an M6 bolt, partitioning can be relocated without causing damage to the ceiling. Also available in widths up to 300mm.

C-Profiles in widths ≤150mm can be open ended, using splices to connect longer runs. C-Profiles in excess of these widths must be closed ends, butt-jointed and bolted to other profiles. A range of narrower C-Profile and Omega C-Profile aluminium extrusions are available if preferred.

An optional foam gasket provides a tight seal between profile and tile. Gasket is supplied loose for on-site installation.

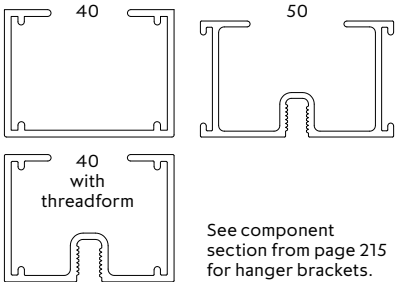
C-Profile Options
Applicable to both one-way and two-way.

C-Profile



Omega C-Profile

Extruded Aluminium Profiles



See component section from page 215 for hanger brackets.

All dimensions are in mm.

Touch Latch and Pivot Pin

This mechanism allows access by simply pushing the panel up to release. If necessary, a fixed bolt can be unscrewed to completely remove the tile.

Hinge Notch / French Hook

This integral feature allows tiles to be hung vertically from C-Profiles which provides unobstructed ceiling void access. Complete panel runs can be hung together during maintenance without causing damage to the tile.

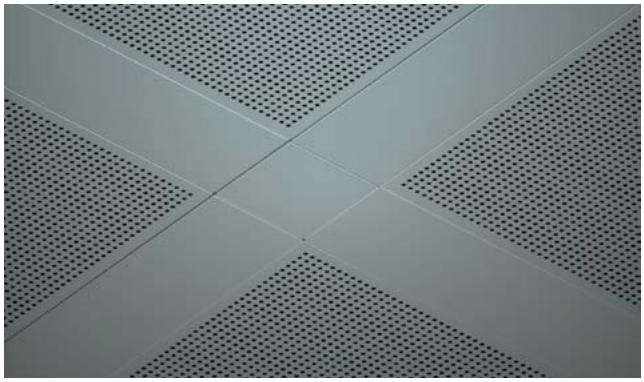
Flying Arm

This is a hook-over bracket supplied fixed to the upstand of the panel. Access is obtained by pushing up the opposite end of the panel and sliding back. This reveals the flange which can then be lowered to a vertical position (lift & tilt).

End Arm

Similar to the flying arm, a hook plate is fixed to the tile edge (supplied loose for on-site fixing by installer). The tile can be completely lifted out of the grid and hooked back over the C-Profile, safely off the ground.

Mock Crossing



Traditional Two-Way grid systems make the use of trim strips and crossing boxes suspended from threaded rods and hanger brackets. This detail can be replicated by pressing mock crossing details into the C-Profile. Using C-Profiles instead of crossing boxes provides a far more rigid and durable structure. C-Profiles also provide flexibility to avoid costly bridging around ductwork in the void.

SAS**330**

1 Angel Court

Location
London, UK
Architect
Fletcher Priest

Contractor
Mace Group Ltd / COMO
Purpose
Commercial

SAS330A

A highly versatile, premium suspended ceiling system with lay-on tiles and exposed grid.

SYSTEM GROUP	GRID
Suspended ceiling	Exposed grid – SAS C-Profile or Threaded C-Profile suspension

TILE
Lay-on

ACOUSTICS	
A–C	**15-50dB**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	One-way grid approx. **14 Kg/m²**	**25yr**
Lift and tilt	Based on 1500mm module	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS330A

A variant of SAS330, SAS330A is a versatile system which delivers on aesthetics and performance. This system has been altered so it does not have a proprietary grid, instead, the emac hangers are directly suspended from the c-profile. To stabilise this, distancing profiles are fixed to the hangers to ensure the ceiling is braced and spaced correctly.

Access
The secure void is completely accessible by removing the lay-in tiles, with no need for specialist tools.

Module Sizes
SAS330A ceiling tiles can be manufactured in mm increments up to 3m lengths. The specifier should note that maximum panel sizes are limited by industry tolerance guidelines.

Finishes
SAS330A is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS330A tiles can be manufactured with any standard SAS perforation pattern. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available depending on performance requirements, please refer to page 20.

Service Integration
Ceiling tiles and C-Profiles can be formed with apertures during manufacturing and post painted for integration with lights and other services. SAS330A panels may require stiffeners to support centrally mounted lighting.

Please note Additional loads applied to SAS330A ceiling tiles must not exceed 7Kg. Anything in excess of 7Kg requires independent suspension.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

Grid Options

330A Grid
C-Profiles set out to run in one direction across the ceiling plane

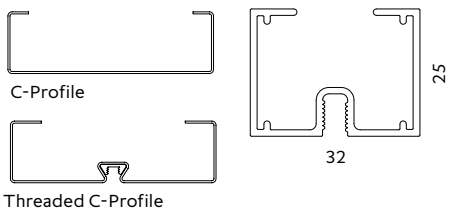
C-Profile
A flush, smooth finish C-Profile available in a range of widths up to 300mm.

Threaded C-Profile
Featuring a continuous thread-form facilitating easy location and relocation of partitioning. By means of an M6 bolt, partitioning can be relocated without causing damage to the ceiling. Also available in widths up to 300mm.

C-Profiles in widths ≤150mm can be open ended, using splices to connect longer runs. C-Profiles in excess of these widths must be closed ends, butt-jointed and bolted to other profiles. A range of narrower C-Profile extrusions are available if preferred.

An optional foam gasket provides a tight seal between profile and tile. Gasket is supplied loose for on-site installation.

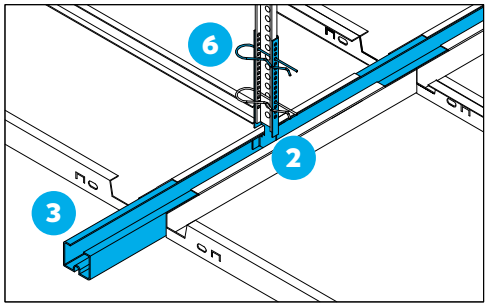
C-Profile Options
Applicable to both one-way and two-way.

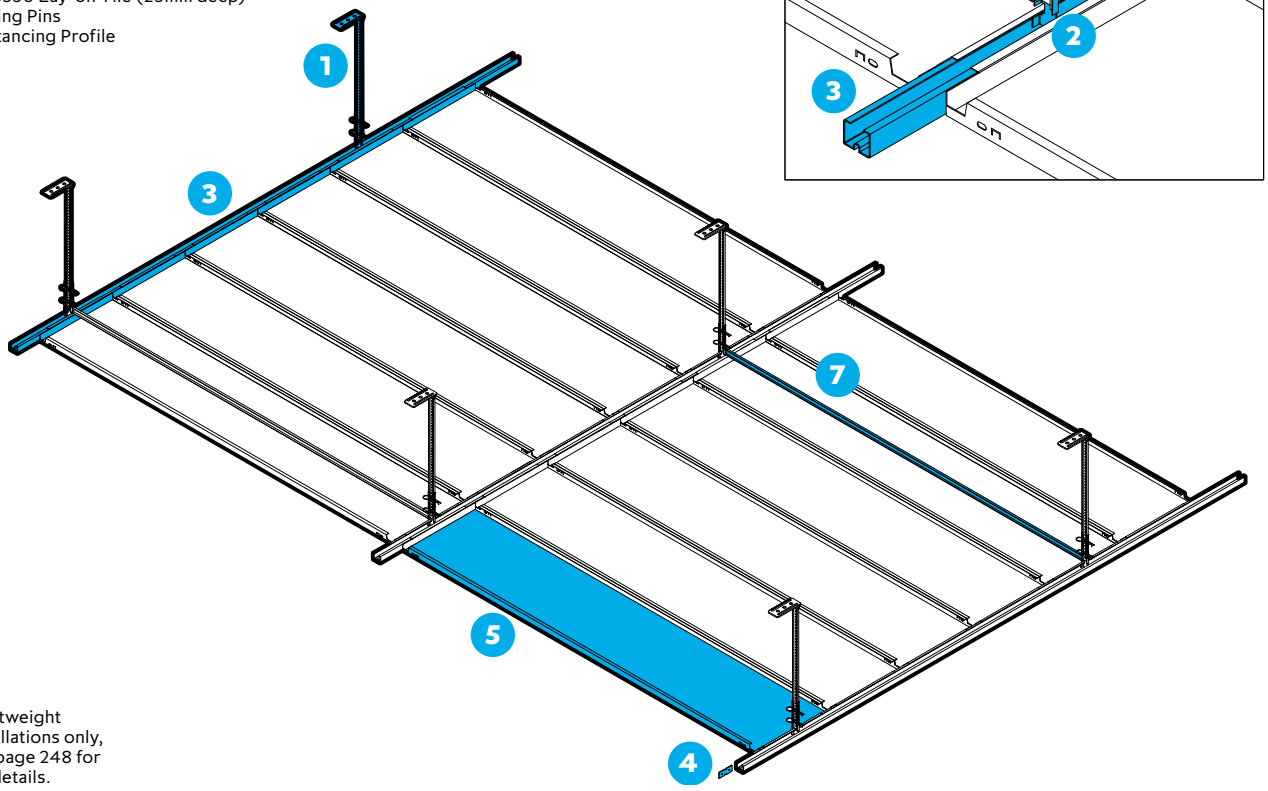


SAS330A

Perspective Drawing

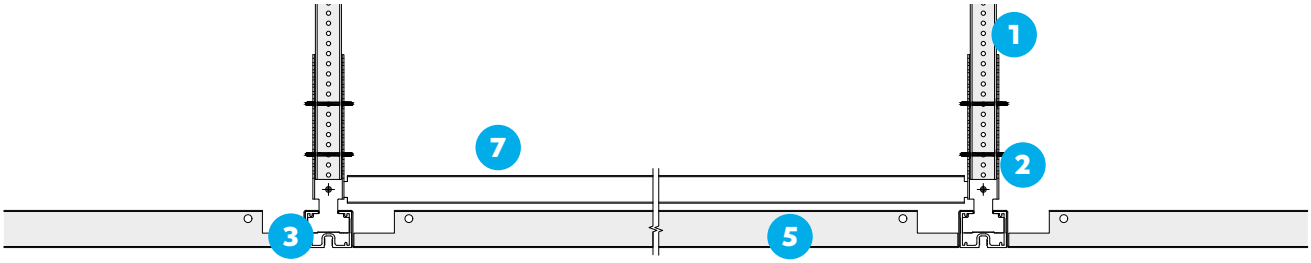
1 Emac Hanger
2 C-Profile Extrusion Bracket
3 C-Profile
4 TCP 180s Splice
5 SAS330 Lay-on Tile (25mm deep)
6 Spring Pins
7 Distancing Profile





*Lightweight installations only, see page 248 for full details.

Section Drawing



All dimensions are in mm.

SAS**330A**

Gilbert + Tobin, Barangaroo

Location
Sydney, Australia
Architect
Woods Bagot

Contractor
Lendlease
Purpose
Commercial

SAS**380**

A high performance, heavy load suspended ceiling system with exposed grid and lay in tiles.

SYSTEM GROUP	GRID
	
Suspended ceiling	Exposed grid – SAS C-Profile or Omega C-Profile suspension

TILE

Hook-over

ACOUSTICS	
A–C	**15-50dB**
Absorption class	Insulation

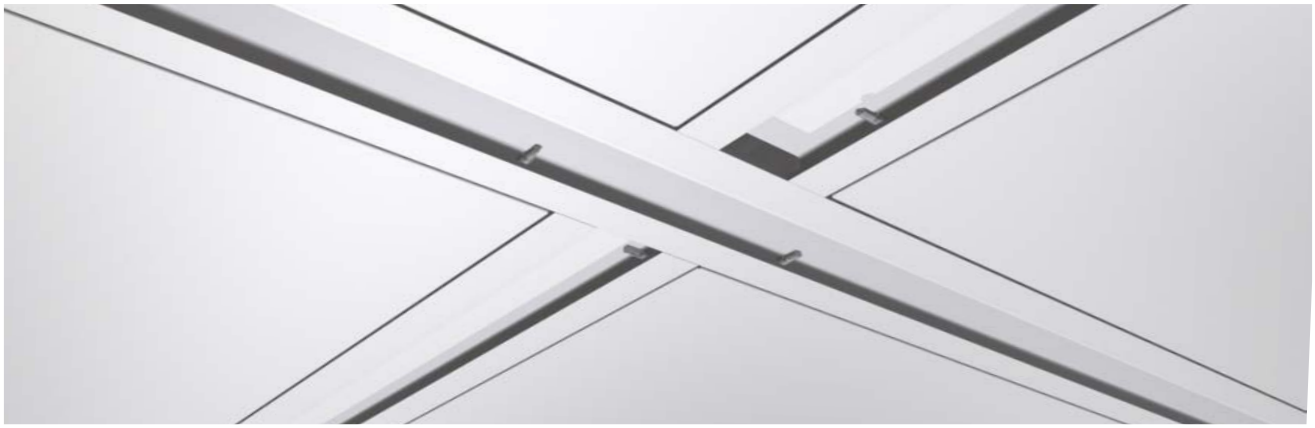
ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**14 kg/m²**	**25yr**
Lift and tilt	Based on 1200 x 1200mm module	In excess of

***Note** This includes the entire system and full associated components (suspension, tile, acoustic pad and associated fixings.)

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**380**



SAS380 is an exposed grid suspended ceiling system for dual layer or heavy load requirements. The reinforced grid is ideal for service integration, capable of supporting cable trays and lights directly from the grid.

A performance system specifically designed for highly demanding applications, SAS380 is ideal for Data Centre specifications.

Access
Tile can simply be lifted and removed from the grid. No need for specialist tools.

Module Sizes
Standard module sizes are 574mm x 1149mm to fit two panels within a 1200mm x 1200mm grid. Bespoke panels sizes and grid arrangements are possible. Please contact our technical team for further details.

Finishes
SAS380 is available in all standard SAS finishes and bespoke finishes are available on request. For further details please refer to page 95 of the Metal Ceilings brochure, visit our website or contact our sales team.

Perforations
SAS380 can be manufactured with any standard SAS perforation. For our full range of perforations, please refer to page 75 of the Metal Ceilings brochure, or visit our website. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20 of the Metal Ceilings brochure or visit our website.

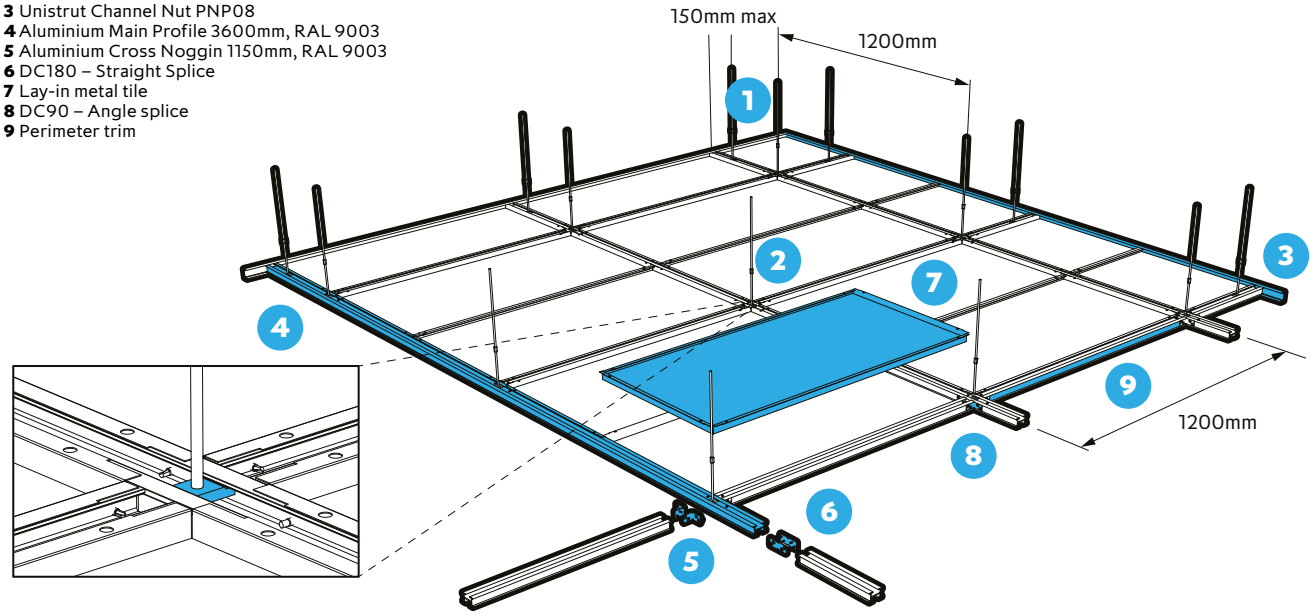
Service Integration
Tiles can be formed with apertures during manufacturing and post painted for integration with lights and other services. Due to the high load bearing capacity of the SAS380, lights can be suspended directly from the grid.

Technical Support
Load capacity has been calculated precisely based on grid configuration. Any changes to grid configurations are likely to impact performance. Please contact our technical team for assistance and advice with any necessary alterations. Our technical team can also answer all questions relating to access, security, bespoke features, acoustics, service integration and/or load support.

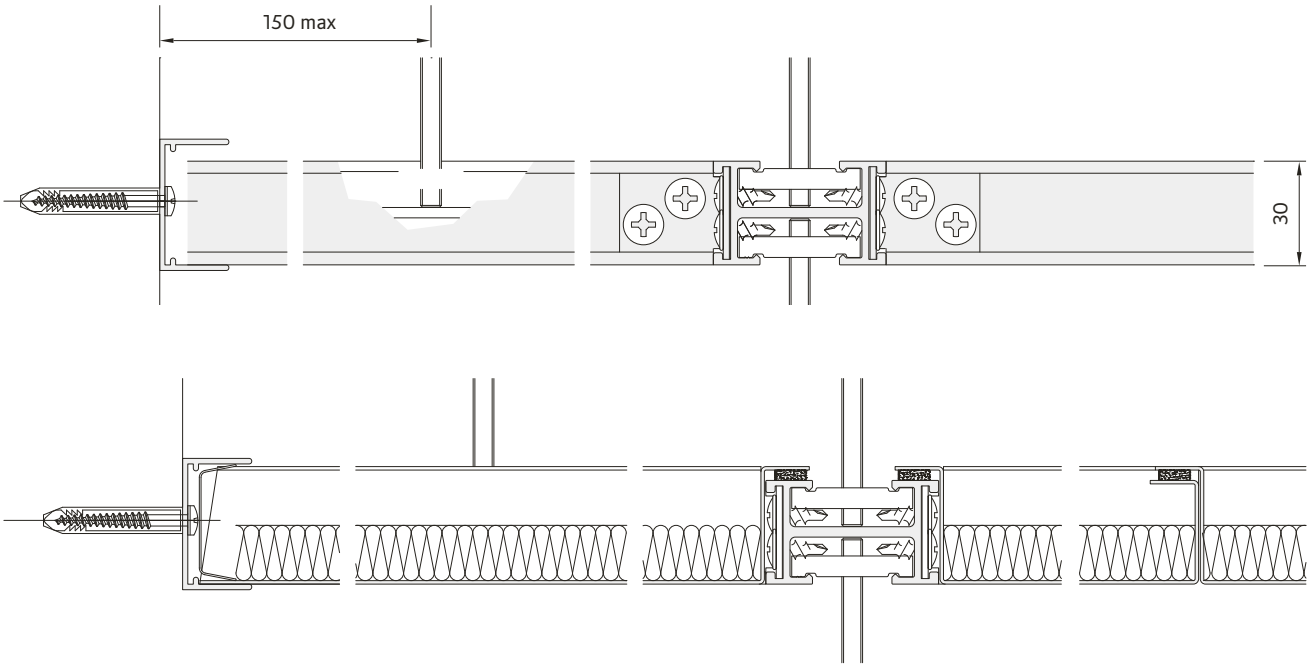
Perspective Drawing

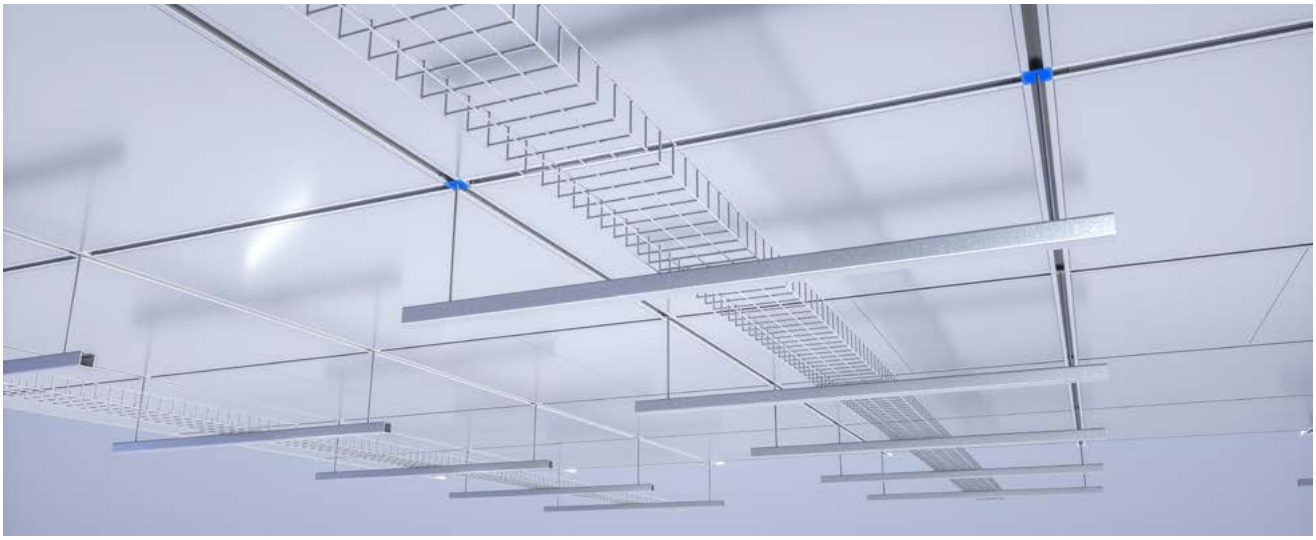
One-way
1 M8 Threaded Rod
2 M8 Rod Connector
3 Unistrut Channel Nut PNP08
4 Aluminium Main Profile 3600mm, RAL 9003
5 Aluminium Cross Noggin 1150mm, RAL 9003
6 DC180 – Straight Splice
7 Lay-in metal tile
8 DC90 – Angle splice
9 Perimeter trim

*Lightweight installations only, see page 249 for full details.

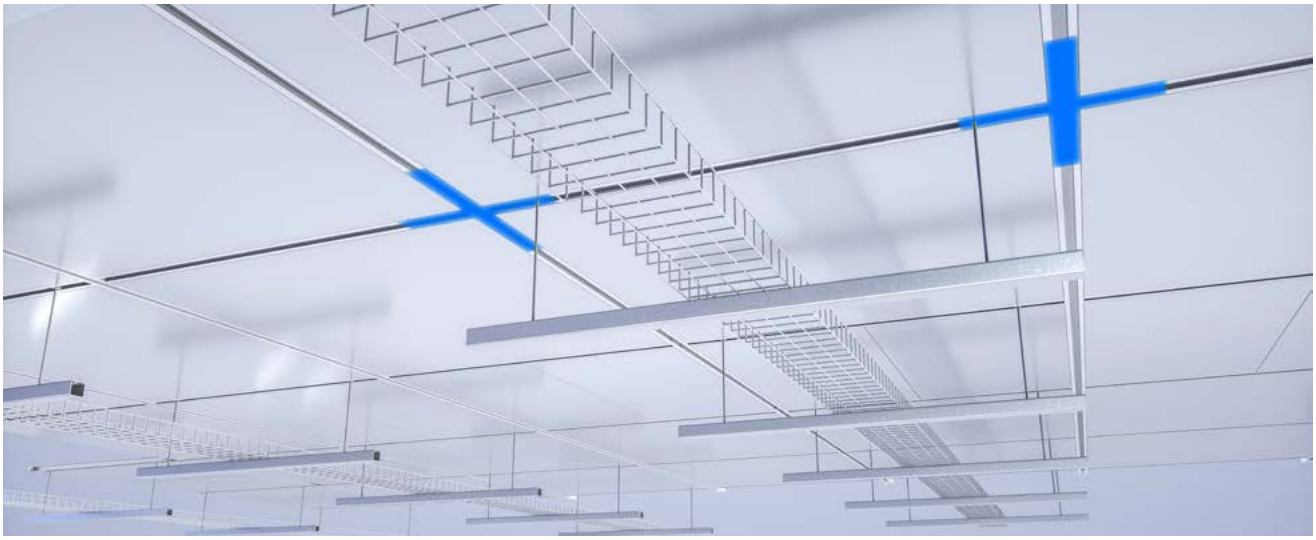


Section Drawing

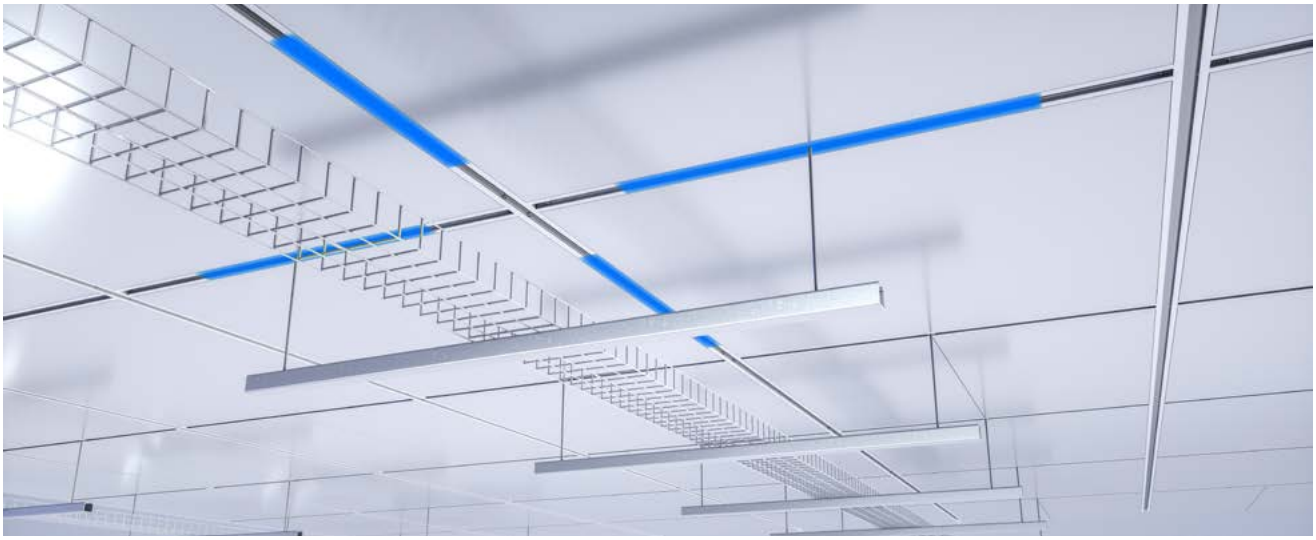




Load Case Zone 1 - 120kg maximum load at each grid intersection, directly below grid suspension.



Load Case Zone 2 -60kg maximum load within 200mm of grid suspension in the same bay.



Load Case Zone 3 - 60kg maximum anywhere outside of zone 2, where load must be in adjacent bays

SAS**500**

A rectilinear baffle system offering acoustic performance in exposed soffit interiors.

SYSTEM GROUP	SUSPENSION METHOD
Baffle	Suspended from primary grid, threaded rod or cable hangers

TILE	
Enclosed baffle	Square edge

ACOUSTICS	
A–C	**N/A**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Baffles are open systems	**5.2kg/lm** + Grid	**25yr**
	Based on standard 1000x400x50mm baffle	In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**500**

SAS500 acoustic baffles offer a visually engaging alternative to suspended acoustic ceiling systems, ideal for exposed soffit areas. Baffles offer good sound absorption, effectively controlling reverberation within these highly sound reflective interiors. Available in numerous colours and sizes, the baffles can be suspended at a range of heights for further visual interest.

Baffle Sizes
Standard baffle lengths are 1200mm, 1500mm, 1800mm and 3000mm. Baffle depths are available from a minimum of 100mm to a maximum of 500mm (300mm maximum for 3000mm length). Standard width is 50mm. Bespoke baffle sizes and shapes are also available on request.

Note Individual baffles are supplied assembled ready for installation on-site.

One-way baffles intended for long continuous runs are supplied loose for on-site assembly.

Finishes
SAS500 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS500 can be manufactured with any standard SAS perforation. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

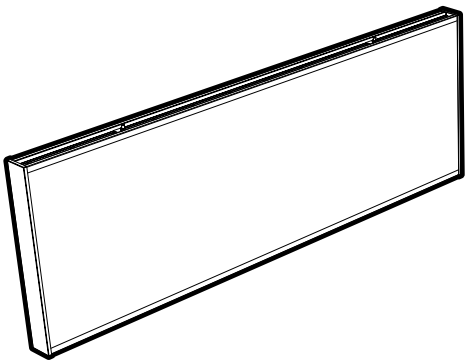
Acoustic Materials
Acoustic mineral wool pad with black tissue face. Other acoustic materials are available, please refer to page 20.

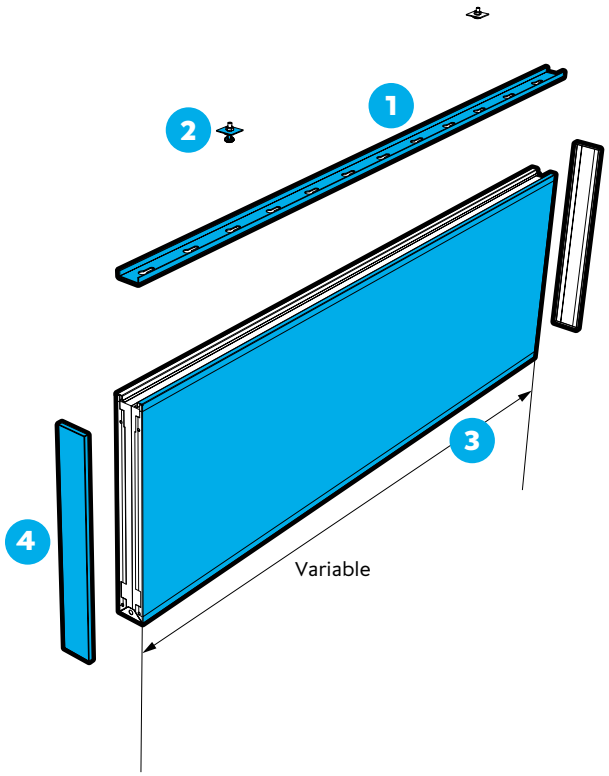
Service Integration
For further information on service integration please contact the technical design team.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

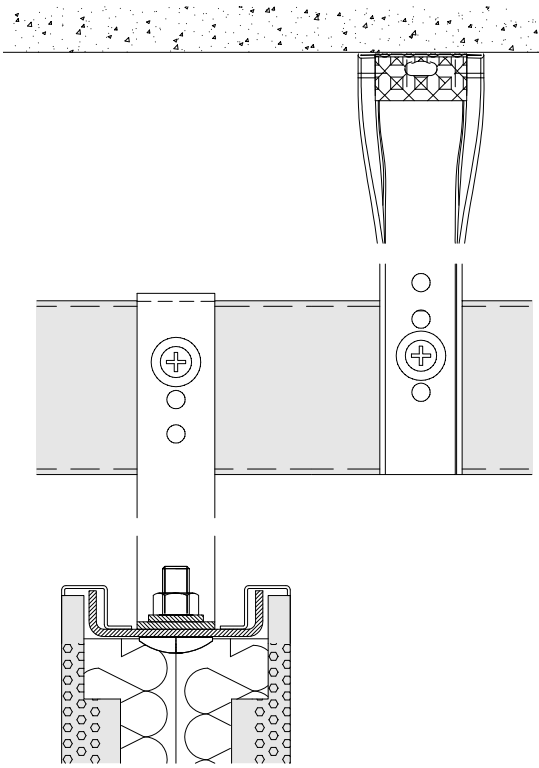
Perspective Drawing

One-way
1 Carrier Rail
2 Clamping Bracket Assembly
3 Baffle Module
4 End Cap

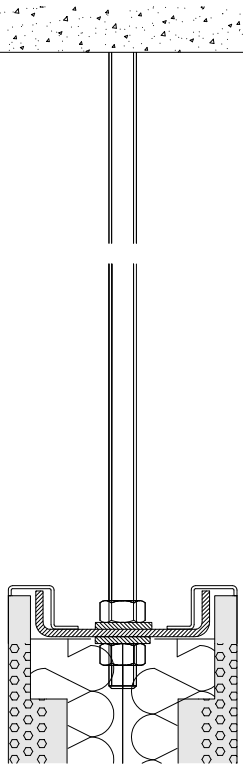




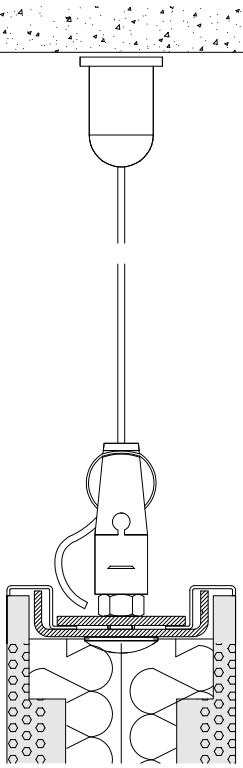
Grid Hanging



Threaded Rod Hanger



Cable Hanging

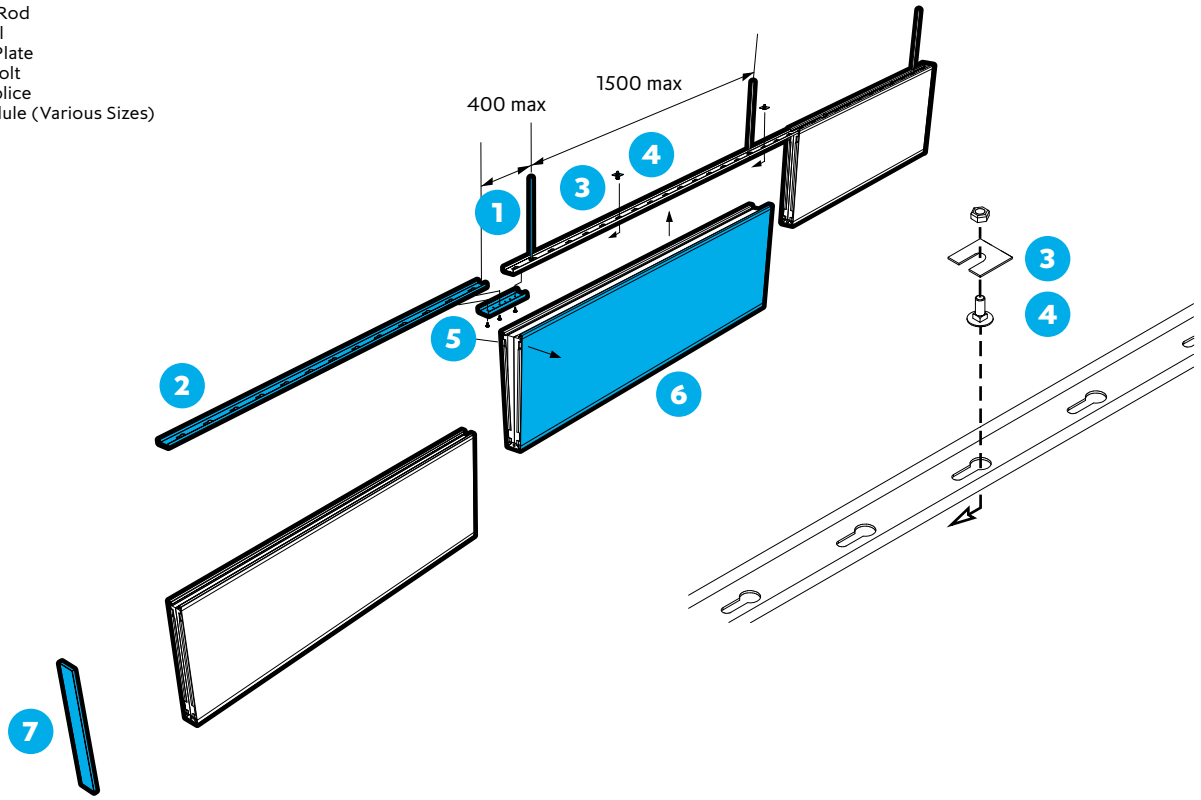


All dimensions are in mm.

SAS**500** | Continuous

Perspective Drawing

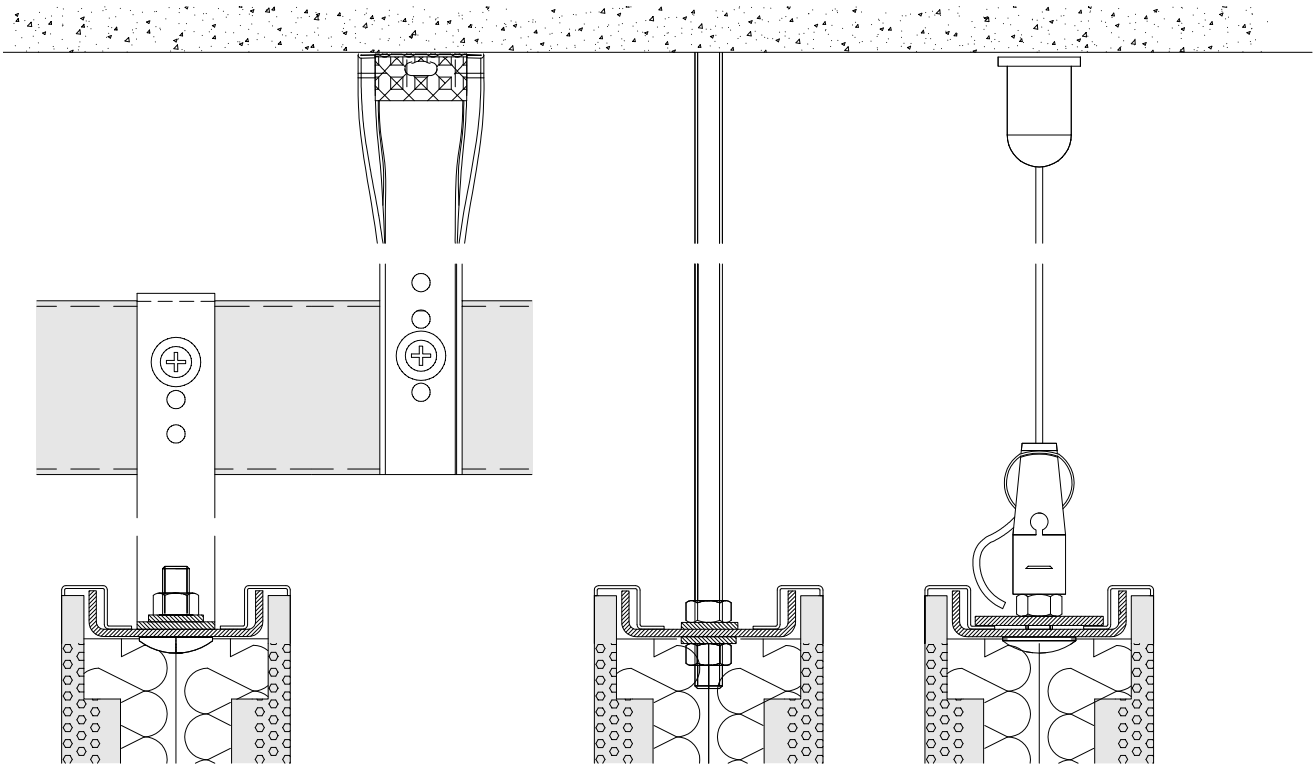
Continuous
1 Threaded Rod
2 Carrier Rail
3 Clamping Plate
4 Carriage Bolt
5 Channel Splice
6 Baffle Module (Various Sizes)
7 End Cap



Grid Hanging

Threaded Rod Hanger

Cable Hanging



SAS**500**

Lendlease, Barangaroo

Location
Sydney, Australia
Architect
Hassell Studio Sydney

Contractor
Lendlease
Purpose
Commercial

SAS**500**

University Of Leeds

Location
Leeds, UK
Architect
Associated Architects & AHR Architects

Contractor
Galliford Try Normanton
Purpose
Education

SAS**510**

A waveform baffle system offering acoustic performance in exposed soffit interiors.

SYSTEM GROUP	SUSPENSION METHOD
	Suspended from carrier rail using grid hangings, threaded rod or cable hangers
Baffle	

TILE	
	
Enclosed baffle	Square edge

ACOUSTICS	
A–C	**N/A**
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Baffles are open systems	**9.3kg/lm** + Grid	**25yr**
	Based on standard 1000x400x50mm baffle	In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**510**

SAS510 acoustic waveform baffles offer a visually engaging alternative to suspended acoustic ceiling systems, ideal for exposed soffit areas. Baffles offer good sound absorption, effectively controlling reverberation within these highly sound reflective interiors. The radii of the baffles can form individual elements or continual rhythmic lines stretching across a ceiling plane.

Baffle Sizes
Standard baffle lengths are 1200mm, 1500mm, 1800mm and 3000mm*. Baffle depths are between 150mm (min.) and 1000mm (max.) Standard baffle widths are 52.5mm.

* Continuous runs are suspended with a carrier rail and manufactured in 3000mm lengths for speed of installation and minimal seams.

Bespoke baffle sizes and shapes are available on request.

Baffle Shapes
There is no standard shape for SAS510, although waveforms are predominant. For waveform patterns, we would not recommend radii less than 1000mm.

SAS510 can also be formed into other, bespoke shapes. Please contact our technical design team for more information.

Finishes
SAS510 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS510 can be manufactured with any standard SAS perforation. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Acoustic mineral wool pad with black tissue face, foil back and sides. Other acoustic materials are available, please refer to page 20.

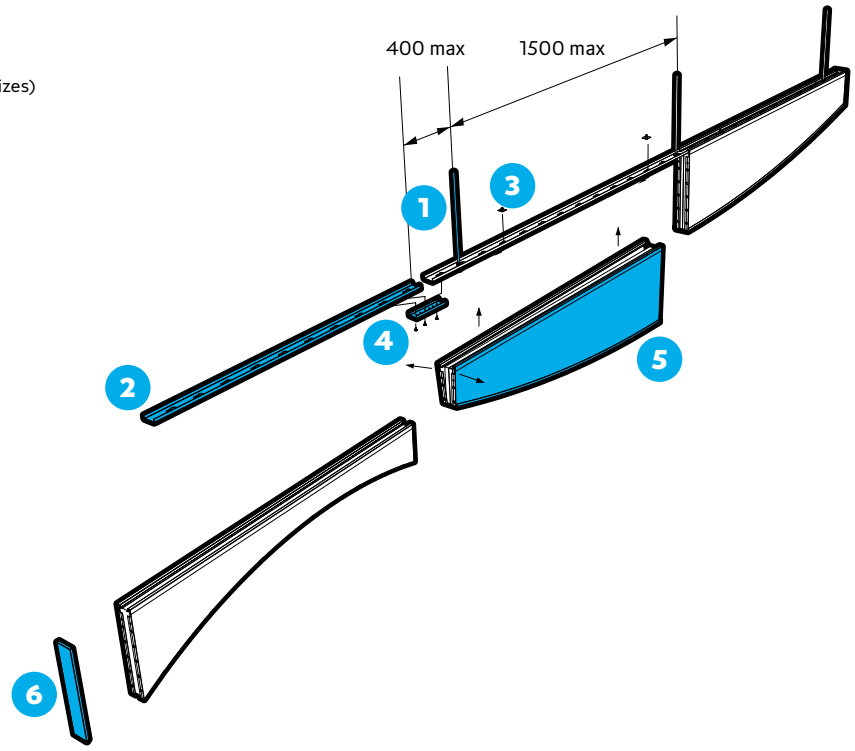
Service Integration
For further information on service integration please contact the technical design team.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, acoustics, service integration or load support.

SAS510

Perspective Drawing

1 Threaded Rod
2 Carrier Profile
3 Clamping Plate
4 Channel Splice
5 Baffle Module (Various Sizes)
6 End Plate

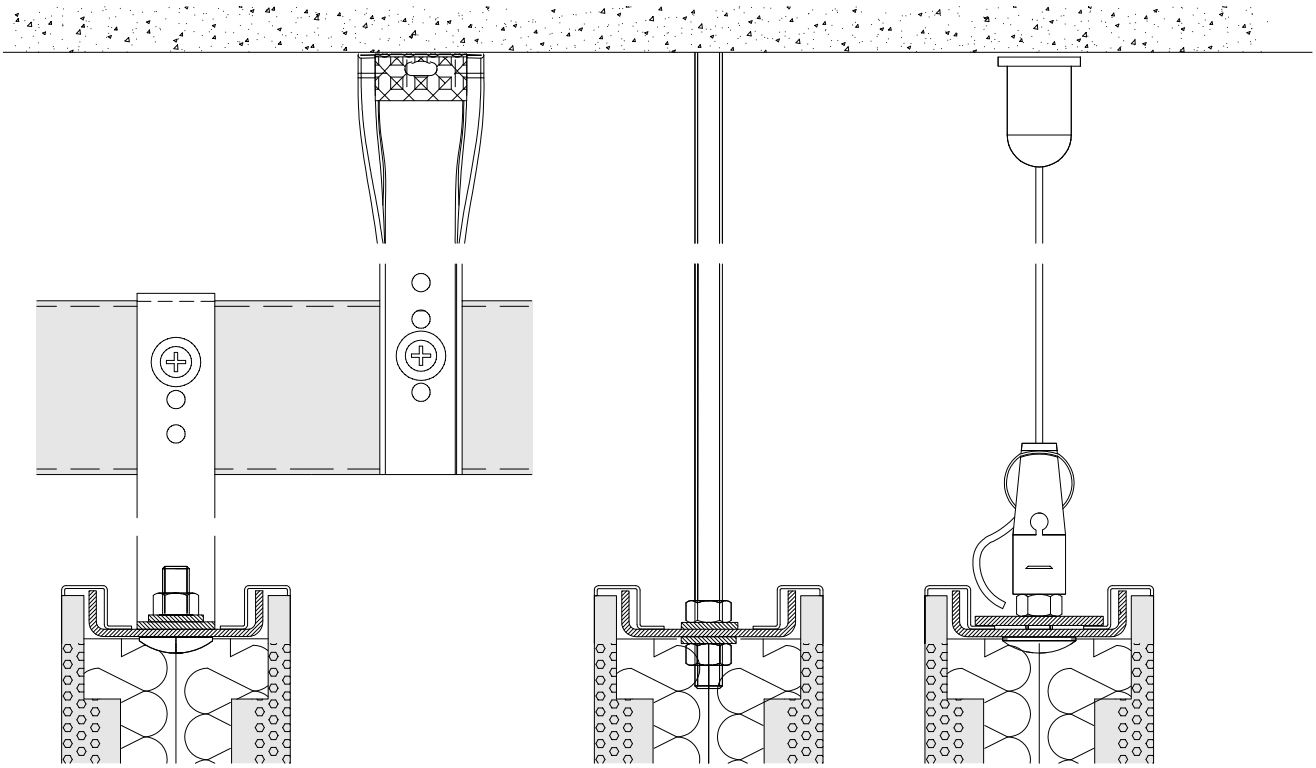


*Lightweight installations only, see page 249 for full details.

Grid Hanging

Threaded Rod Hanger

Cable Hanging



All dimensions are in mm.

SAS**510**

Birmingham New Street Station

Location
Birmingham, UK
Architect
Atkins

Contractor
Mace Ltd
Purpose
Infrastructure

SAS600

Modular plain or perforated acoustic raft and modules with service integration options.

SYSTEM GROUP	SUSPENSION METHOD
	Threaded rod with suspension channel
Ceiling rafts	

PANEL	
	
Hook-on	Square or Rectangle

ACOUSTICS	
Design dependent	Design dependent
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Rafts are open systems. When grouped as islands, full access is available	**14kg/m²** One-way	**25yr**
	Based on 1200x600mm tiles	In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS600

SAS600 offers a variety of applications from the purely aesthetic to high performance acoustics with service integration. The rafts and modules are available in a range of curved, flat or angled profiles as standard. Bespoke designs can be achieved to realise highly aspirational interiors.

The flexibility of SAS600 rafts and modules makes them ideal for both new build and retrofit acoustic solutions.

Module Sizes
Length: 300mm-3000mm
Width: 300mm-1200mm

Module Shapes
Rafts and modules can be manufactured either flat or curved. Curved designs allow a larger acoustic area to be incorporated into the design.

Bespoke module sizes and shapes are available on request.

Finishes
SAS600 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
SAS600 can be manufactured with any standard SAS perforation pattern. For our full range of perforations, please refer to page 75. Bespoke perforations are also an option.

Acoustic Materials
Tissue wrapped acoustic mineral wool pad. Other acoustic materials are available, please refer to page 20.

Service Integration
Rafts and modules can be manufactured with integrated LED lighting and other M&E services.

For further information on service integration please contact the technical design team.

Cross Ventilation
Ceiling mounted acoustic rafts provide acoustic absorption whilst allowing the concrete soffit to be fully exposed for energy-efficient natural cross ventilation cooling.

Combination Ceilings
Rafts and modules provide high levels of sound absorption. For demanding environments they can be installed in conjunction with a suspended metal ceiling.

School Specifications
SAS600 provides acoustic absorption compliant with BB93[1] and meets ventilation requirements detailed in BB101[2].

1 BB93: Acoustic Design of Schools

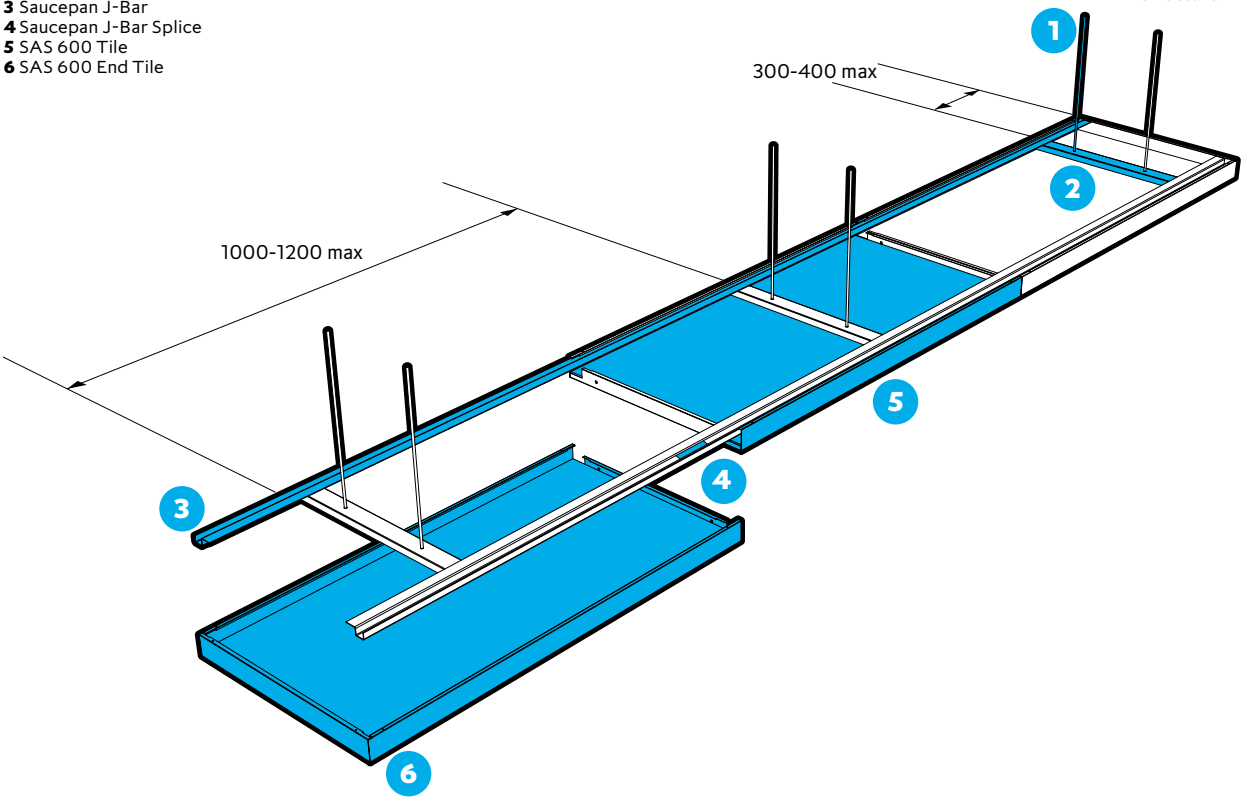
2 BB101: Ventilation of School Buildings

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, service integration or load support.

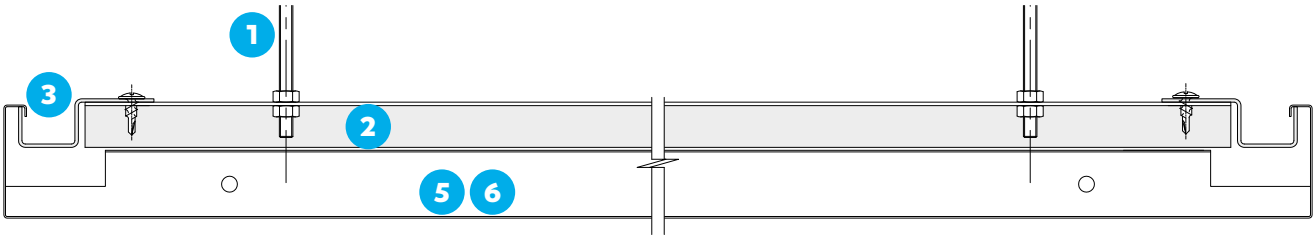
Perspective Drawing

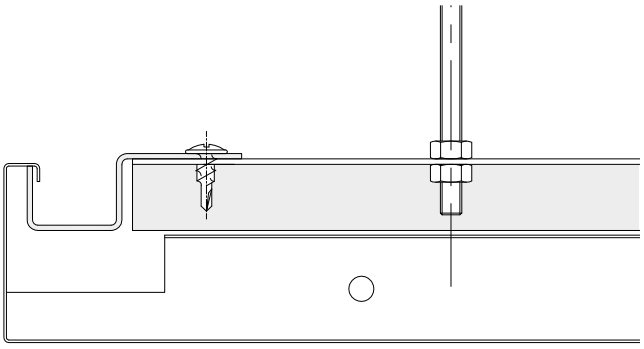
1 Threaded Rod
2 Support Channel
3 Saucepan J-Bar
4 Saucepan J-Bar Splice
5 SAS 600 Tile
6 SAS 600 End Tile

*Lightweight installations only, see page 250 for full details.



Section and detail drawings





All dimensions are in mm.

SAS**600**

2 Semple Street

Location
Edinburgh, Scotland
Architect
Michael Laird Partnership

Contractor
McLaughlin and Harvey
Purpose
Commercial

SAS610

Acoustic raft with service integration options.

SYSTEM GROUP	SUSPENSION METHOD
Ceiling rafts	Threaded rod or wire rope

PANEL
Rectangle

ACOUSTICS	
Design dependent	Design dependent
Absorption class	Insulation

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Rafts are open systems. When grouped as islands, full access is available	**14kg/item**	**25yr**
	Based on 2500x800mm tiles	In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**610** Deltawing

SAS610 is a high performance acoustic product. It offers total absorption at mid-frequencies across the entire surface area, making it at least 15% better than any other raft. The unique geometry and laminate mineral wool infill provide the most efficient means of introducing sound absorption into a space – twice that of a Class A ceiling.

Module Sizes
Length: 2500 x 800 x 80 standard unit

Module Shapes
The Deltawing raft has been specifically engineered for optimum acoustic performance. The tapering shape and module size is fixed.

Finishes
SAS610 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

Perforations
Only specific perforations can be used on SAS610 as the open area ratio has been carefully considered for maximum acoustic performance.

Visible perforation on lower face – D1522 – 22% open area

Perforation on upper face – D2841 – 41% open area

Other perforations may be considered, please contact our technical team to discuss your requirements.

Acoustic Materials
Acoustic mineral wool pads fully enclosed within the raft structure. Tissue wrapped pads are included in the top of the raft and are removable for access to cable routing.

Service Integration
Rafts and modules can be manufactured with integrated LED lighting and other M&E services.

For further information on service integration please contact the technical design team.

Cross Ventilation
Ceiling mounted acoustic rafts provide acoustic absorption whilst allowing the concrete soffit to be fully exposed for energy-efficient natural cross ventilation cooling.

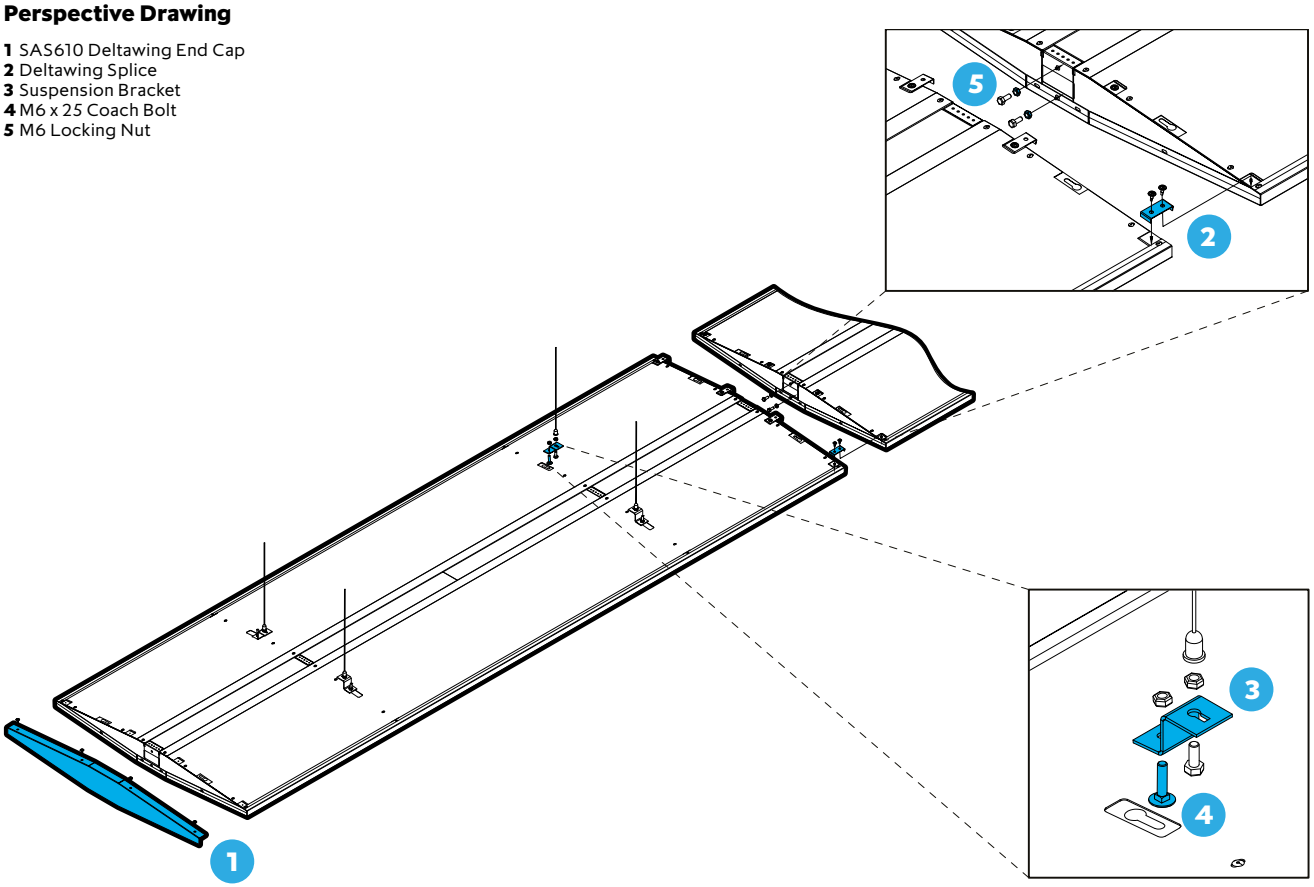
Combination Ceilings
Rafts and modules provide high levels of acoustic absorption. For demanding environments they can be installed in conjunction with a suspended metal ceiling.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, service integration or load support.

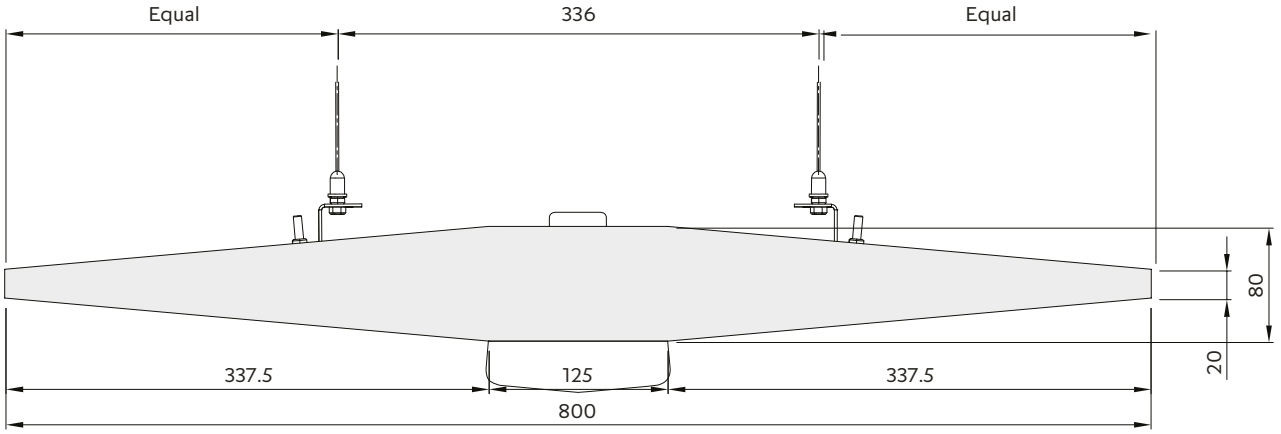
SAS**610** Deltawing

Perspective Drawing

1 SAS610 Deltawing End Cap
2 Deltawing Splice
3 Suspension Bracket
4 M6 x 25 Coach Bolt
5 M6 Locking Nut

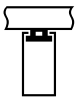


Section and detail drawings



SAS**610**

SAS**700**



A simple to install, linear profile system ideal for budget applications requiring aesthetic treatment.

SYSTEM GROUP	SUSPENSION METHOD
	SAS carrier profile – threaded rod suspension
Linear profile ceiling	

PROFILE	MATERIAL
	**Steel**
Clip-on	

APPLICATION	END CAPS
Interior only	✓

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Limited access (standard system)	**0.7- 1.1Kg/lm** + Grid	**25yr**
	Project dependent	In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**700**

SAS700 is intended for projects requiring an aesthetic finish where tight budget control is a major factor. The system is ideally suited to expansive retail environments and other, similar high traffic areas requiring smoke extraction applications.

A highly-cost effective steel linear profile option, SAS700 comprises a steel rolled profile which simply clips into the carrier.

Profile Sizes

Standard Length	3000mm
Standard Width	30mm
Standard Depths	60 or 80mm

Bespoke profiles are available on request. Longer continuous runs can be achieved through splices.

Access
Standard SAS700 systems have limited void access.

Finishes
SAS700 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

End Cuts
SAS700 can be cut to size on-site during installation. SAS would only recommend square cut ends due to the inherent properties of steel.

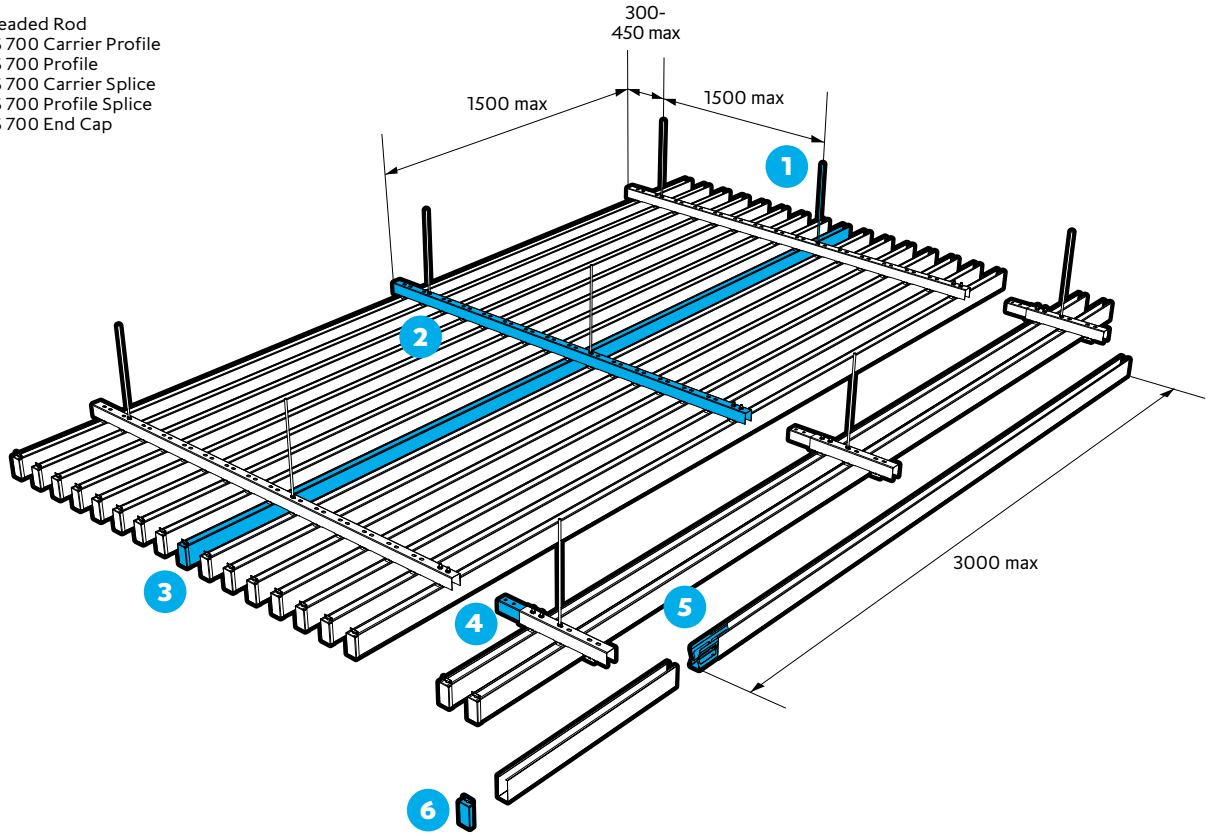
Service Integration
Service integration is limited to separately mounted services in between profiles.

Technical Support
Please contact our technical team for all questions relating to access, bespoke features and service integration.

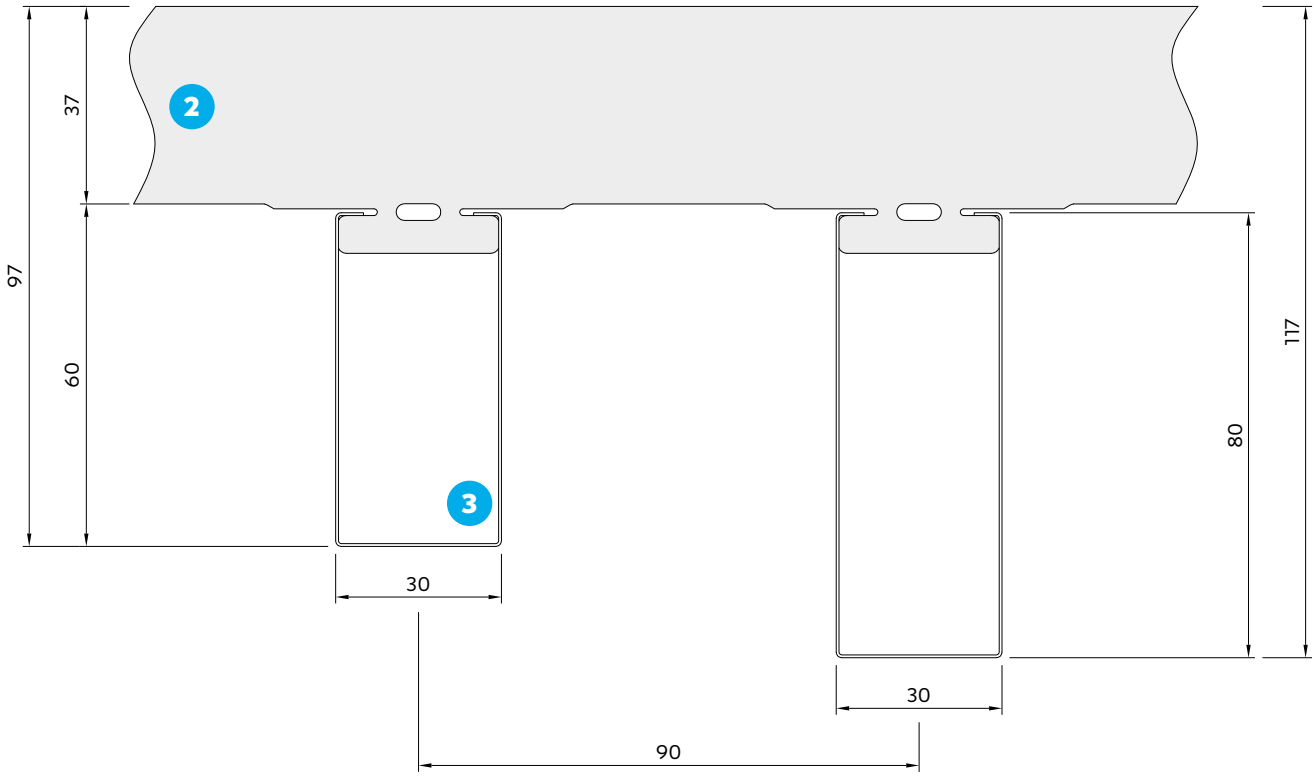
SAS**700**

Perspective Drawing

1 Threaded Rod
2 SAS 700 Carrier Profile
3 SAS 700 Profile
4 SAS 700 Carrier Splice
5 SAS 700 Profile Splice
6 SAS 700 End Cap



Section Drawing



All dimensions are in mm.

SAS**700**

Grand Central

Location
Birmingham, UK
Architect
Haskoll Architects

Contractor
Mace Ltd
Purpose
Retail

SAS**720**

A robust linear plank ceiling system suitable for service integration as an integral design feature.

SYSTEM GROUP	GRID
Linear profile ceiling	Notched EMAC grid EMAC Hanger suspension

PROFILE	MATERIAL
Plank C-Profile	**Steel**

APPLICATION	END CAPS
Interior and exterior	✓

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Full – demountable profiles	**0.9**Kg/lm + Grid	**25**yr In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**720**

SAS720 is a ‘plank’ system, available in a variety of widths and depths depending on aesthetic preference. Highly robust and sturdy, SAS720 is suitable for service integration as an integral design feature, offering significant creative flexibility.

SAS720 comprises steel rolled c-profiles which hook over the carrier. Costs can be controlled through wider profile spacing if required.

Profile Sizes

Standard Length	3000mm
Standard Width	50mm, 100mm, 150mm
Standard Depths	30mm

Bespoke profiles sizes and waveform profiles are available on request. Longer continuous runs can be achieved through splices and profiles are secured using barbed edge clips located at the end of profiles.

Access
SAS720 profiles can simply be demounted for void access.

Finishes
SAS720 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request.

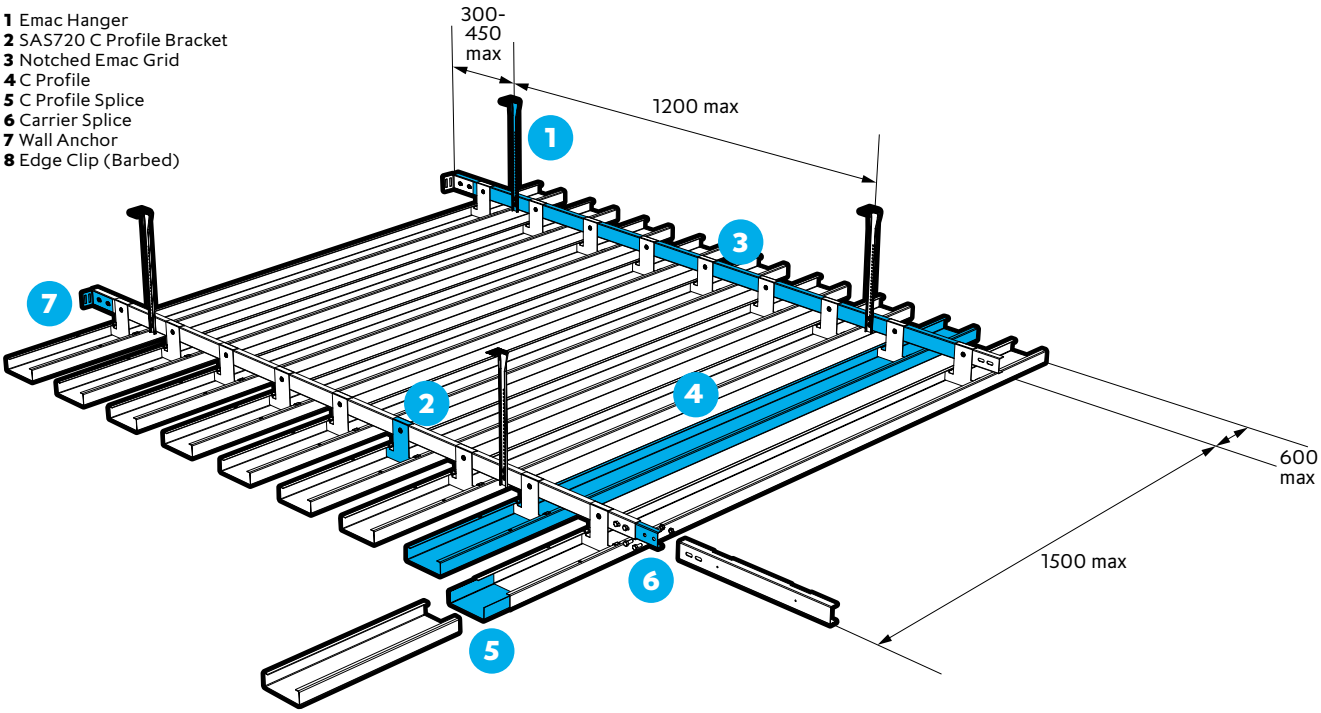
Service Integration
SAS720 profiles can be formed with apertures during manufacturing for integration with lights and other services.

Technical Support
Please contact our technical team for all questions relating to access, bespoke features and service integration.

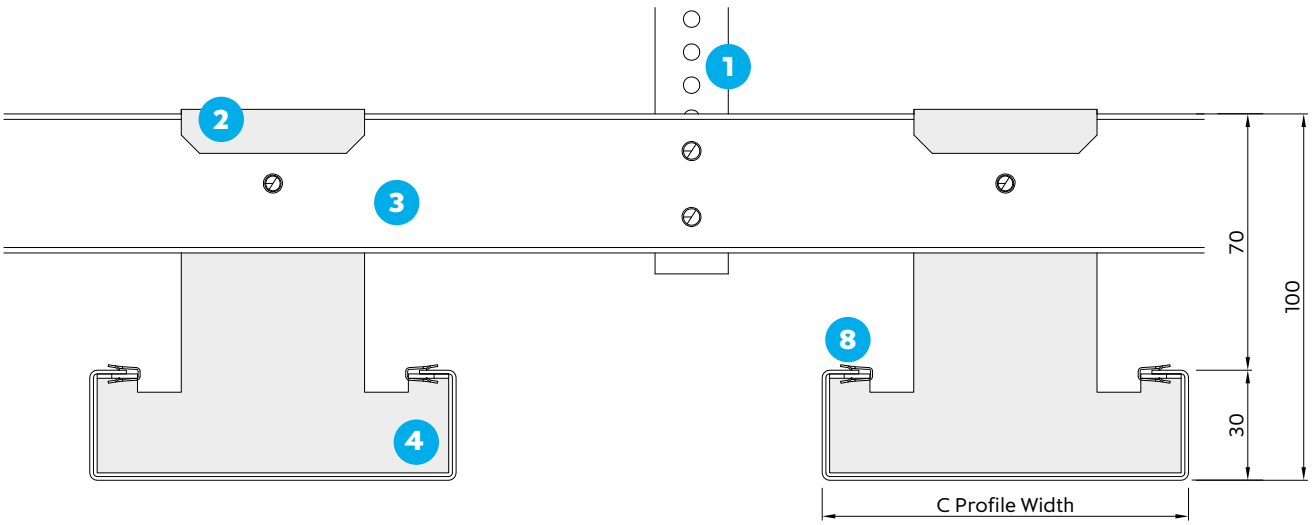
SAS720

Perspective Drawing

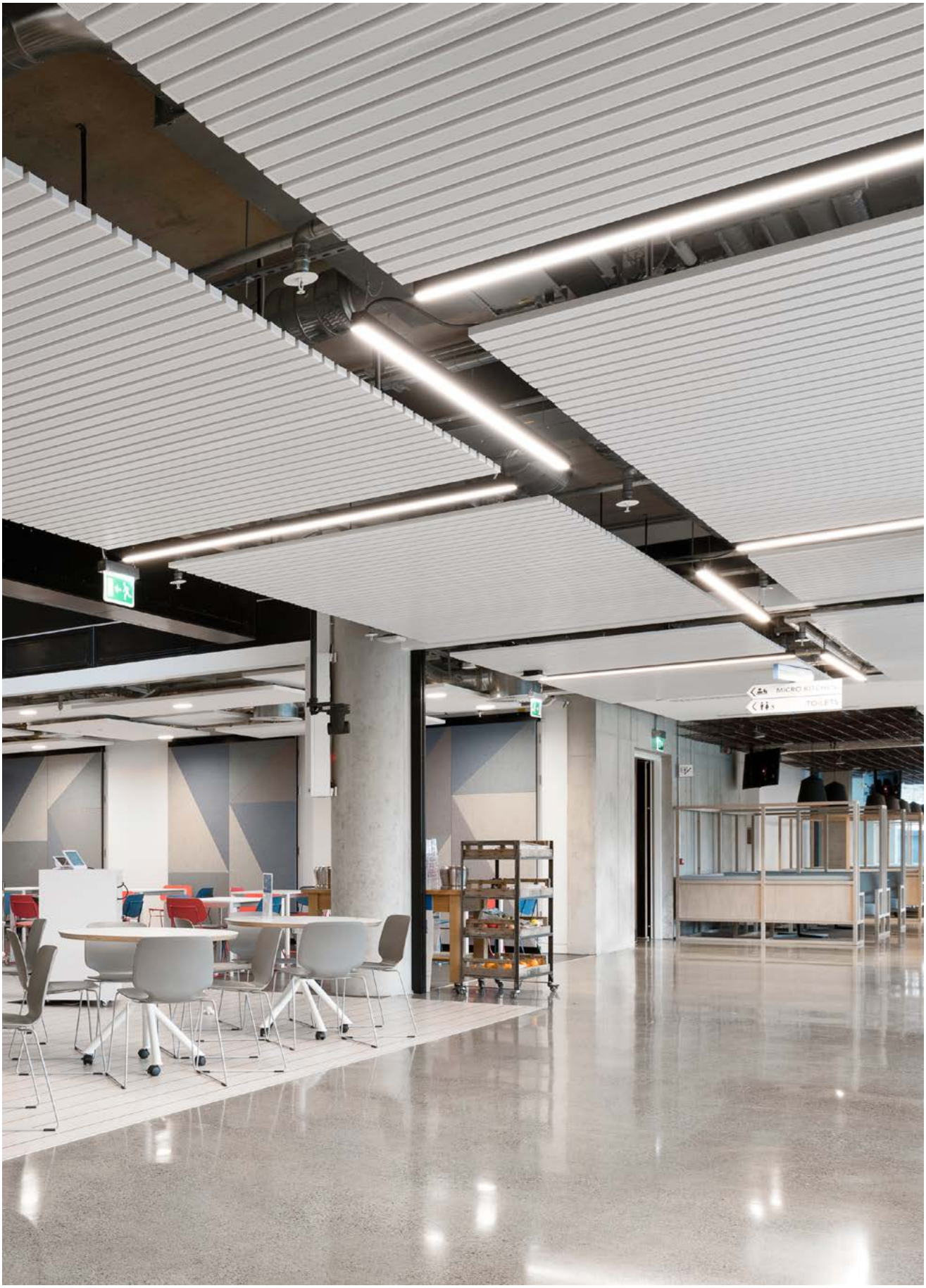
1 Emac Hanger
2 SAS720 C Profile Bracket
3 Notched Emac Grid
4 C Profile
5 C Profile Splice
6 Carrier Splice
7 Wall Anchor
8 Edge Clip (Barbed)



Section Drawing



All dimensions are in mm.



SAS**720**

LinkedIn EMEA HQ

Location
Dublin, Ireland
Architect
RKD Architects

Contractor
Walls Construction
Purpose
Commercial

SAS730

A discontinuous aluminium profile ceiling offering alternate profiles for a completely different aesthetic.

SYSTEM GROUP	SUSPENSION METHOD
Linear profile ceiling	EMAC Channel

PROFILE	MATERIAL
Clip-in H and U form extrusions	**Aluminium**

APPLICATION	END CAPS
Interior and exterior	**X**

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Limited access – standard system	**0.4Kg/lm** + Grid	**25yr** In excess of

HAVE A QUESTION?

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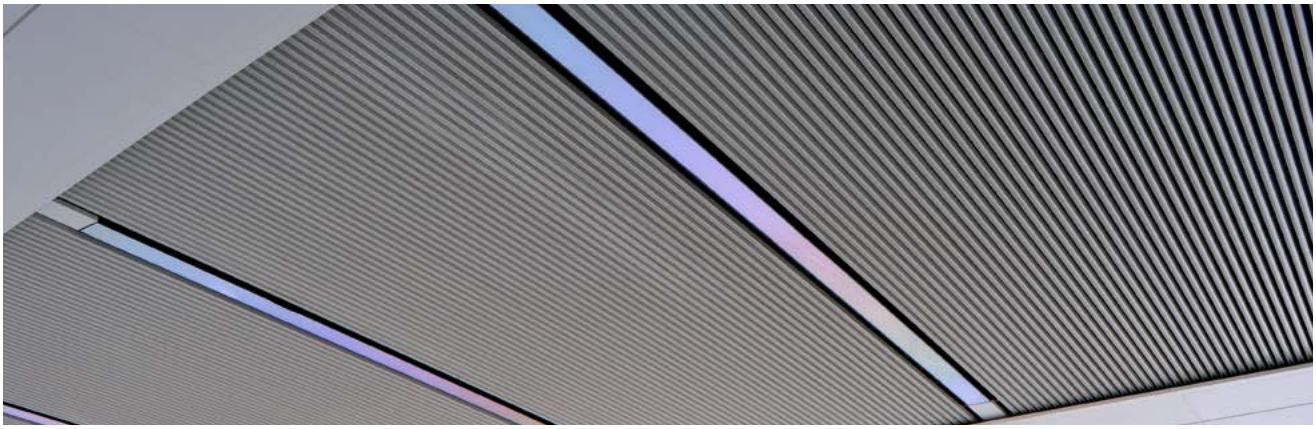
SAS**730**



SAS730 is a linear profile system offering ‘H’ and ‘U’ formed profiles for an alternative aesthetic finish. The system is ideally suited to premium retail environments and other, similar high traffic areas requiring smoke extraction applications.

As an aluminium-extruded profile system, SAS730 offers superior quality, bespoke finishes and can accommodate complex geometry.

Profile Sizes

Standard Length	3000mm Max.
Standard Width	30mm
Standard Depths	35mm

Bespoke profile sizes and waveform profiles are available on request. SAS730 is limited to 3000mm lengths max.

Access

SAS730 offers limited access as standard. Integral 600mm^2 and 1000mm^2 access hatches can be achieved as a non-standard offering.

Finishes

SAS730 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request, including polished and anodised.

Service Integration

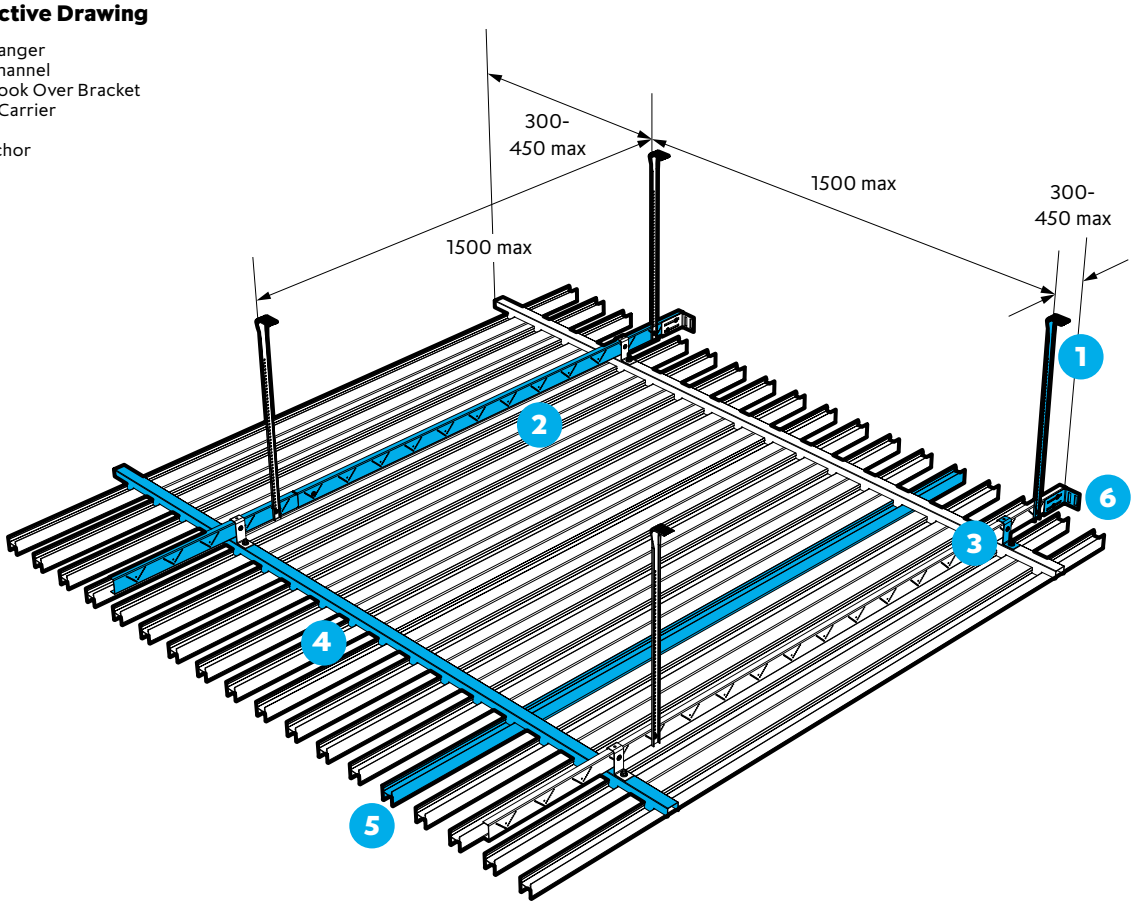
Service integration is limited to separately mounted services in between profiles.

Technical Support

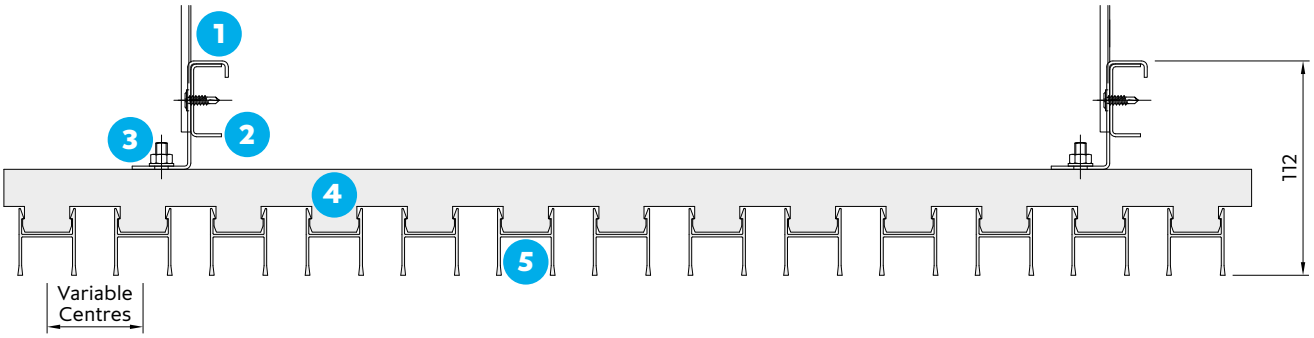
Please contact our technical team for all questions relating to access, bespoke features and service integration.

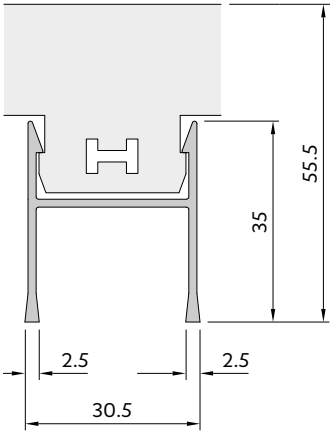
Perspective Drawing

1 Emac Hanger
2 Emac Channel
3 Emac Hook Over Bracket
4 H-Line Carrier
5 H-Line
6 Wall anchor



Section and detail drawings



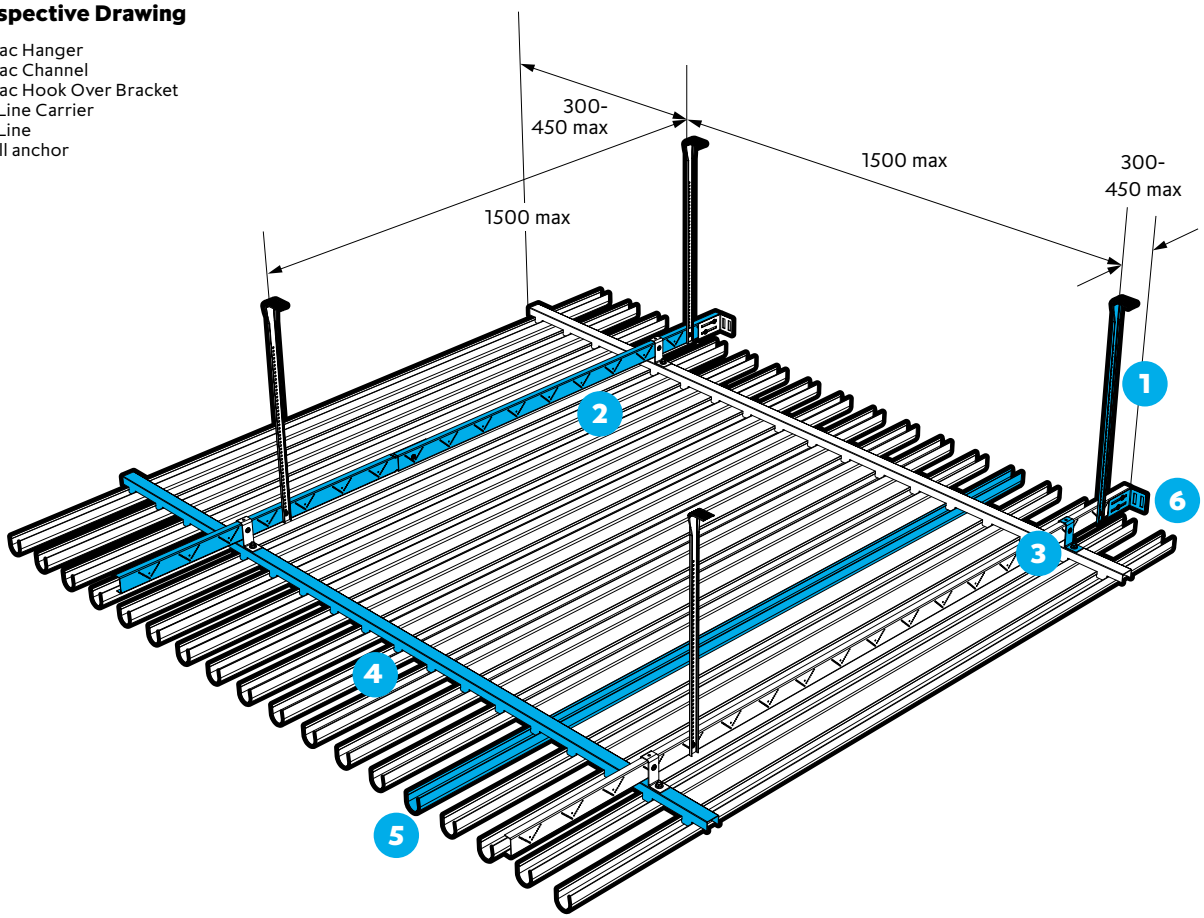


All dimensions are in mm.

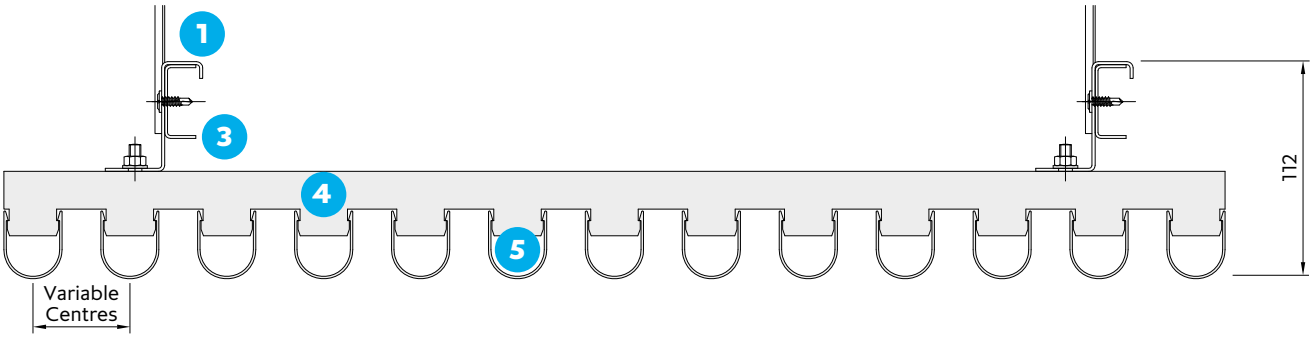
SAS730

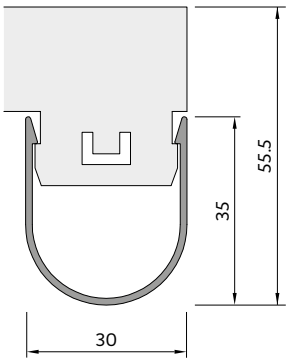
Perspective Drawing

1 Emac Hanger
2 Emac Channel
3 Emac Hook Over Bracket
4 U-Line Carrier
5 U-Line
6 Wall anchor



Section and detail drawings





All dimensions are in mm.

Other profiles available for further information please contact the technical design team.

SAS**730**

Westfield, Stratford City

Location
London, UK
Architect
Westfield Shopping Towns Ltd

Contractor
Westfield Shopping Towns Ltd
Purpose
Retail

SAS**730**

M&S

Location
London, UK
Architect
MCM Architecture

Contractor
ISG Interior Exterior
Purpose
Retail

SAS**740**

A premium linear profile ceiling, offering enhanced aesthetics, void access, service integration and acoustic performance.

SYSTEM GROUP	GRID
Linear profile ceiling	EMAC grid EMAC Hanger suspension

PROFILE	MATERIAL
Bolt-on rectilinear– as standard	**Aluminium**

ACOUSTICS	APPLICATION	END CAPS
A–D Absorption class	Interior and exterior	✓

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Full void access	**1.1-1.8Kg/lm** + Grid	**25yr** In excess of

HAVE A QUESTION?

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SAS**740**

SAS740 is the most versatile of SAS' linear ceilings, able to accommodate complex geometry and void access. Unlike other continuous linear profile systems, SAS740 can intersperse with acoustic infill panels.

The aluminium system is suitable for spaces requiring a premium aesthetic alternative to suspended tile or open cell ceilings.

Profile Sizes

Standard Length	3000mm
Standard Dimensions	30 x 165mm 40 x 100mm 50 x 50mm

SAS740 can accommodate a wide range of bespoke profile shapes, sizes and waveform profiles, all available on request. Longer continuous runs can be achieved through splices.

Access
Void access can be achieved through demounting profiles or access panels.

Finishes
SAS740 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request, including polished and anodised.

Acoustic Materials
SAS740 can be specified with acoustic tiles in between linear profiles containing an acoustic mineral wool pad with black tissue face, foil back and sides. Typically supplied in RAL 9005 black PPC as standard. Other acoustic materials are available, please refer to page 20.

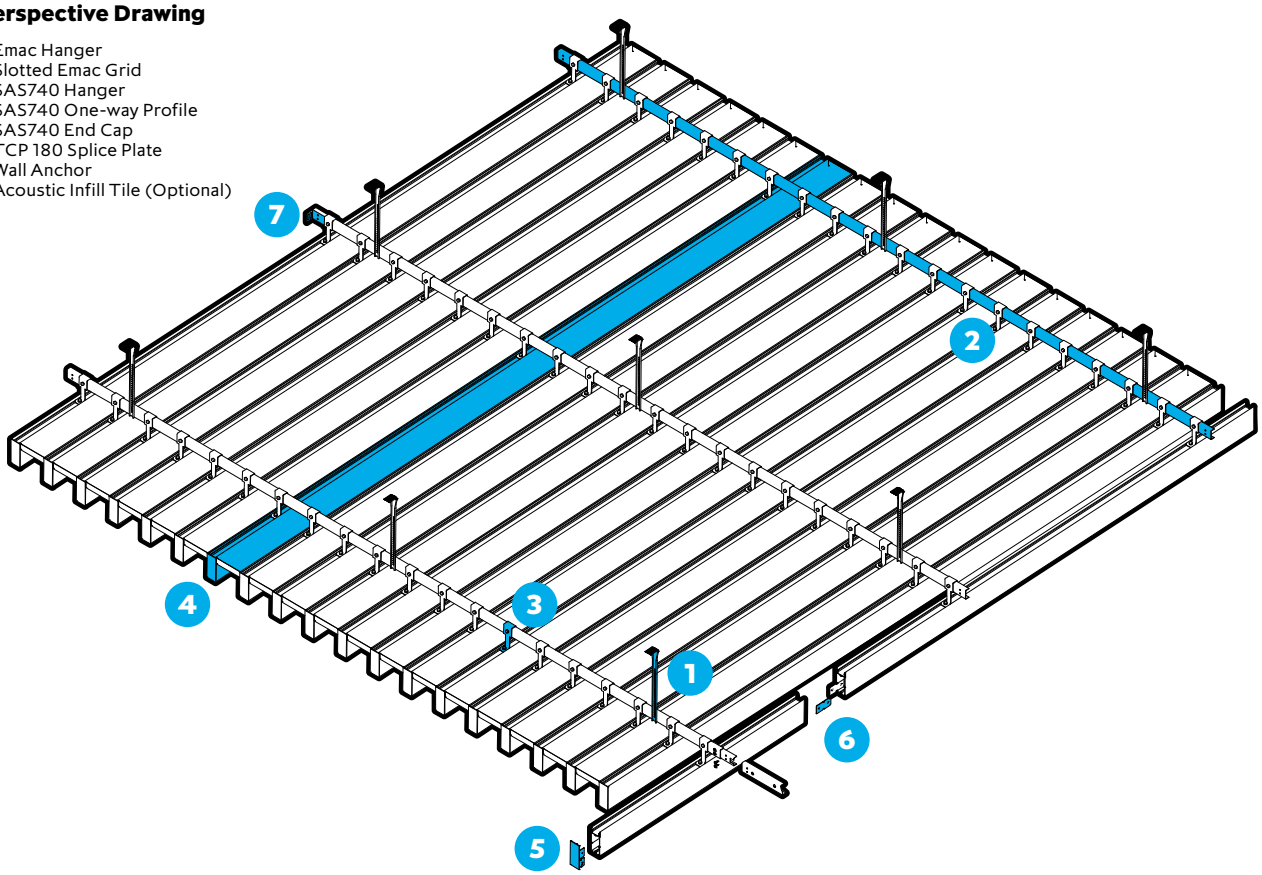
Service Integration
For further information on service integration please contact the technical design team.

Technical Support
Please contact our technical team for all questions relating to access, bespoke features and service integration.

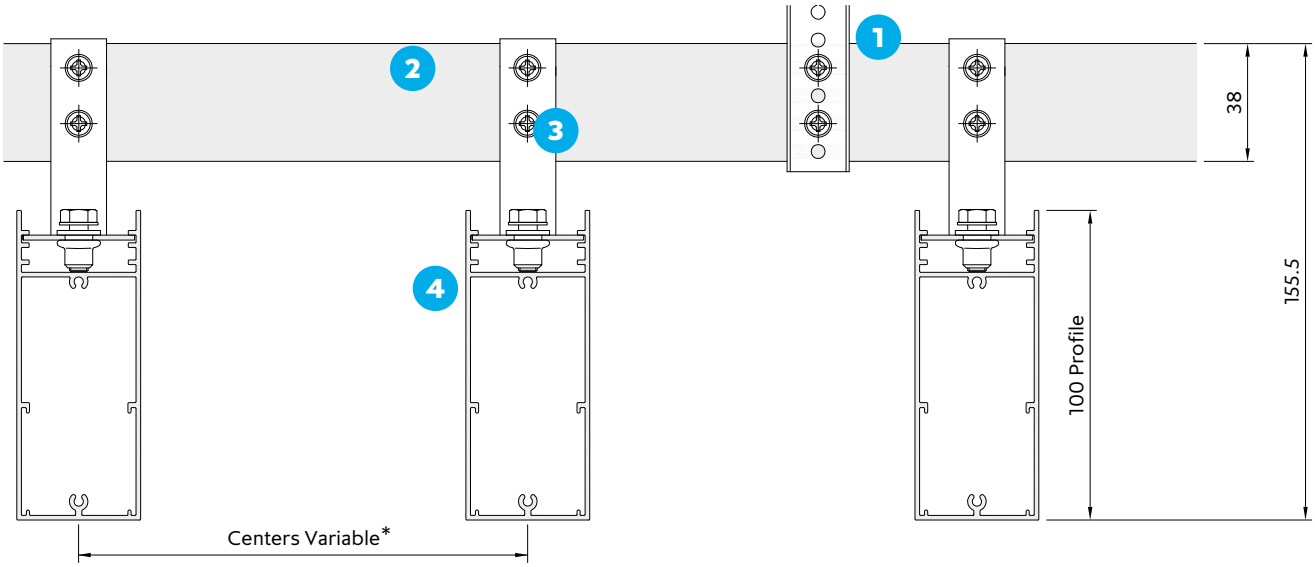
SAS740

Perspective Drawing

1 Emac Hanger
2 Slotted Emac Grid
3 SAS740 Hanger
4 SAS740 One-way Profile
5 SAS740 End Cap
6 TCP 180 Splice Plate
7 Wall Anchor
8 Acoustic Infill Tile (Optional)



Section Drawing – Hanger Short



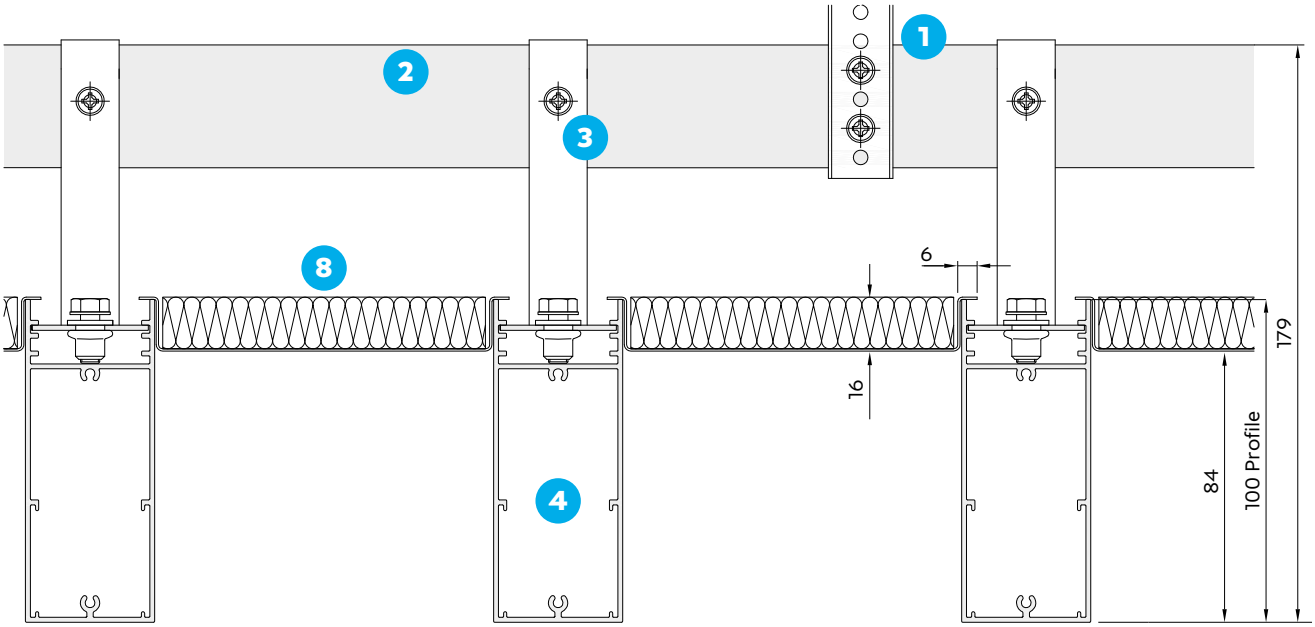
* Sound absorption for acoustics dependent on profile centres

All dimensions are in mm.

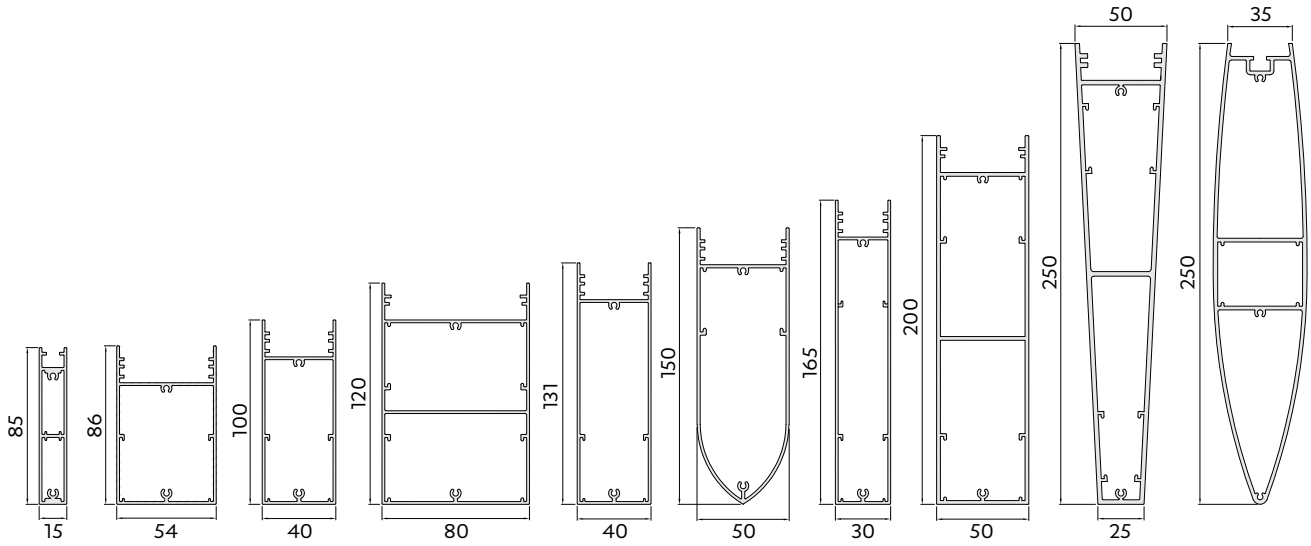
SAS740

Section Drawing – Hanger Long

1 Emac Hanger
2 Slotted Emac Grid
3 SAS740 Hanger
4 SAS740 One-way Profile
5 SAS740 End Cap
6 TCP 180 Splice Plate
7 Wall Anchor
8 Acoustic Infill Tile (Optional)

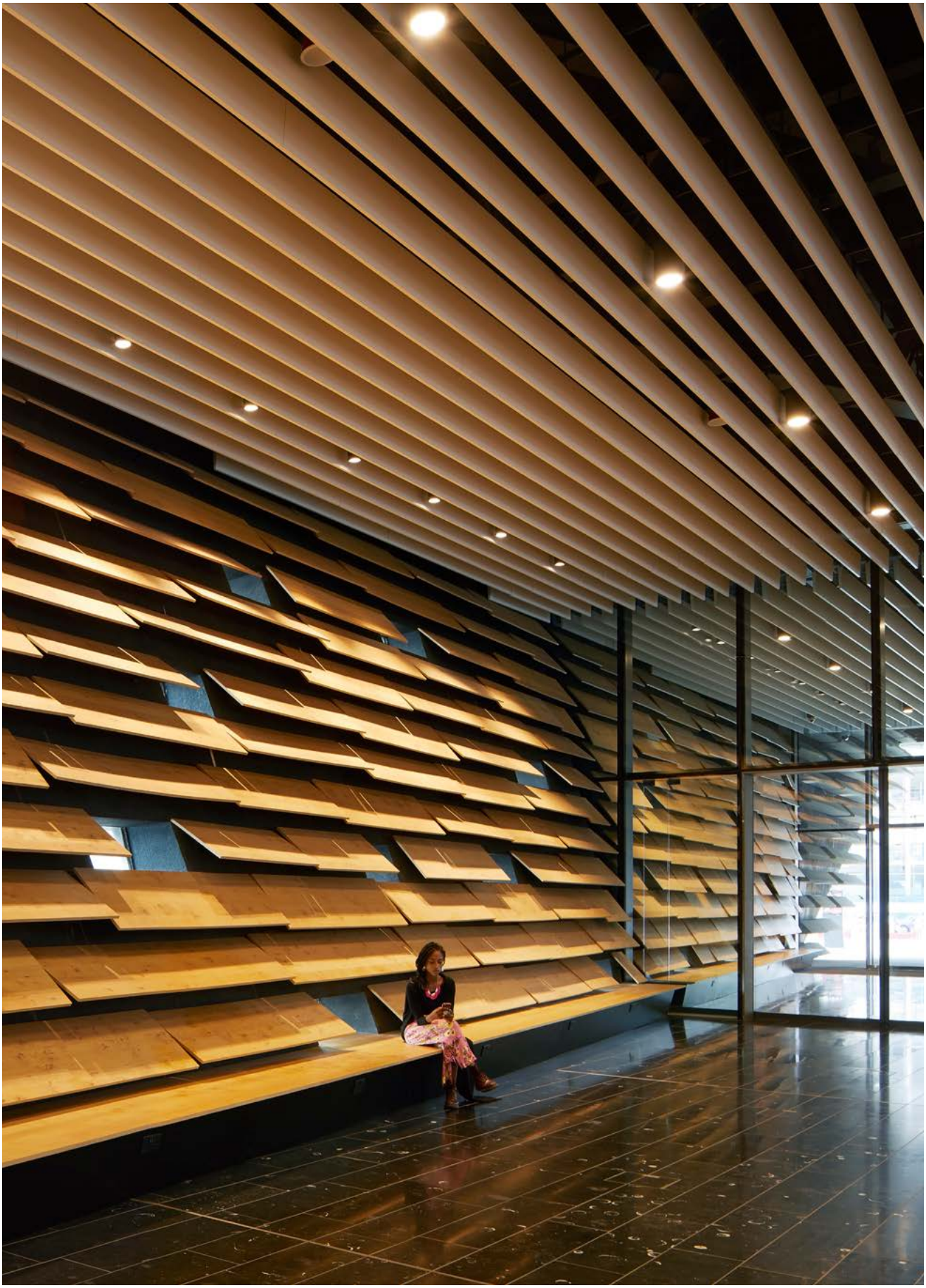


Profiles Available*



***For further information on additional profiles please contact the technical design team.**

All dimensions are in mm.

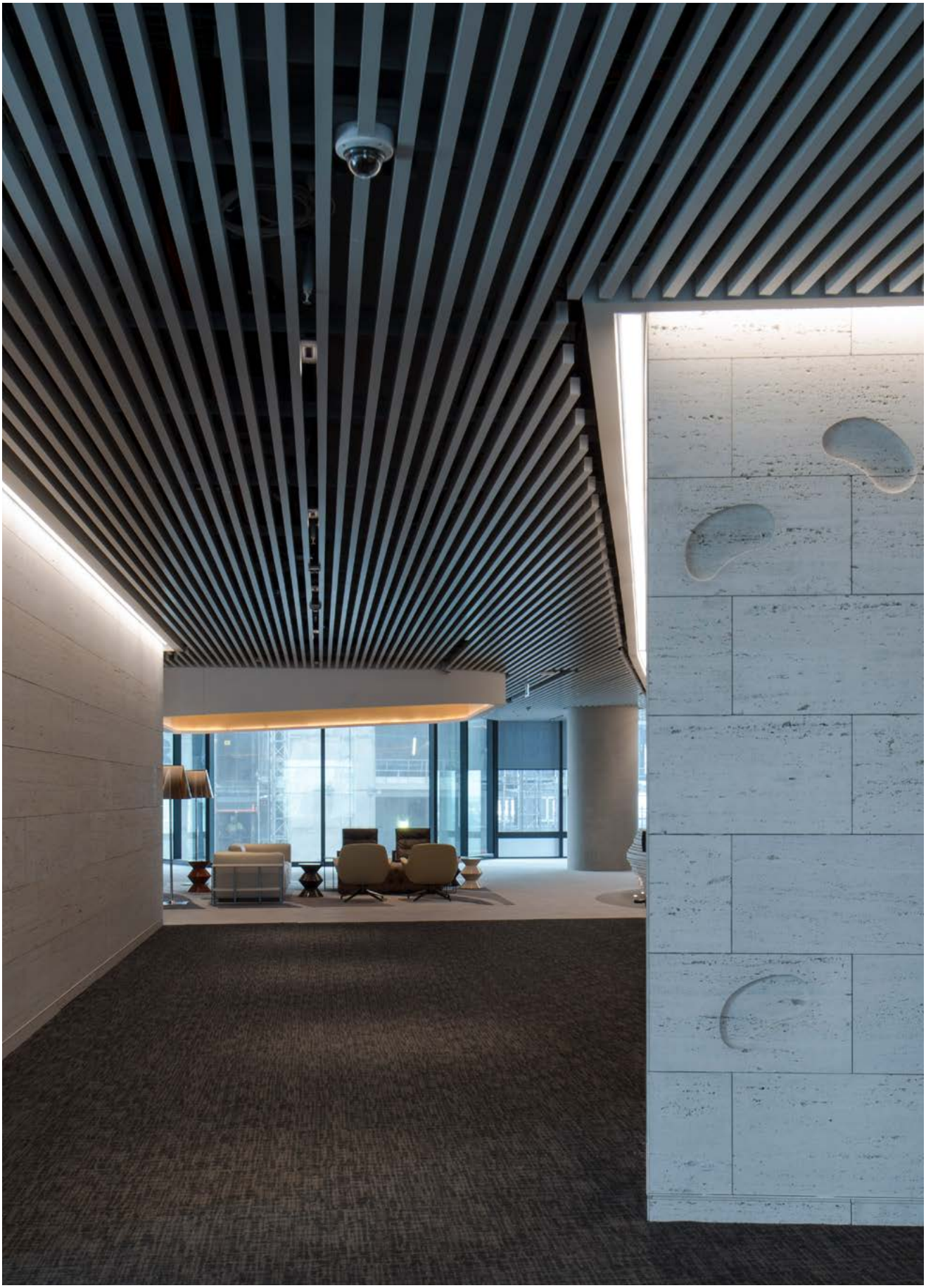


SAS**740**

V&A Museum

Location
Dundee, Scotland
Architect
Kengo Kuma & Cre8 Architecture

Contractor
BAM Construction Ltd: Scotland
Purpose
Leisure



SAS**740**

Westpac, Barangaroo

Location
Sydney
Architect
RSHP & Geyer

Contractor
Lendlease
Purpose
Commercial

SAS**750**

A visually impactful, premium linear ceiling system offering, full access and service integration.

SYSTEM GROUP	SUSPENSION METHOD
Linear profile ceiling	SAS carrier rail threaded rod suspension

PROFILE	MATERIAL
Tubular – as standard	**Aluminium**

APPLICATION	END CAPS
Interior only	✓

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Full void access	**0.5-1.5Kg/lm**	**25yr**
	Depending on diameter and grid	In excess of

HAVE A QUESTION?

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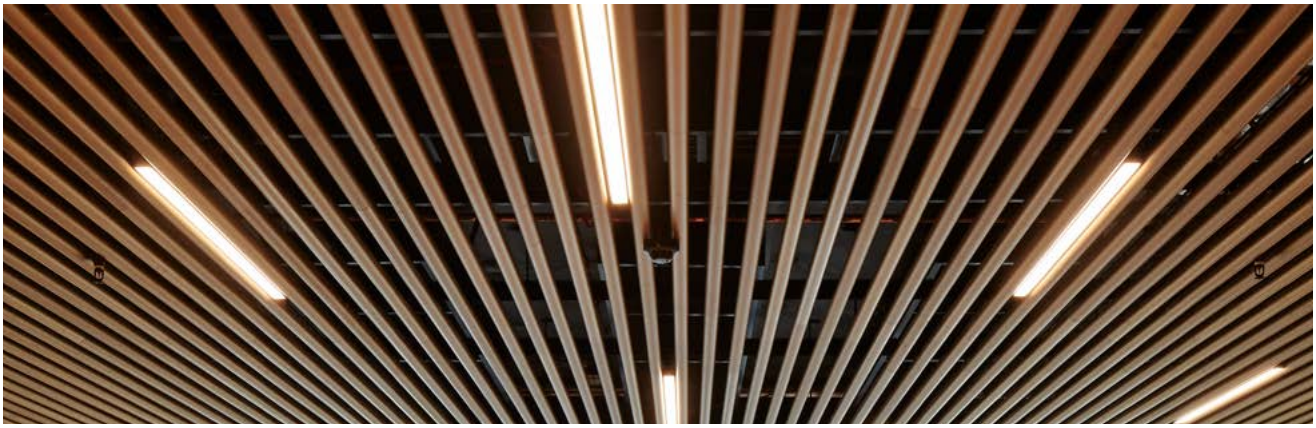
SAS**750**



SAS750 fosters dynamic and impactful design along with practical considerations such as access and service integration. SAS750 offers specifiers numerous design features, such as curves and waveforms, as well as horizontal, vertical and interior mounting.

Profile Sizes

	Standard Dimensions
Tubeline	25mm 50mm
Boxline	70x40mm
Vertiline	95mm

SAS750 can accommodate a wide range of bespoke profile shapes, sizes and waveform profiles, all available on request. Longer continuous runs can be achieved through splices.

Access
Void access can be achieved through demounting profiles or integrated access hatches.

Finishes
SAS750 is available in all standard SAS finishes, please refer to page 95. Bespoke finishes are available on request, including polished and anodised (aluminium only).

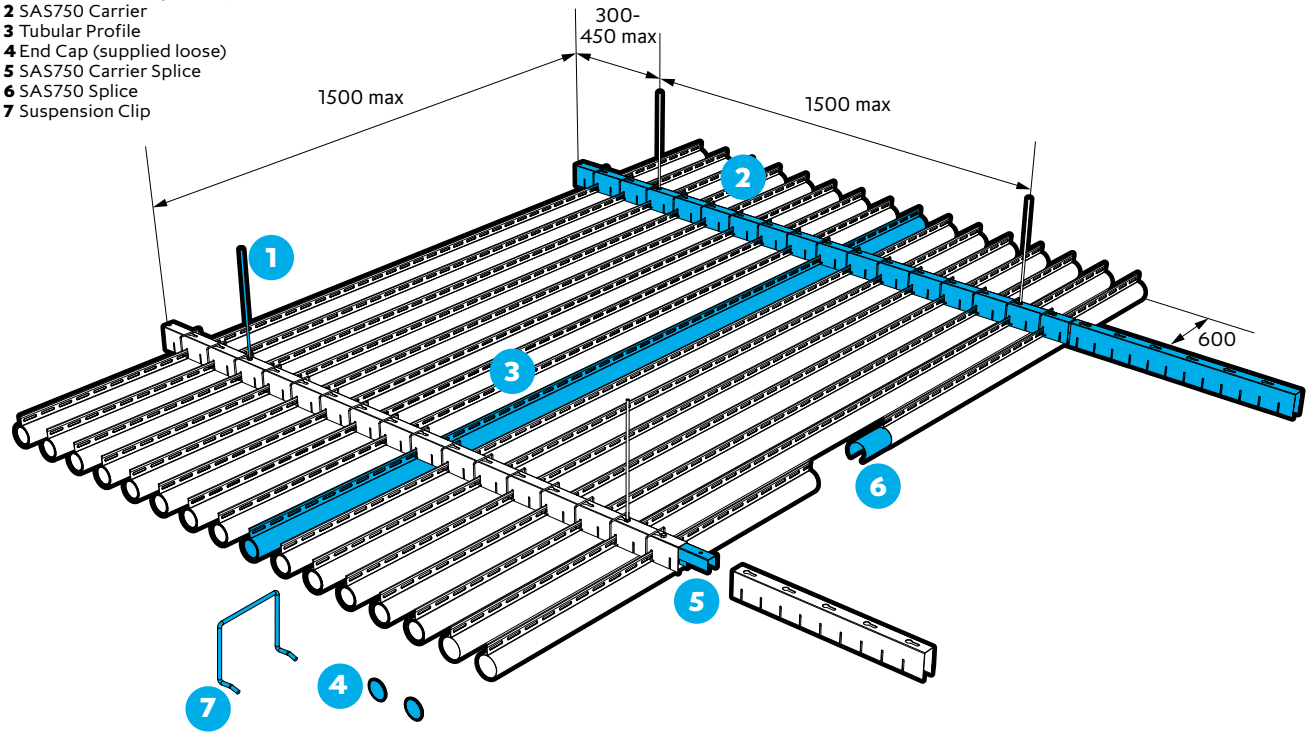
Service Integration
For further information on service integration please contact the technical design team.

Technical Support
Please contact our technical team for all questions relating to access, bespoke features and service integration.

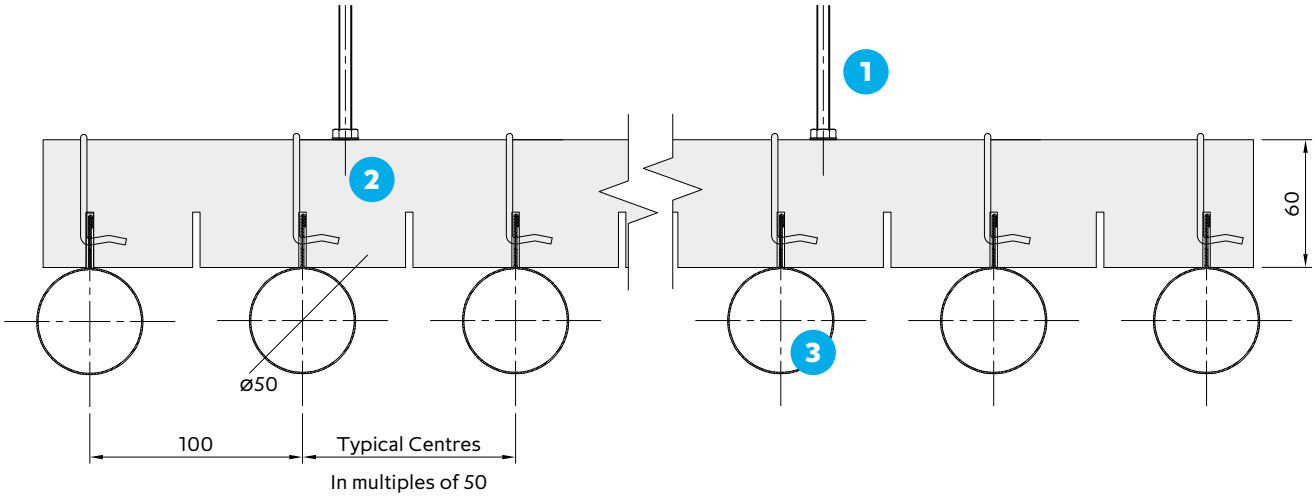
SAS**750** Tubeline

Standard Perspective Drawing

1 Threaded Rod (by others)
2 SAS750 Carrier
3 Tubular Profile
4 End Cap (supplied loose)
5 SAS750 Carrier Splice
6 SAS750 Splice
7 Suspension Clip



Standard Section Drawing

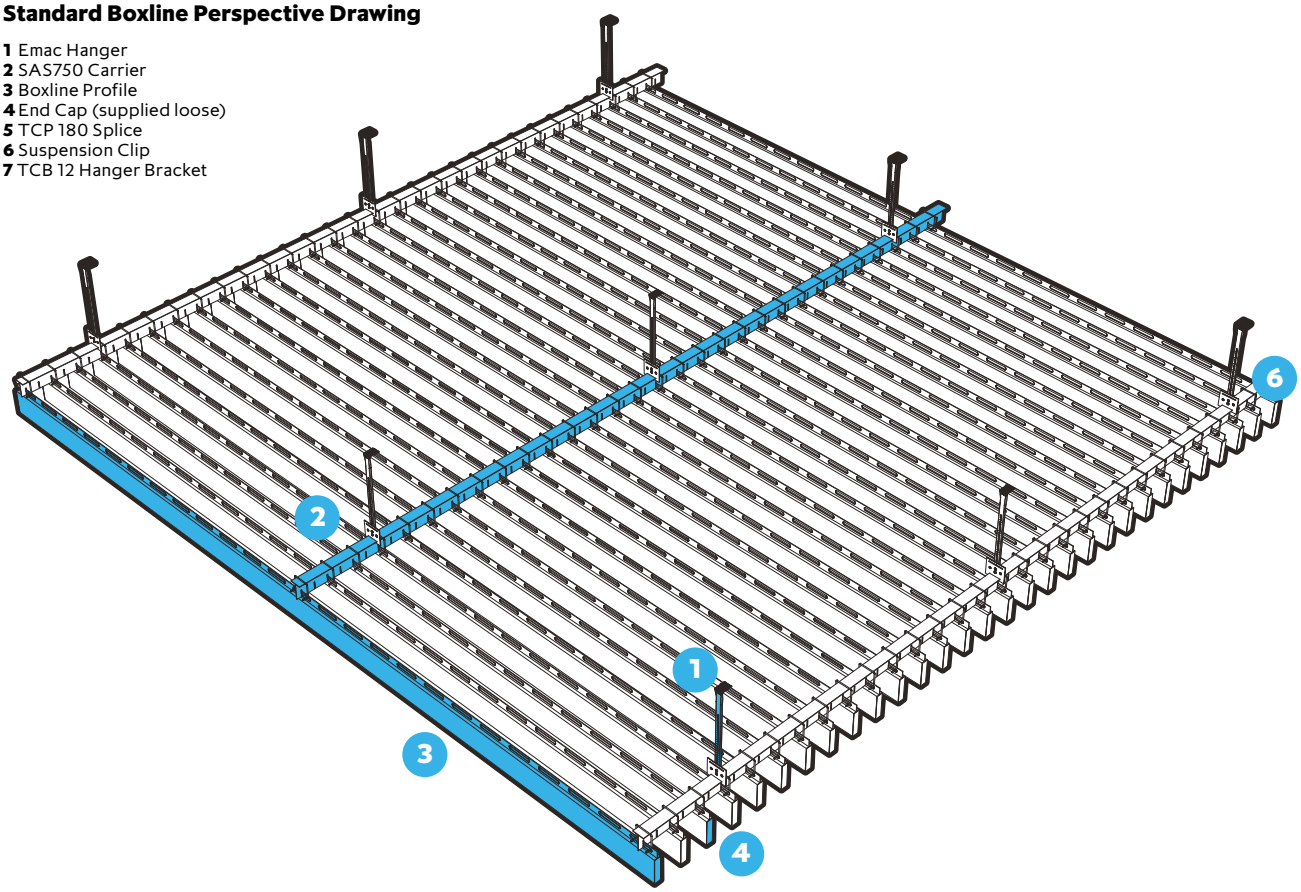


All dimensions are in mm.

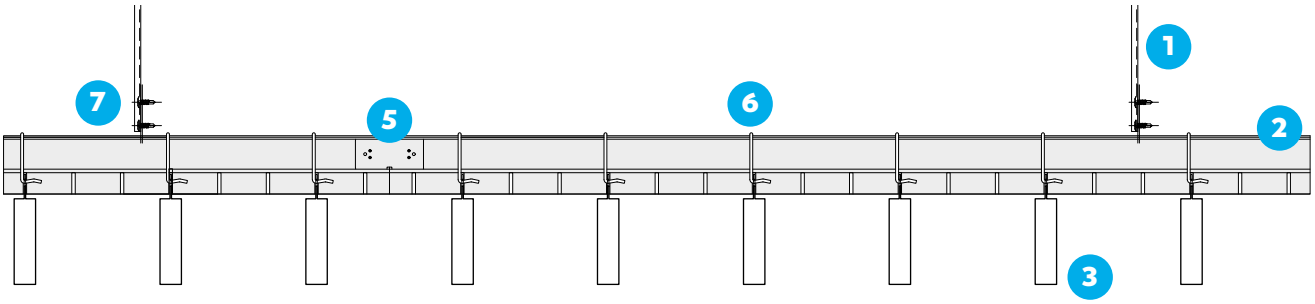
SAS**750** Boxline

Standard Boxline Perspective Drawing

1 Emac Hanger
2 SAS750 Carrier
3 Boxline Profile
4 End Cap (supplied loose)
5 TCP 180 Splice
6 Suspension Clip
7 TCB 12 Hanger Bracket



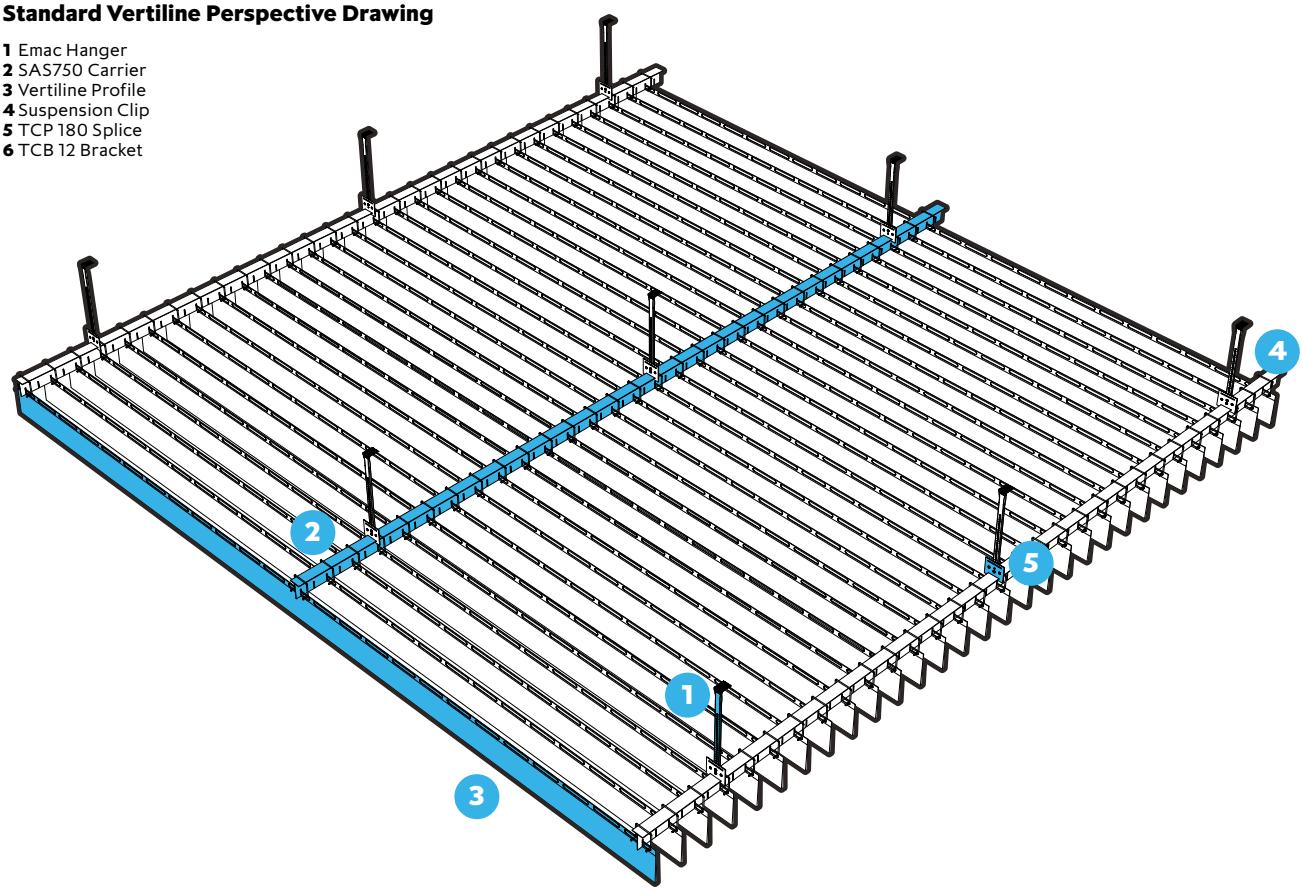
Standard Boxline Section Drawing



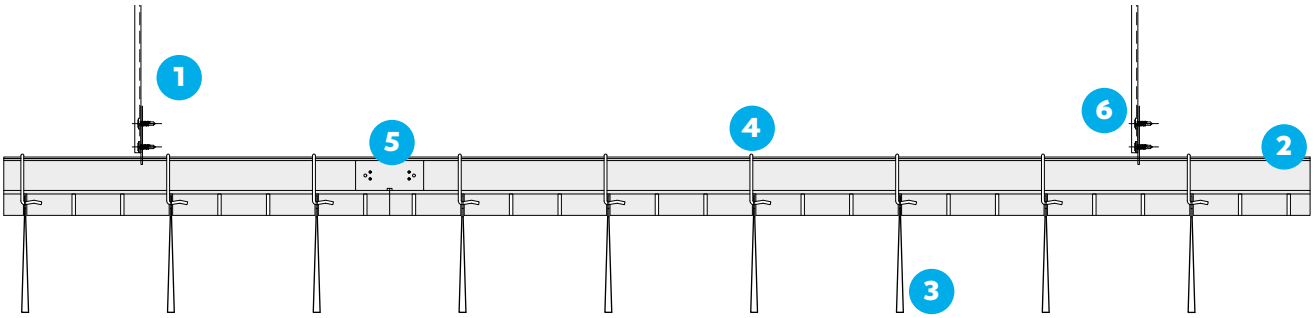
SAS**750** Vertiline

Standard Vertiline Perspective Drawing

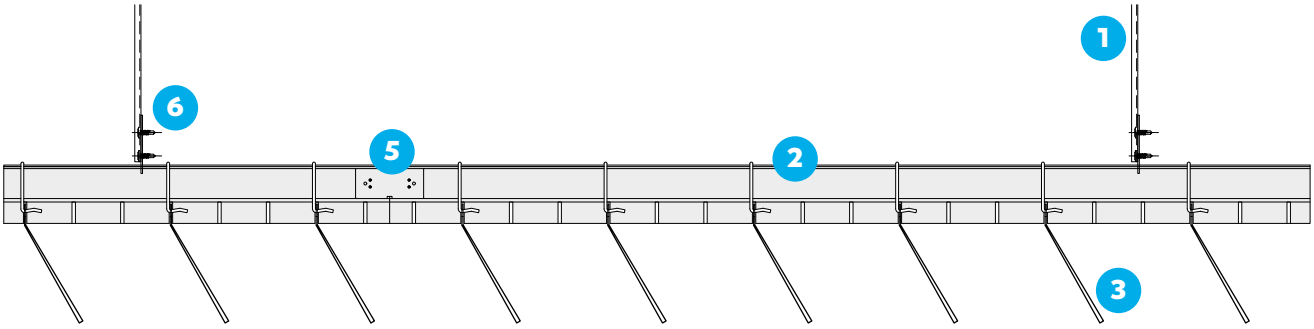
1 Emac Hanger
2 SAS750 Carrier
3 Vertiline Profile
4 Suspension Clip
5 TCP 180 Splice
6 TCB 12 Bracket



Standard Vertiline Section Drawing



Standard Vertiline Cranked Section Drawing



SAS**750**

John Lewis

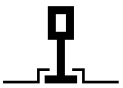
Location
Birmingham, UK
Architect
John Lewis Design Team, Brooker Flynn Architects

Contractor
Mace Ltd
Purpose
Retail

SAS**800**

A lightweight and quick to install, modular open cell ceiling with monolithic appearance for smoke extraction applications.

SYSTEM GROUP	GRID
	15mm Tee grid EMAC Hanger suspension
Open cell ceiling	

PROFILE

Lay-in square

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**2.5**Kg/m²	**25**yr
Lift and tilt	Dependent on cell configuration	In excess of

HAVE A QUESTION?

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SAS**800** Trucell

SAS800 Trucell is a decorative open cell ceiling, for airflow and smoke extraction applications. The metal ceiling system comprises a series of open cell modules designed to lay onto a suspension grid. The ceiling tiles can integrate within other metal ceiling systems and plasterboard ceilings.

Trucell is ideal for retail, infrastructure or leisure applications with high human traffic flow. Rapid and safe smoke extraction is critical in such environments.

Module Sizes
600mm x 600mm panels and 600 x 1200mm (nominal depth 40mm).

Cell sizes are available in six different configurations (mm).

50 x 50	120 x 120
75 x 75	150 x 150
86 x 86	200 x 200
100 x 100	Rectangle

Bespoke modules and tile sizes are available, subject to the size being divisible by the available cell sizes.

Access
Tiles can simply be lifted and removed from the grid.

Finishes
International White Pre-coat as standard. SAS800 is also available in RAL colours and other bespoke PPC finishes on request.

Service Integration
Trucell allows fire detection and control systems, air conditioning and other services to be located within the ceiling void.

For further information on service integration please contact the technical design team.

Open Area
Open area is dependent on panel size. Based on a 600mm x 600mm panel, the cell configurations will have the corresponding open area:

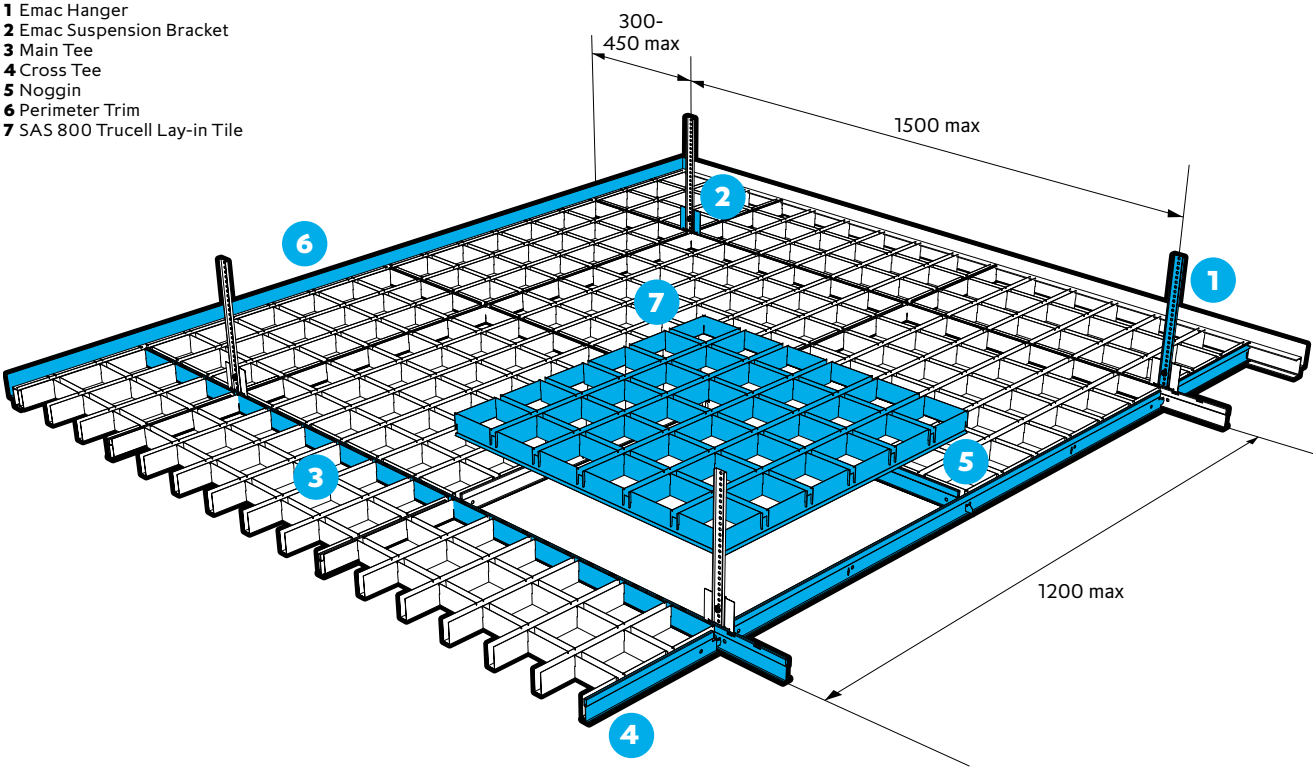
Cells	Open Area
200 x 200	85.6%
150 x 150	82.2%
120 x 120	77%
100 x 100	74%
86 x 86	70%
75 x 75	66.1%
60 x 60	56%
50 x 50	49%

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, service integration or load support.

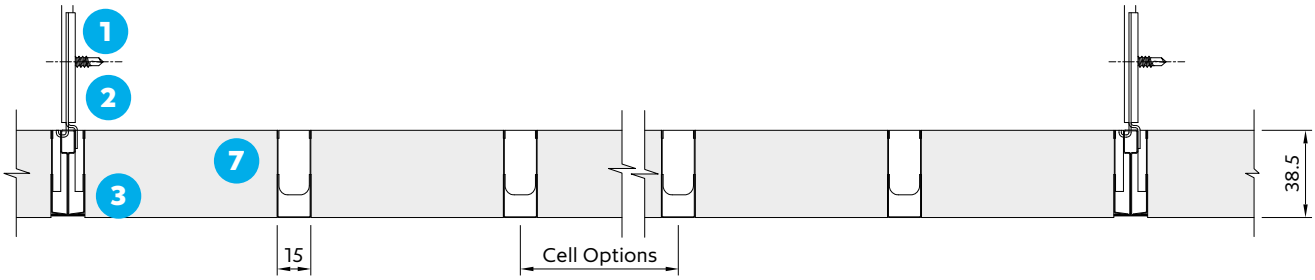
SAS**800** Trucell

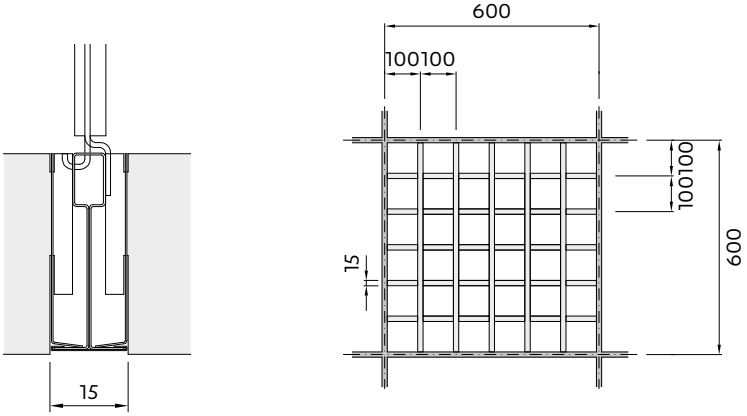
Perspective Drawing

1 Emac Hanger
2 Emac Suspension Bracket
3 Main Tee
4 Cross Tee
5 Noggin
6 Perimeter Trim
7 SAS 800 Trucell Lay-in Tile



Section and detail drawings



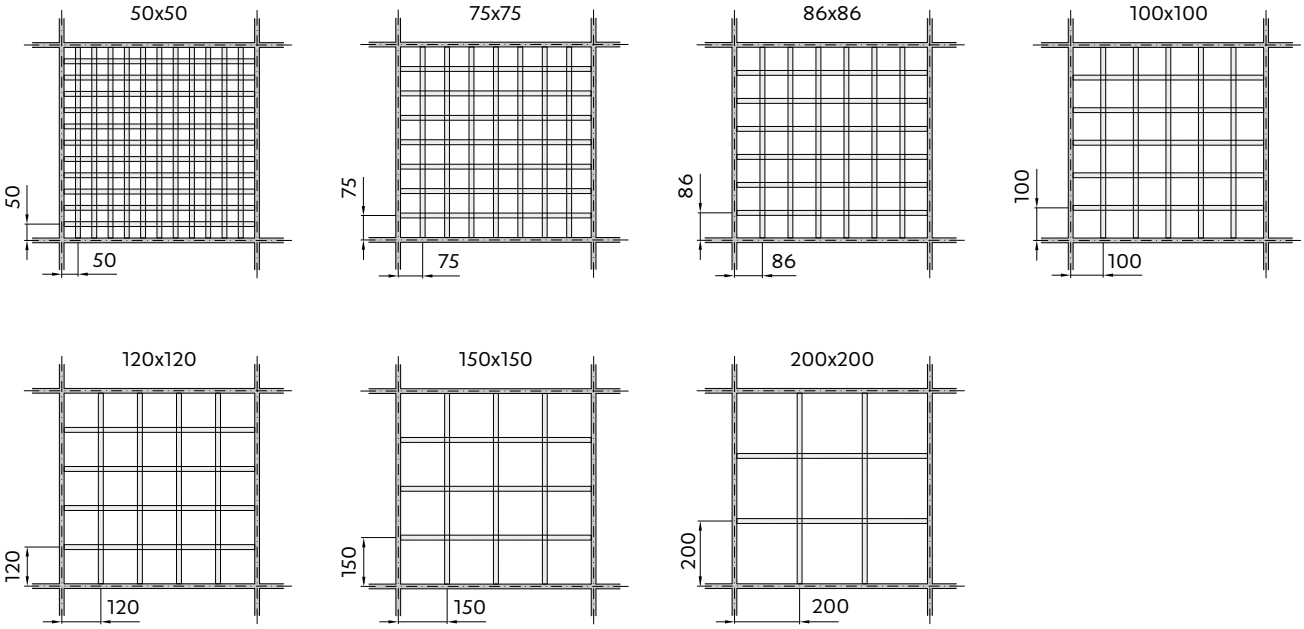


All dimensions are in mm.

SAS**800** Trucell

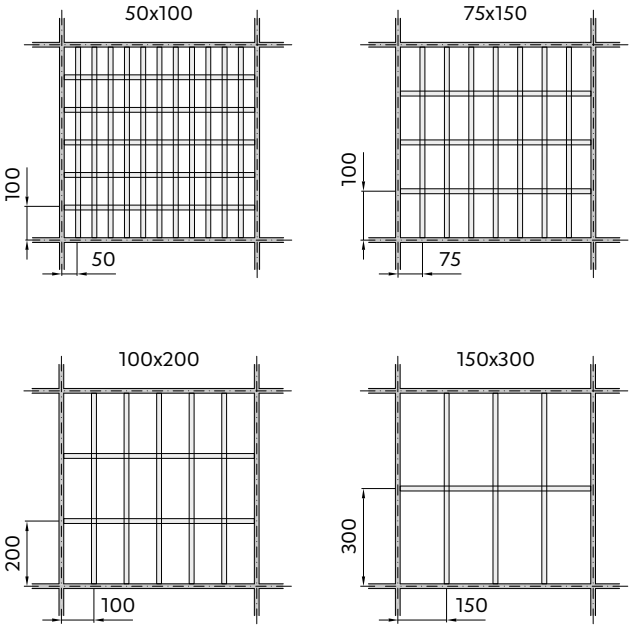
Square Cells

Standard cell sizes for 600mm module

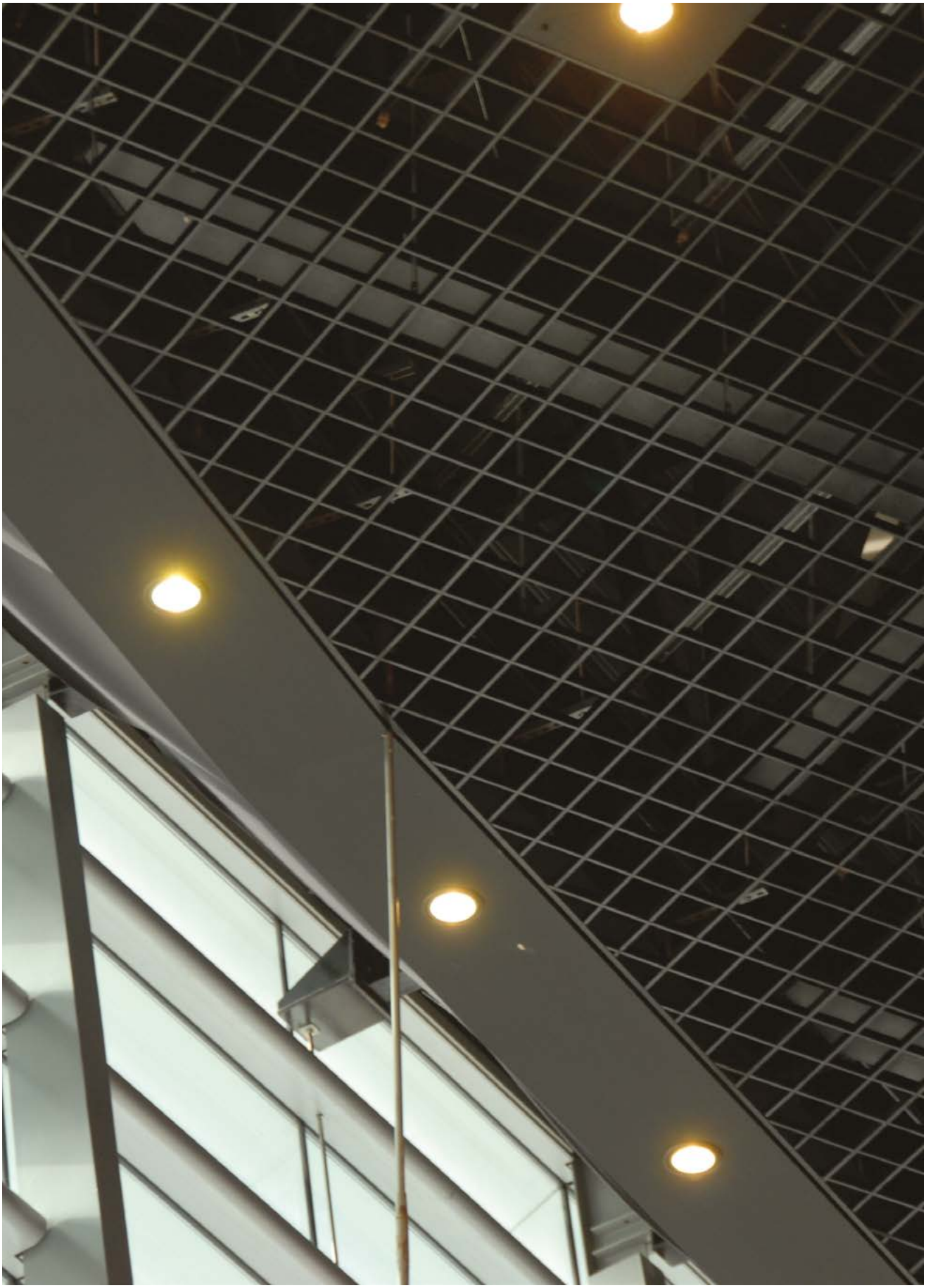


Rectangle Cells

Standard cell sizes for 600mm module



All dimensions are in mm.



SAS**800**

The Curve

Location
Leicester, UK
Architect
Rafael Vinoly Architects

Contractor
Lendlease
Purpose
Leisure

SAS**800**

Westpac, Barangaroo

Location
Sydney, Australia
Architect
Geyer

Contractor
Lendlease
Purpose
Commercial

SAS**810**

A lightweight and quick to install, triangular open cell ceiling with monolithic appearance for smoke extraction applications.

SYSTEM GROUP	SUSPENSION METHOD
Open cell	SAS Aluminium T Wire suspension

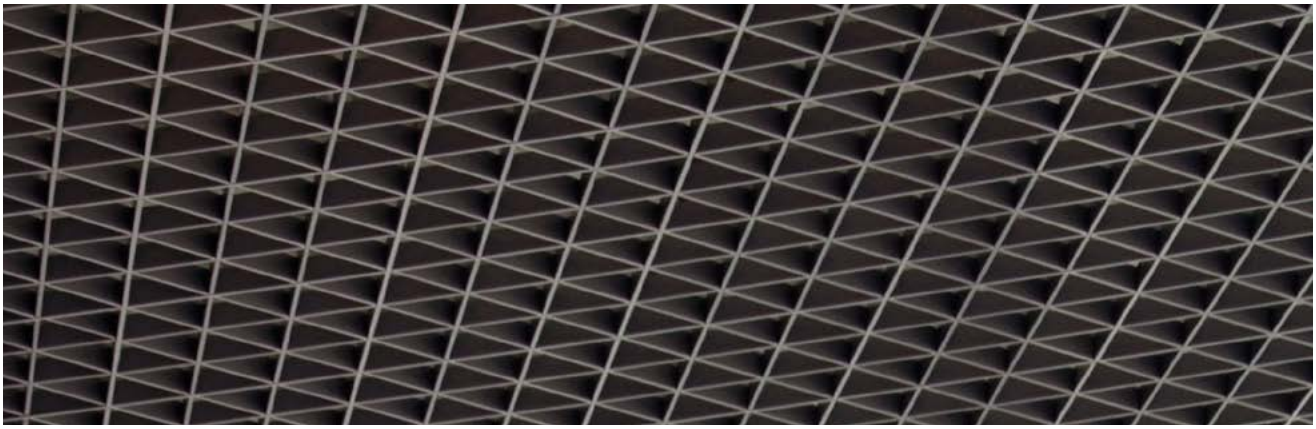
PROFILE	MATERIAL
Lay-in Triangular – as standard	**Aluminium**

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
Full void access	**2.5Kg/m2** Approx.	**25yr** In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**810** Tricell



SAS810 Tricell is a decorative open cell ceiling, for airflow and smoke extraction applications. Tricell is an aesthetic development of Trucell, offering the specifier an alternate cell pattern. The ceiling tiles can integrate within other metal ceiling systems and plasterboard ceilings.

Our open cell ceiling systems are ideal for retail, infrastructure or leisure applications with high human traffic flow. Rapid and safe smoke extraction is critical in such environments.

Module Sizes
876mm x 876mm (standard)

Each panel has a nominal cell wall thickness of 15mm to give a precise engineered ceiling appearance.

Bespoke modules and tile sizes are available, subject to the size being divisible by the available cell sizes.

Access
Tiles can simply be lifted and removed from the grid.

Finishes
International White Pre-coat as standard. SAS810 is also available in RAL colours and other bespoke PPC finishes on request.

Service Integration
Tricell allows fire detection and control systems, air conditioning and other services to be located within the ceiling void. Traditional decorative lighting and LEDs can be installed within single or multiple adjacent cells.

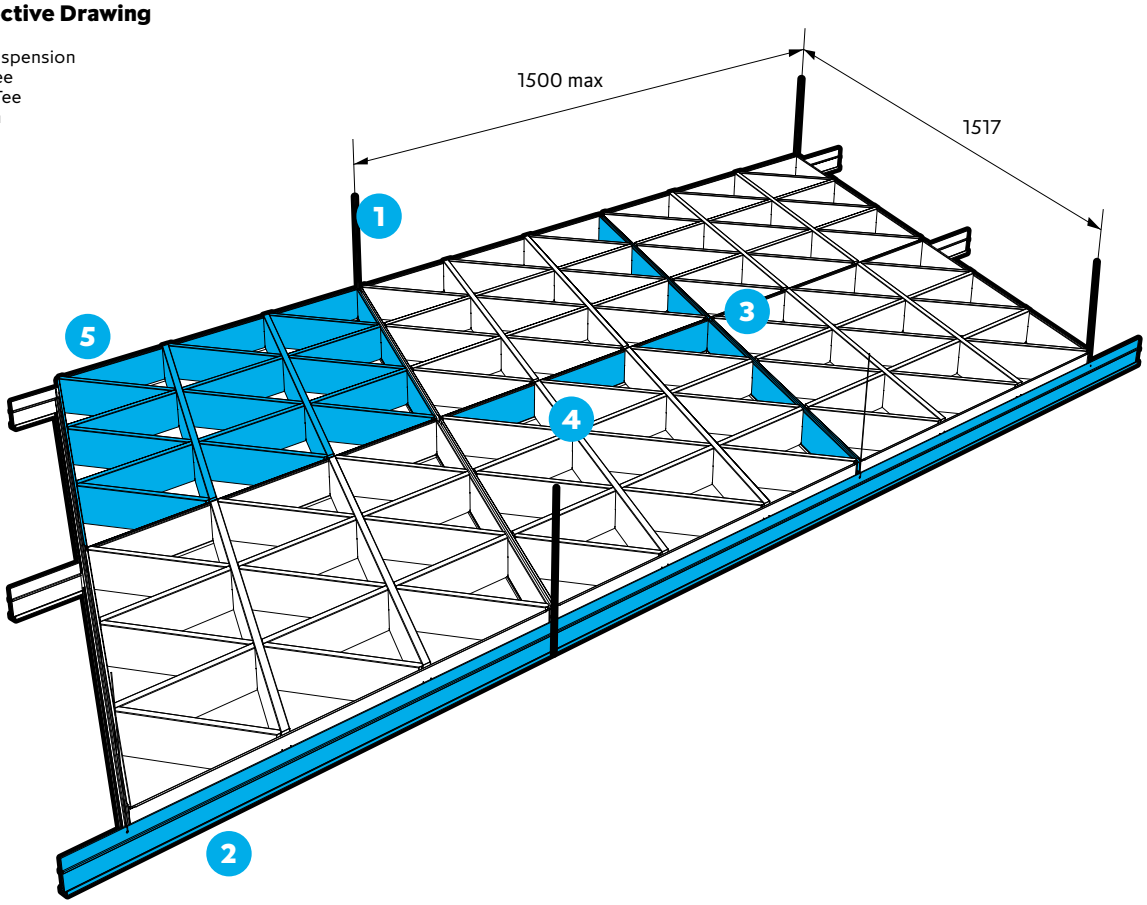
For further information on service integration please contact the technical design team.

Technical Support
Please contact our technical team for all questions relating to access, security, bespoke features, service integration or load support.

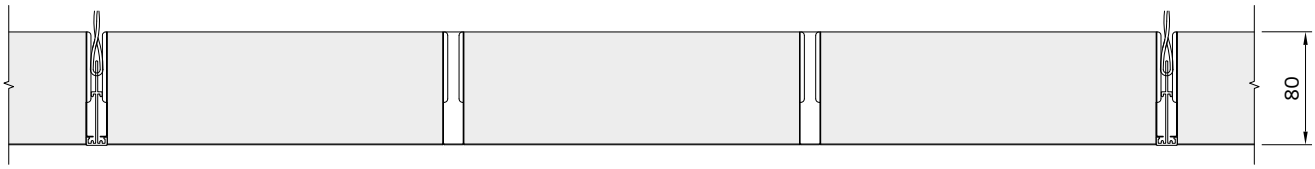
SAS**810** Tricell

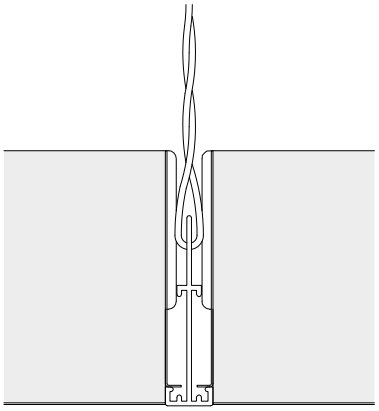
Perspective Drawing

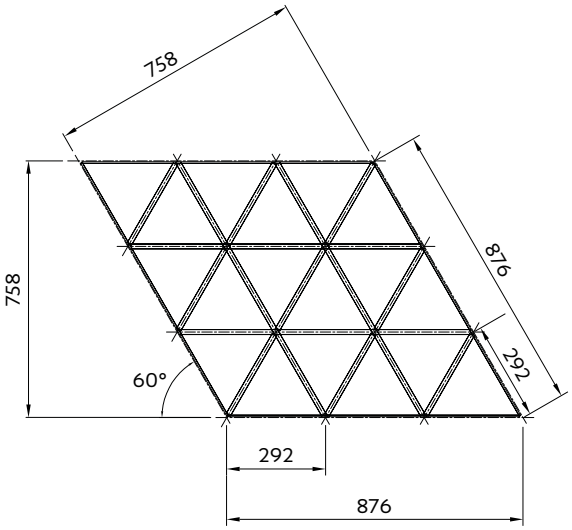
1 Wire Suspension
2 Main Tee
3 Cross Tee
4 Noggin
5 Tile



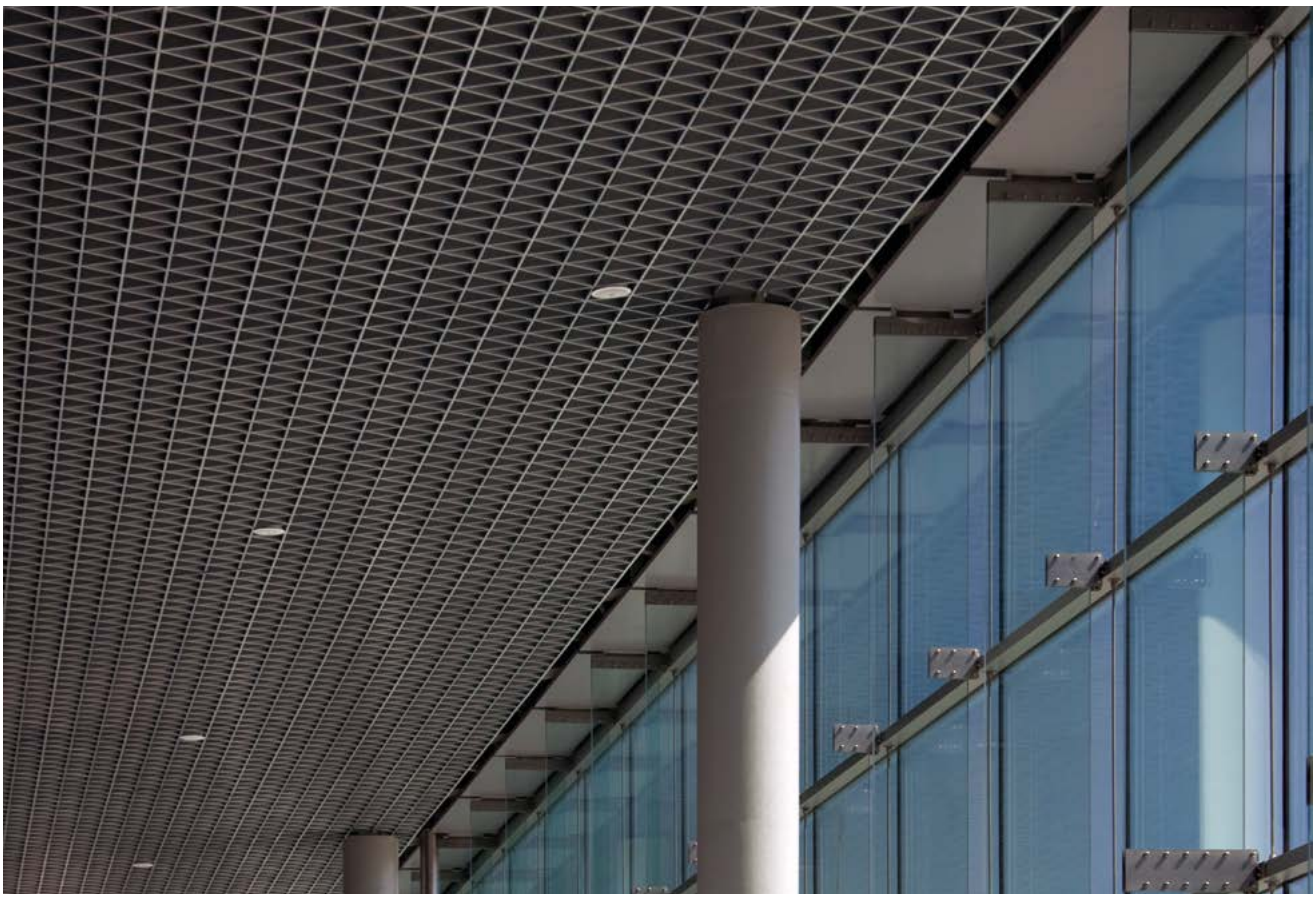
Section and detail drawings







All dimensions are in mm.



SAS**810**

Aeropuerto de Santiago

Location
Santiago, Spain
Architect
Alberto Noguerol + Pilar Diez arquitectura

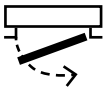
Contractor
UTE Lavacolla
Purpose
Infrastructure

SAS**900**

SAS900 Polynode is an adjustable nodal ceiling system used to create multi-faceted ceiling designs.

SYSTEM GROUP	GRID
	
Suspended ceiling	Concealed grid SAS torsion spring suspension

TILE	ACOUSTICS
	**A–C**
Torsion spring	Absorption class

ACCESS	SYSTEM WEIGHT	LIFE EXPECTANCY
	**10**Kg/m2	**25**yr
Hinge down access		In excess of

HAVE A QUESTION?

Configurable with other products. Call us. Contact us on info@sasint.com.au

SAS**900** Polynode

SAS900 Polynode is an adjustable nodal ceiling system used to create multi-faceted ceiling designs. This polynodal system meets the demand of specifiers who desire a free-form ceiling surface which contributes to modern building design.

Simple equilateral triangle tiles can create a near infinite variety of polyhedral ceiling forms. Our patented nodal system can also be used to transition from ceiling to wall.

Access
SAS900 offers full access by way of hinge down tiles, suspended vertically from two nodes. Alternatively, tiles can be completely removed.

Grid System

- EMAC Grid suspension with threaded rod and node plate
- +/- 125 mm adjustment from adjacent node (standard system)
- System allows for faceted horizontal to vertical transitions (ceiling to wall)

Highly complex geometrical surfaces can be installed using standard components, simply by adjusting the vertical position of the node. Corner anchor points suspend tiles which can be adjusted to create a free form ceiling. Our patented nodal system can also be used to transition from ceiling to wall.

Perforation
SAS900 Polynode tiles can be supplied with any standard SAS perforation pattern. Bespoke patterns are also available on request.

Acoustic Treatment
Acoustic mineral wool with black tissue face, foil back and sides. Other acoustic treatments are available, depending on project requirement. Please contact our technical department for more information.

Weights & Sizes

- 10 kg/m²
- Standard modules are mounted on EMAC grid with 866 mm centres
- Standard nodes are mounted every 1000 mm
- Tiles are triangular as standard (980 mm on all sides)
- Min/Max tile dimensions are 280 mm / 1280 mm

Just one tile size significantly reduces the design and manufacturing costs associated with this type of geometric ceiling. Whilst the system is drawn as standard with triangular tiles, any number of simple polygonal shapes can be manufactured. Please contact our technical design team for more details.

Integration
Ceiling tiles can be formed with apertures during manufacturing for integration with lights and other services. SAS900 panels may require stiffeners to support centrally mounted lighting.

Lighting and other mechanical and electrical services can add significant loads to a ceiling. Loads applied to SAS900 ceiling tiles must not exceed 2 kg. For loads greater than 2 kg, we would recommend using independent suspension.

If you have a concern over loads, please contact our technical team for advice.

Finishes

- RAL 9003, 9003 and 9016 (Whites) polyester powder coat (PPC) as standard
- Available in full range of standard RAL colours
- Anti-Microbial PPC coatings (optional)

Other specialist finishes are available on request. For more information on non-standard finishes, please contact our technical services team.

Standard System
Simplest version using a single size tile. Minimal or no design input (unless deviating from tile size and perimeter detail). Standard flat grid.

Application Drawings: 0446, 0447, 0448.

Advanced System
Simple curved grid allowing for more complex installations. May use some different size tiles. Will require some design input.

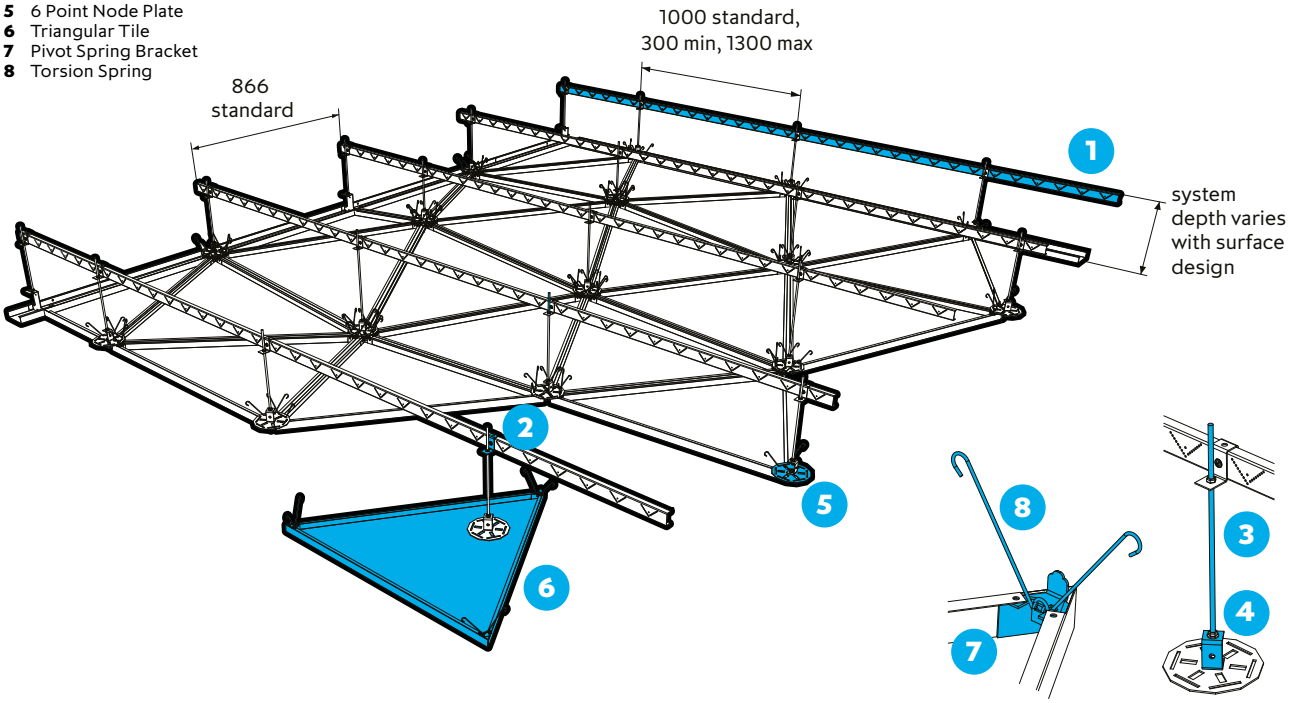
Application Drawings: 0449, 0450.

Bespoke Designs
SAS900 Polynode can replicate almost any complex geometry. For fully bespoke designs, SAS Special Projects can assist you in realising highly complex designs from concept to completion. Please contact SAS Special Projects for further information on this design service.

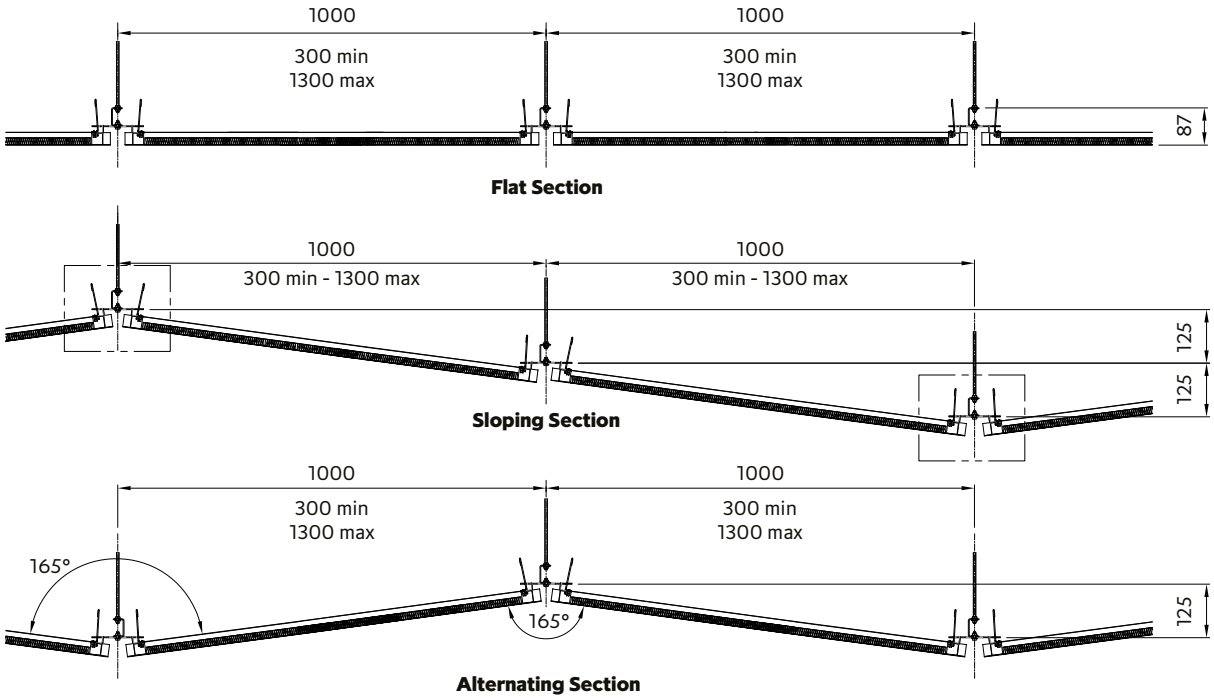
SAS**900** Polynode

Perspective Drawing

1 Emac Grid
2 Emac Hook-over Bracket
3 Threaded Rod
4 Basic Node Bracket
5 6 Point Node Plate
6 Triangular Tile
7 Pivot Spring Bracket
8 Torsion Spring



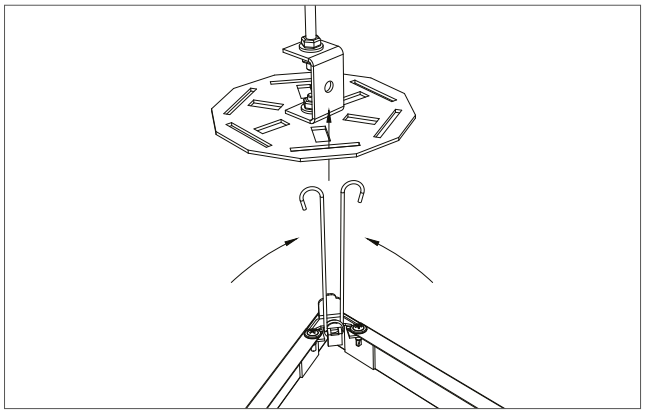
Section Drawing



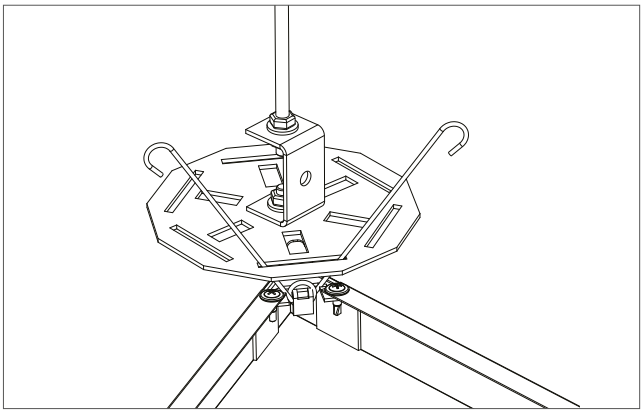
All dimensions are in mm.

SAS**900** Polynode

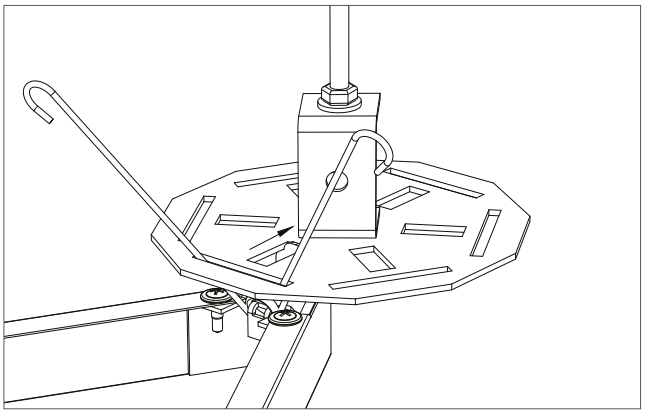
Features
At the core of SAS900 Polynode is a flexible node interface which allows a single size tile to fit.



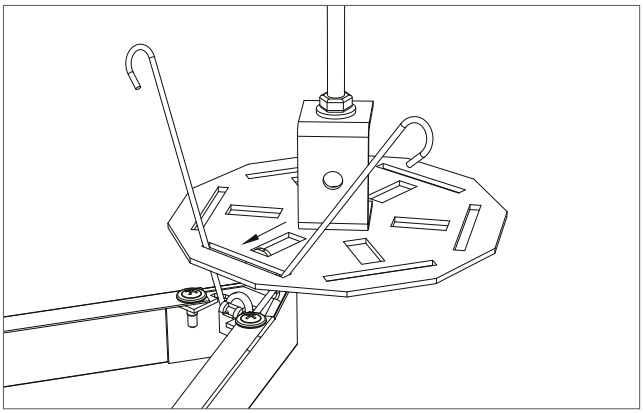
Tile installation



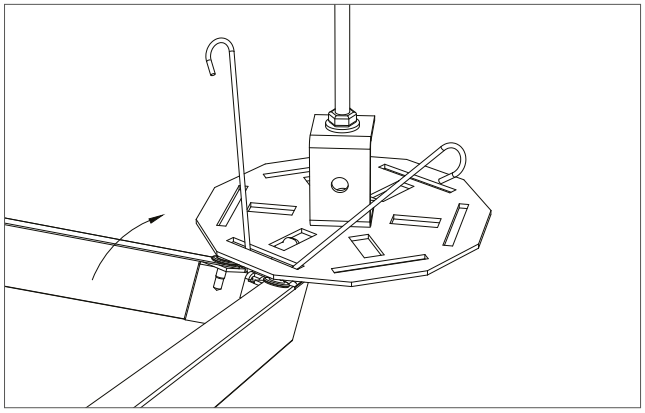
Tile in default position



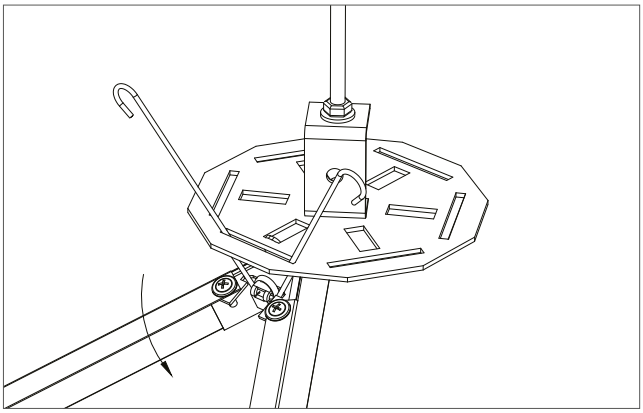
“Compressed” tile



“Stretched” tile



Pivoting up



Pivoting down

SAS**900** Polynode

SAS**900** Polynode

Trims

Trim Options

Trims offer a subtle and clean aesthetic solution to tile edges at perimeters and penetration points. SAS border and perimeter trims are designed to accommodate our full range of suspended ceiling systems.

Channel Trims
Channel trims are used to support and mask the cut edges of ceiling tiles in an attractive manner. Wedges hold the tile edge tightly in place to give a clean finish.

Shadow Gap Trims
Shadow gap details are best applied to perimeters to offer a sharp clean edge to otherwise uneven vertical surfaces.

Threaded Trims
Threaded trims are designed to match the M6 thread-form details of Alugrid-Q and are used on full tile perimeter details

Angle Trims
Angle trims are used on full tile perimeter conditions where regular access is required. They are also typically used on one side of a corridor.

Floating / Suspended Trims
Floating trims offer a clean finish when you cannot fix to an available structure or transom, or where ceiling edges are exposed.

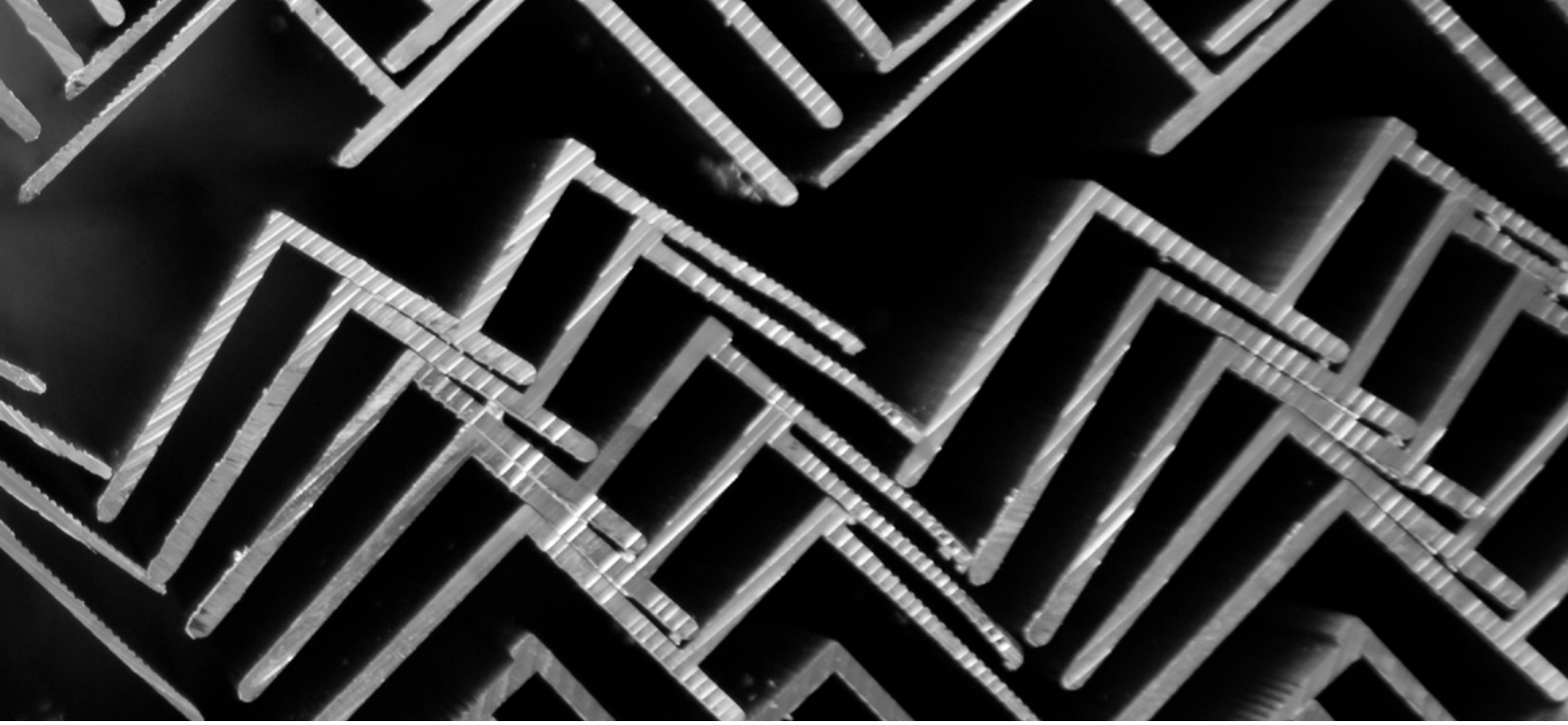
Transition Trims
Transition trims allow for the effective join between a suspended metal ceiling with a plasterboard surround. Also available with a shadow gap detail, the transition trim range provides options for all standard suspended metal ceiling systems.

Plasterboard Trims
A plasterboard margin can provide an attractive feature to a suspended ceiling and minimises the need for cut tiles. This solution is particularly effective for irregular perimeters, corridors and small cellular spaces with existing structural walls.

Column Rings
Perimeter trims and shadow gap sections can be rolled to form column rings to match perimeter details. Rectangular column trims can also be supplied prefabricated in halves for easy on-site installation.

Radiused Trims
Perimeter trims and shadow gap sections can also be rolled to form radiused profiles to match perimeter details.

When specifying or ordering any radiused trim it is necessary to indicate whether the trim required is Toe-In or Toe-Out.

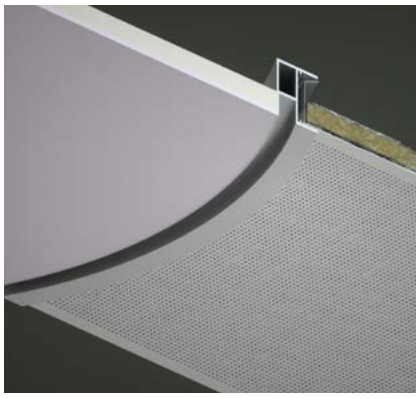


1. Toe-In and Toe-Out | Metal Tile to Plasterboard Trim

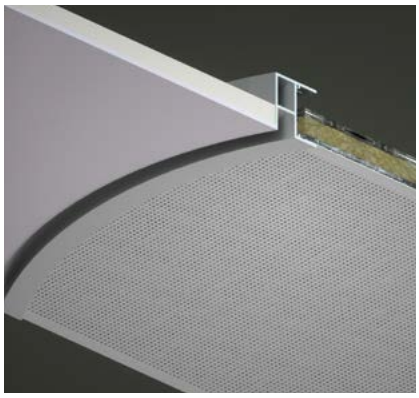
Toe-In The C-channel that accepts the cut tile is rolled in towards the tiles and rolled away from the plasterboard.

Toe-Out The C-channel is rolled away from the metal tile and rolled in towards the plasterboard.

Toe In



Toe Out



2. Toe-in and Toe-out | Plasterboard Perimeter Trim with no Metal Tile

In the case of plasterboard perimeter trims where no metal tiles are used, the plasterboard determines the toe.

Toe-In The plasterboard support edge is rolled in towards the plasterboard.

Toe-Out The plasterboard support edge is rolled away from the plasterboard.

Toe In

Toe Out

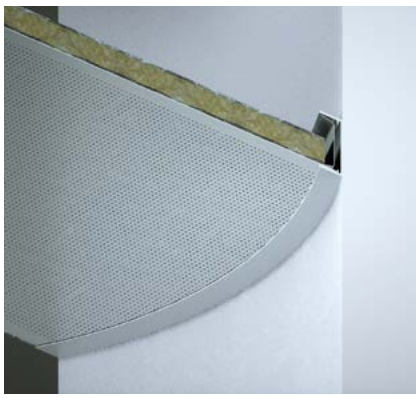
3. Toe-in and Toe-out | Radiused Trims

Where a radiused trim contacts a metal ceiling tile, the side that accepts the tile determines the toe. This can be either tile perimeter trims or tile to plasterboard trims.

Toe-In The C-channel that accepts the cut metal tile is rolled in towards the metal tiles.

Toe-Out The C-channel is rolled away from the metal tiles.

Toe In



Toe Out

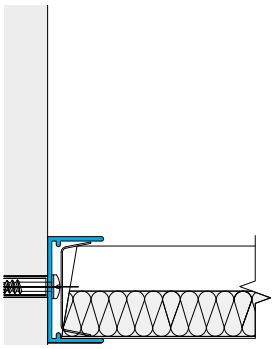
Trims | Table

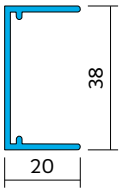
Trim	Description	Compatible Systems: SAS150	SAS200	SAS205	SAS310	SAS320	SAS330	SAS330A	SAS380	Trucell	Suitable for curving	Colour: RAL 9003	Page
CHANNEL TRIMS FOR METAL CEILING													
TCA 0108	**20mm Channel Trim**	■	■				■	■	■		■	•	197
TCA 0110	**20mm Extended Leg Channel Trim**	■	■				■	■	■		■	•	197
TCA 0124	**15mm Shadow Gap 20mm Channel Trim**	■	■				■	■	■			•	197
FAB 0124	**15mm Shadow Gap 20mm Channel Trim Fabricated**	■	■				■	■	■		■	•	198
TCA 0128	**20mm Shadow Gap 20mm Channel Trim**	■	■				■	■	■			•	198
FAB 0128	**20mm x 20mm Shadow Gap 20mm Channel Trim Fabricated**	■	■				■	■	■		■	•	198
FAB 0133	**25mm Shadow Gap 20mm Channel Trim Fabricated**	■	■				■	■	■		■	•	199
TCA 0109	**20mm Extended Top Leg Channel Trim**	■	■				■	■	■		■	•	199
ANGLE TRIMS FOR METAL, OPEN CELL AND MINERAL FIBRE CEILINGS													
TCA 0101	**15mm Perimeter Angle Trim**	■	■		■		■	■	■	■		•	200
TCA 0105	**20mm Perimeter Angle Trim**	■	■		■		■	■	■	■	■	•	200
TCA 0107	**20mm Extended Leg Perimeter Angle Trim**	■	■		■		■	■	■	■	■	•	200
TCA 0113	**25mm Perimeter Angle Trim**	■	■		■		■	■	■	■	■	•	201
TCA 0123	**15mm Shadow Gap 20mm Angle Trim**	■	■		■		■	■	■	■		•	201
TCA 0127	**20mm Shadow Gap 20mm Angle Trim**	■	■		■		■	■	■	■		•	201
METAL TILE TO PLASTERBOARD TRIMS													
TRU-SJ-150	**Feathered Cut Metal Tile to Plasterboard 15mm Shadow Gap Trim**	■	■				■	■	■			•	202
TRU-SH-150	**Feathered Full Metal Tile to Plasterboard 15mm Shadow Gap Trim**	■	■		■		■	■	■	■		•	202
TRU-SS-150	**SAS150 Feathered Full Tile to Plasterboard Trim**	■										•	202
TRU-SG-150	**SAS150 Feathered Full Tile to Plasterboard 15mm Shadow Gap Trim**	■										•	203
TRU-SJ-330	**SAS330 Full Tile to Plasterboard 15mm Shadow Gap Trim**						■						203
TRU-SL-330	**SAS330 Plasterboard Shadow Gap Closure Trim**						■					•	203
BULKHEAD TRIMS													
TCA 0173	**Full Metal Tile to Vertical Plasterboard Trim**	■	■	■	■	■	■	■	■	■			204
TCA 0219	**Full Metal Tile to Vertical Plasterboard Trim**	■	■	■	■	■	■	■	■	■		•	204
TCA 1203	**SAS150 Full Tile Closure Detail**	■										•	204
TCA 2111	**15mm Shadow Gap 20mm Angle Trim**		■									•	205
MITRE JUNCTION TRIMS													
TCA 0215	**Cut Metal Tile 40mm Mitre Junction Trim**	■	■	■		■	■	■	■	■			206
TCA 0310	**Cut Metal Tile 100mm Mitre Junction Trim**	■	■	■		■	■	■	■	■			206
SAS330A TRIMS													
AUS-LB-165	**165mm x 20mm Angle**	■	■	■	■	■	■	■	■				207
AUS-LB-100	**100mm x 20mm Angle**	■	■	■	■	■	■	■	■				207
AUS-LB-75	**75mm x 20mm Angle**	■	■	■	■	■	■	■	■				207
AUS-EW-70	**70mm x 20mm Channel**	■	■	■	■	■	■	■	■				208
AUS-EW-50	**50mm x 20mm Channel**	■	■	■	■	■	■	■	■				208
AUS-LB-50	**50mm x 20mm Angle**	■	■	■	■	■	■	■	■				208
SAS FLOATING EDGE TRIMS													
TCA 0861	**Floating Edge detail - Closure**	■	■	■		■	■	■	■	■		•	209
TCA 0860	**Snap-In Edge detail - Cut/Full Tile Trim**	■	■	■		■	■	■	■	■		•	209
TRU-HM-100	**Snap-In Edge detail - Plasterboard Trim**											•	209
TCA 1301	**Snap-In Edge detail**		■	■		■	■	■	■			•	210
BLIND BOX TRIMS													
TCA 0312	**100mm Blind Box Channel Trim**	■	■	■	■	■	■	■	■	■		•	211
TCA 0317	**100mm Blind Box Angle Trim**	■	■	■	■	■	■	■	■	■		•	211
TCA 1147	**98mm Blind Box Plasterboard Trim**											•	211
TCA 0863	**100x110mm Snap-In Blind Box**	■	■	■		■	■	■		■		•	212

Trims | Channel

TCA 0108*

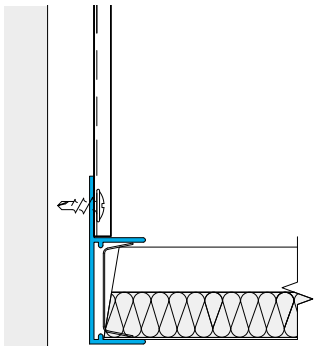
Size **20mm Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**

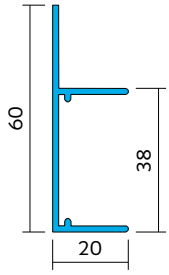




TCA 0110*

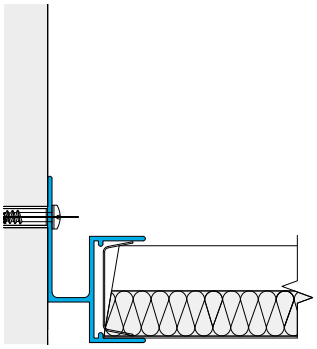
Size **20mm Extended Leg Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**

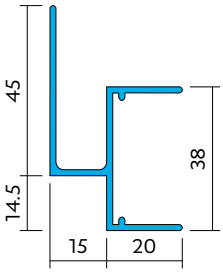




TCA 0124*

Size **15mm Shadow Gap, 20mm Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**





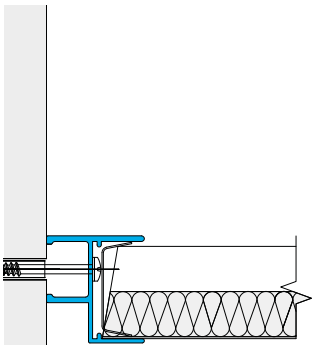
All dimensions are in mm.

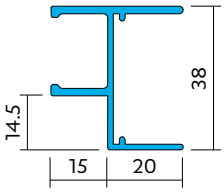
*Can also be manufactured as radiused trim for column rings.

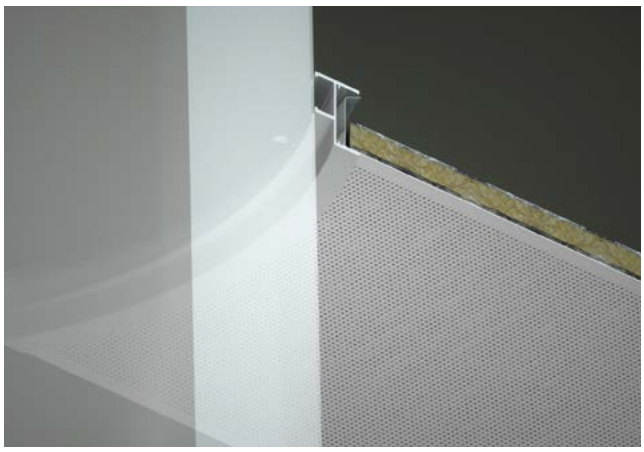
Trims | Channel

FAB 0124

Size **15mm Shadow Gap, 20mm Channel Trim Fabricated**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**

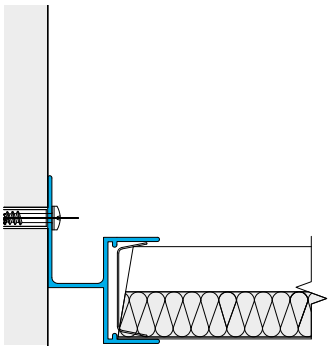


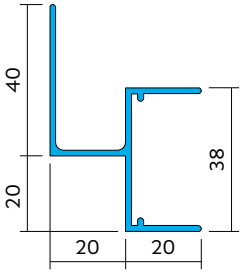




TCA 0128*

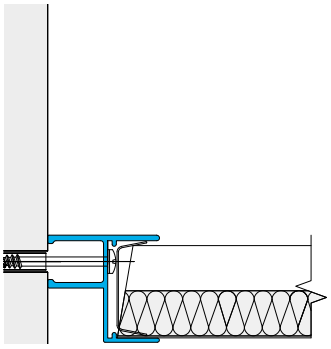
Size **20mm Shadow Gap, 20mm Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**

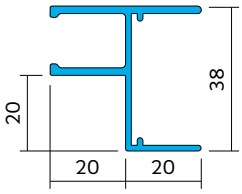


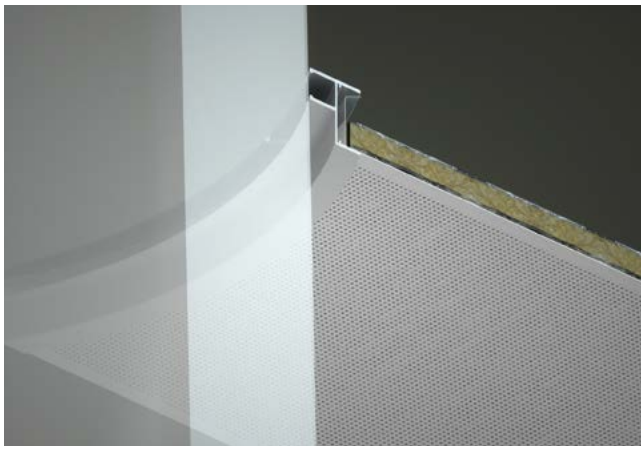


FAB 0128

Size **20mm Shadow Gap, 20mm Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**







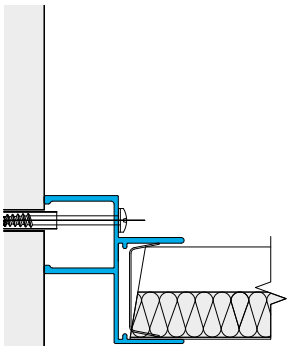
*Can also be manufactured as radiused trim for column rings.

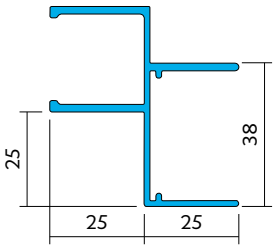
All dimensions are in mm.

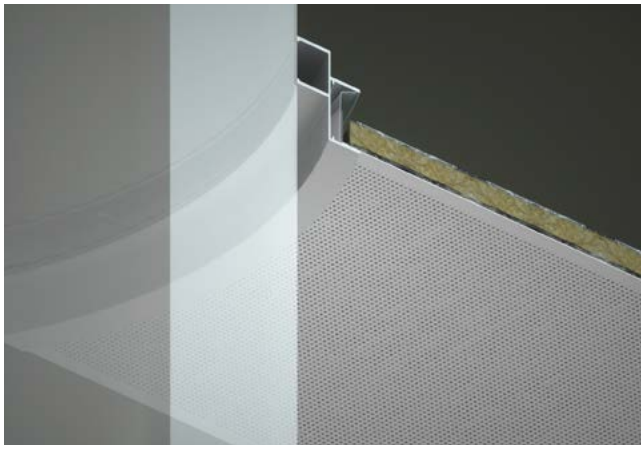
Trims | Channel

FAB 0133

Size **25mm Shadow Gap, 20mm Channel Trim Fabricated**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge**

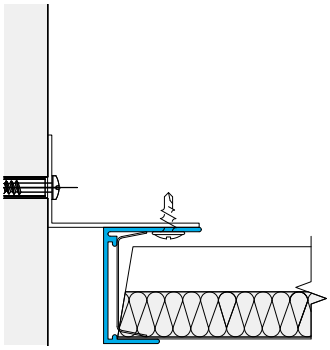


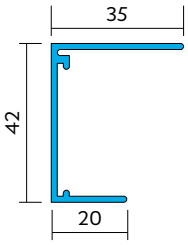


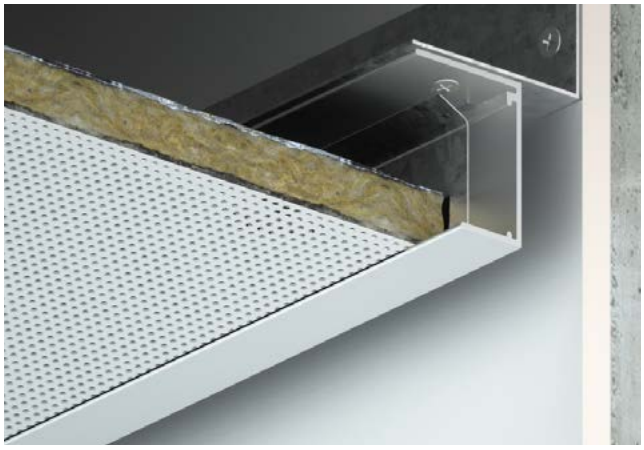


TCA 0109

Size **20mm Extended Top Leg Channel Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, Perimeter Wedge (266788)**





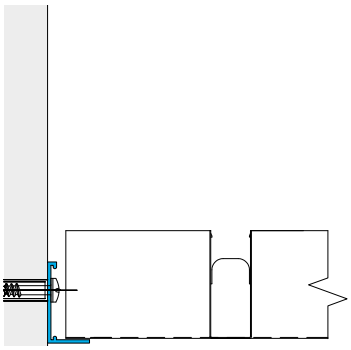


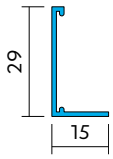
All dimensions are in mm.

Trims | Angle

TCA 0101*

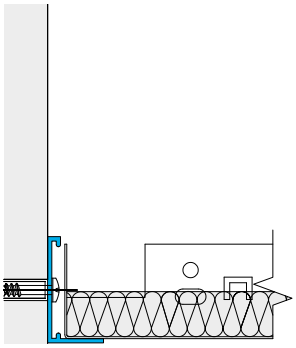
Size **15mm Perimeter Angle Trim (Trucell)**
Length (mm) **3000**
Accessories **TCP90s, TCP180s**

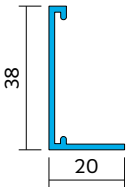




TCA 0105*

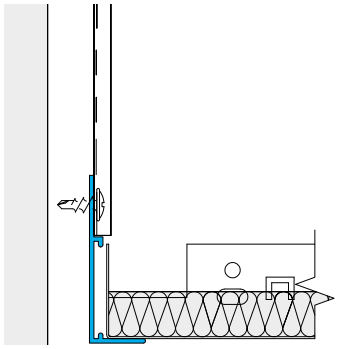
Size **20mm Perimeter Angle Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**

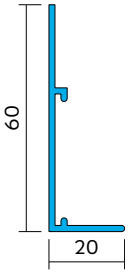




TCA 0107

Size **20mm Extended Leg Perimeter Angle Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**





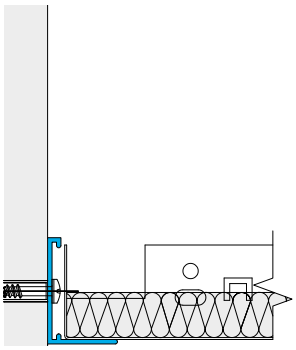
*Can also be manufactured as radiused trim for column rings.

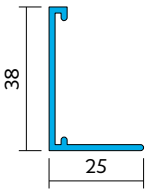
All dimensions are in mm.

Trims | Angle

TCA 0113

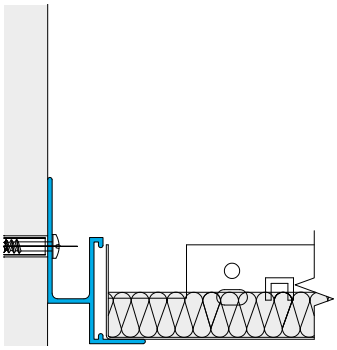
Size **25mm Perimeter Angle Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**

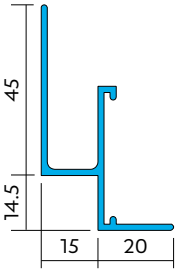




TCA 0123*

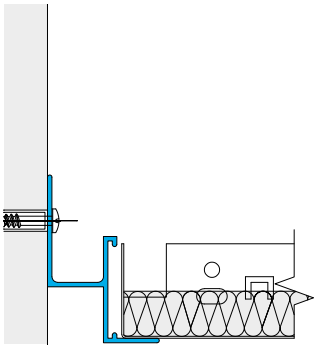
Size **15mm Shadow Gap, 20mm Angle Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**

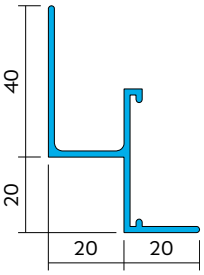


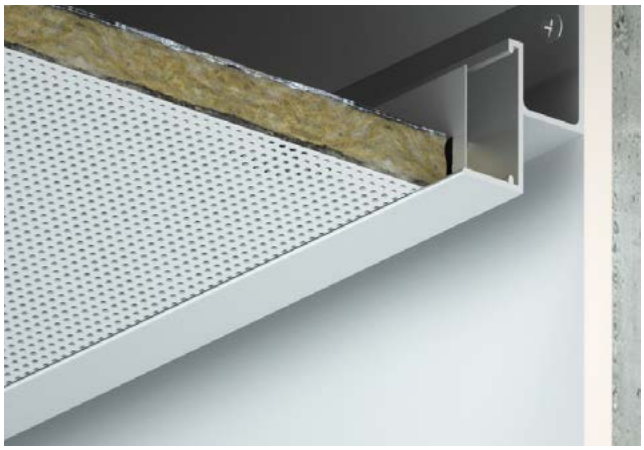


TCA 0127*

Size **20mm Shadow Gap, 20mm Angle Trim**
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**







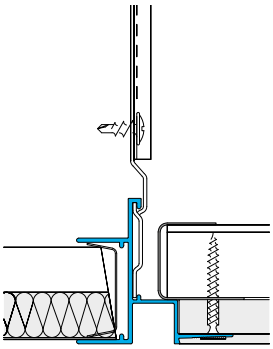
All dimensions are in mm.

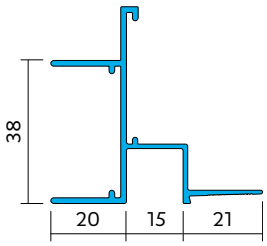
*Can also be manufactured as radiused trim for column rings.

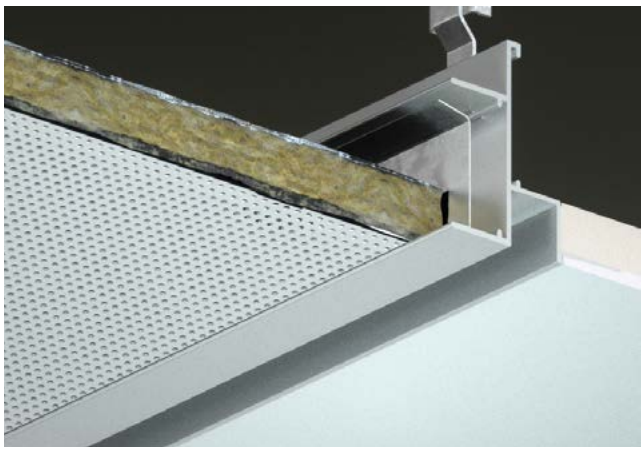
Trims | Plasterboard

TRU SJ 150

Feathered Cut Metal Tile to Plasterboard, 15mm Shadow Gap Trim
Length (mm) **3000**
Accessories **TCB01, TCB08, TCP90, TCP180, TCP360, Perimeter Wedge**

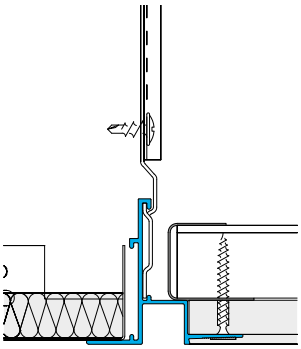


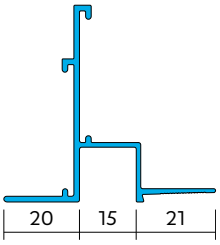




TRU SH 150

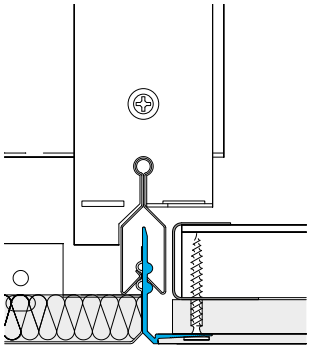
Feathered Full Tile to Plasterboard, 15mm Shadow Gap Trim
Length (mm) **3000**
Accessories **TCB01, TCB08, TCP90, TCP180, TCP360**

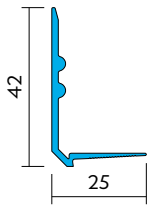




TRU SS 150

SAS150 Feathered Full Tile to Plasterboard Trim
Length (mm) **3000**
Accessories **N/A**



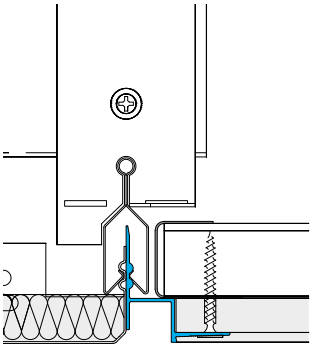


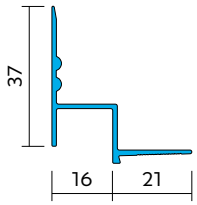
All dimensions are in mm.

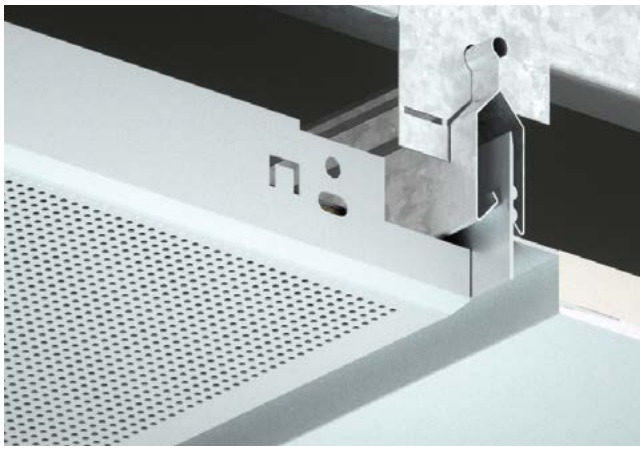
Trims | Plasterboard

TRU SG 150

SAS150 Feathered Full Tile to Plasterboard, 15mm Shadow Gap Trim
Length (mm) **3000**
Accessories **N/A**

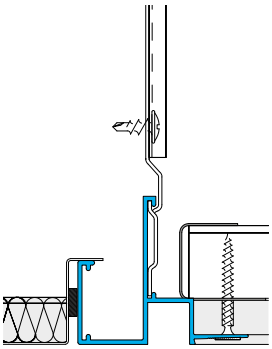


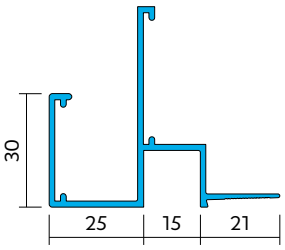


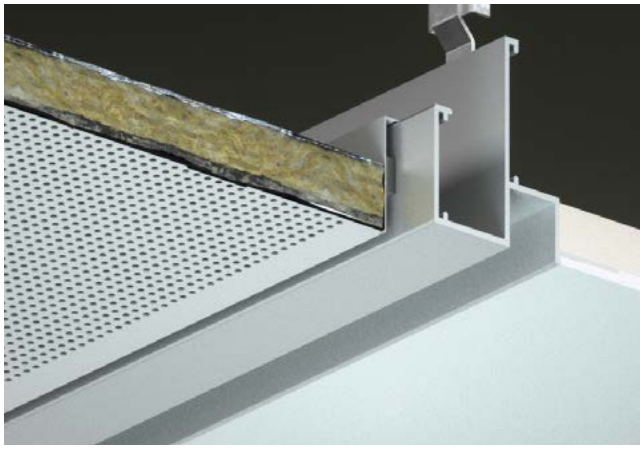


TRU SJ 330

SAS330 Full Tile to Plasterboard, 15mm Shadow Gap Trim
Length (mm) **3000**
Accessories **TCB01, TCB08, TCP90/90s, TCP180/180s, TCP360**

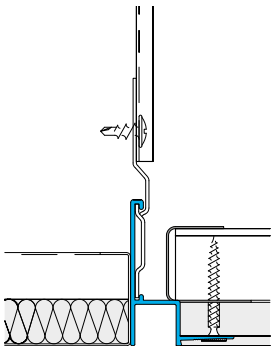


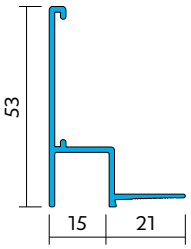


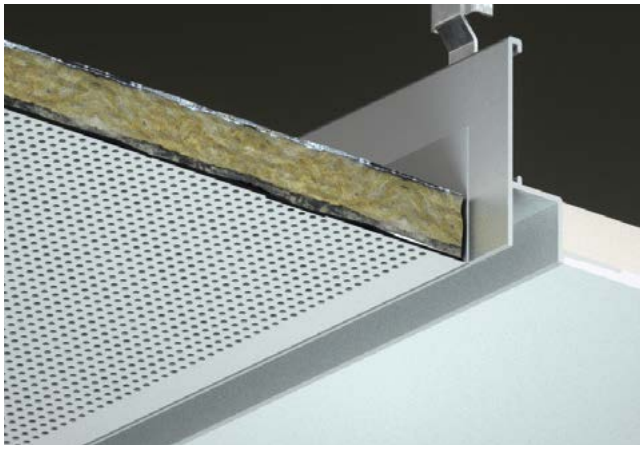


TRU SL 330

SAS330 Plasterboard Shadow Gap Closure Trim
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**





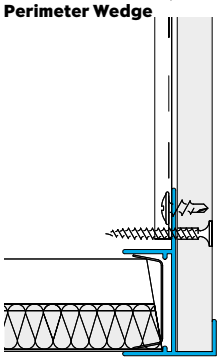


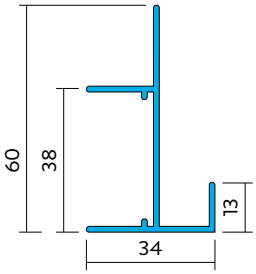
All dimensions are in mm.

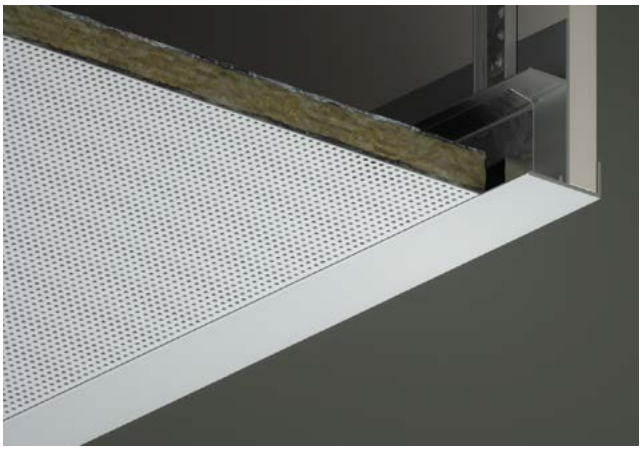
Trims | Bulkhead

TCA 0173

Full Metal Tile to Vertical Plasterboard Trim
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360, Perimeter Wedge**

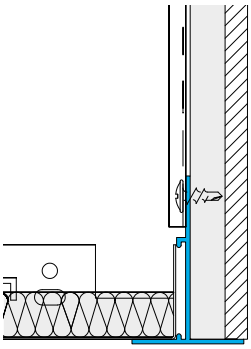


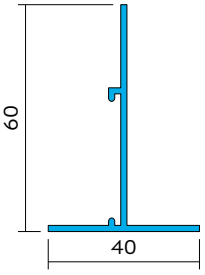




TCA 0219

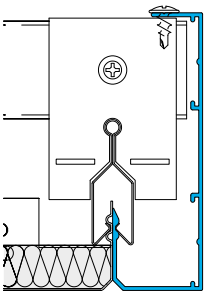
Full Metal Tile to Vertical Plasterboard Trim
Length (mm) **3000**
Accessories **TCB01, TCB08, TCP90, TCP180, TCP360**

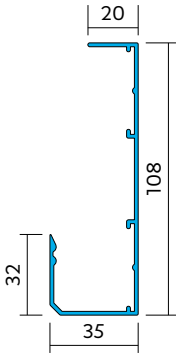




TCA 1203

SAS150 Full Tile Closure Detail
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360**

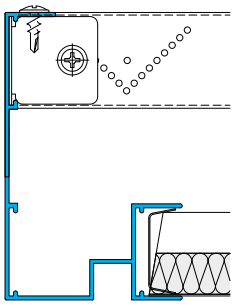


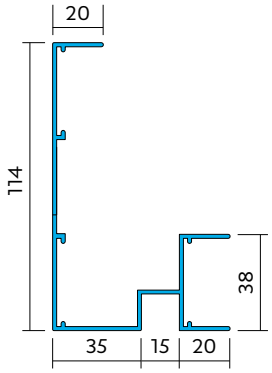


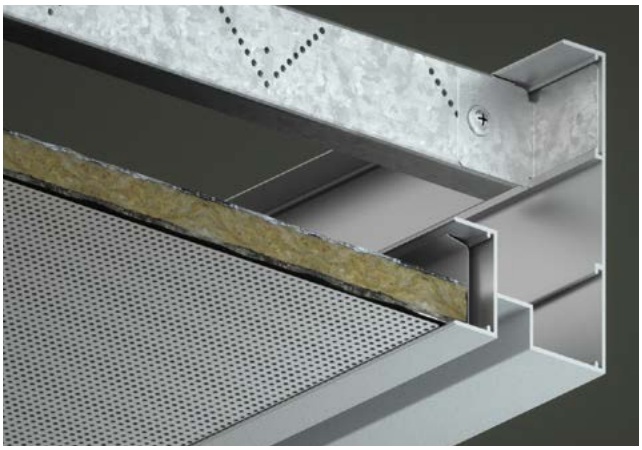
All dimensions are in mm.

TCA 2111

15mm Shadow Gap 20mm Angle Trim
Length (mm) **3000**
Accessories **TCP90, TCP180, TCP360, Perimeter Wedge**





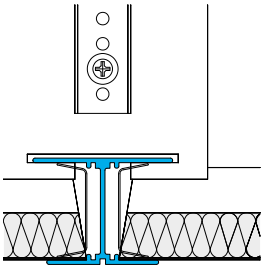


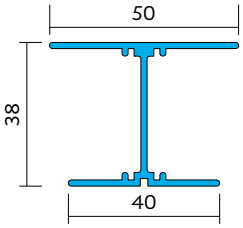
All dimensions are in mm.

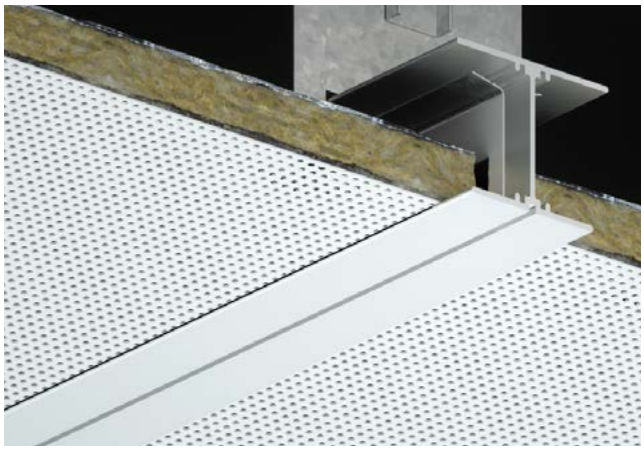
Trims | Mitre Junction

TCA 0215

Cut Metal Tile 40mm Mitre Junction Trim
Length (mm) **3000**
Accessories **TCB12, TCP90, TCP180, TCP360, Perimeter Wedge**

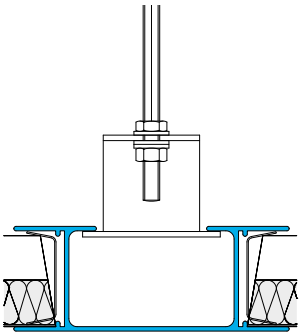


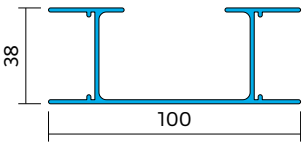


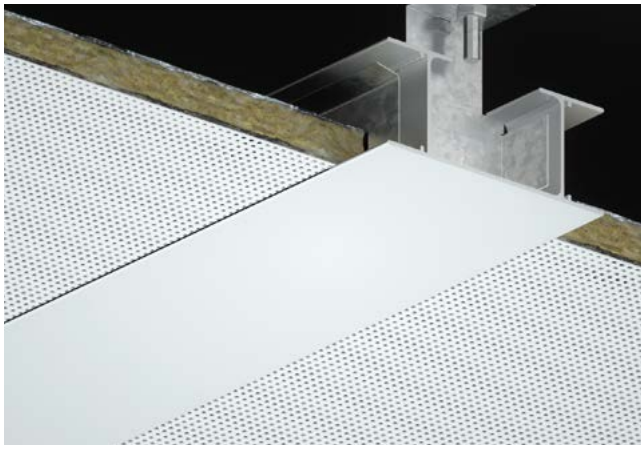


TCA 0310

Cut Metal Tile 100mm Mitre Junction Trim
Length (mm) **3000**
Accessories **TCB60, TCP90, TCP180, TCP360, Perimeter Wedge, Suspension Bracket 22008**



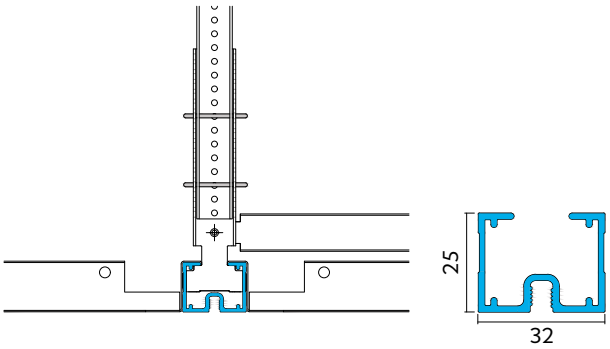


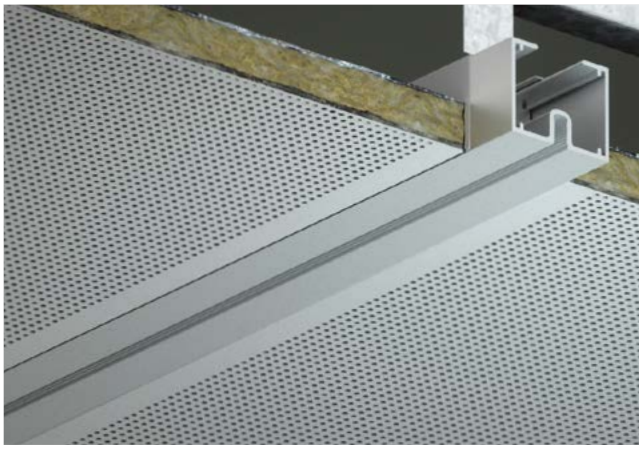


All dimensions are in mm.

AUS-LB-165

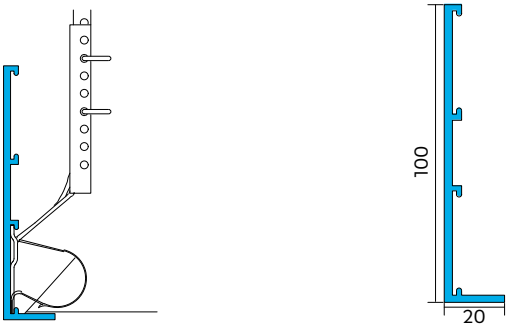
Length (mm) **3000**
Accessories **TCP90, TCP180, Suspension Bracket**

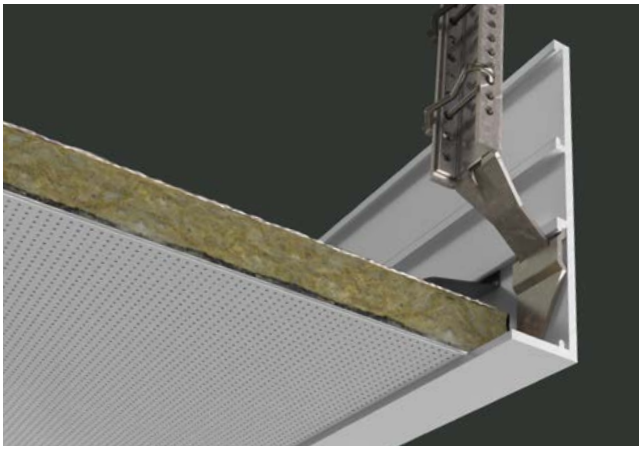




AUS-LB-100

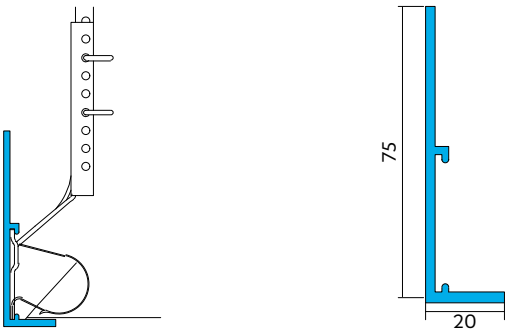
Length (mm) **3000**
Accessories **TCP90, TCP180, Suspension Bracket**

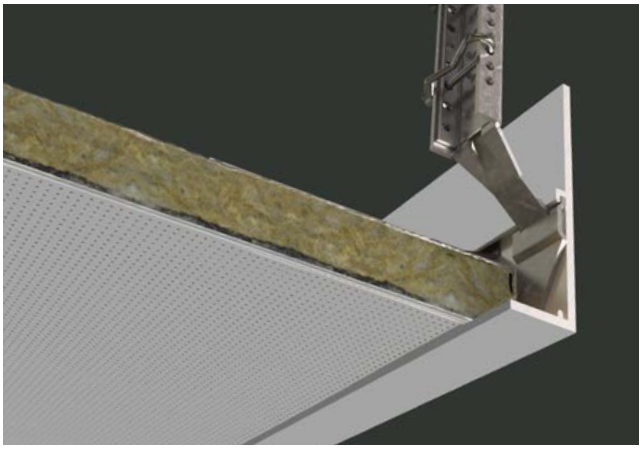




AUS-LB-75

Length (mm) **3000**
Accessories **TCP90, TCP180, Suspension Bracket**



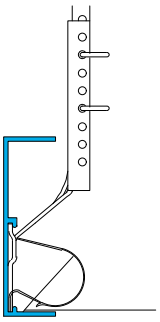


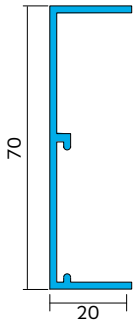
All dimensions are in mm.

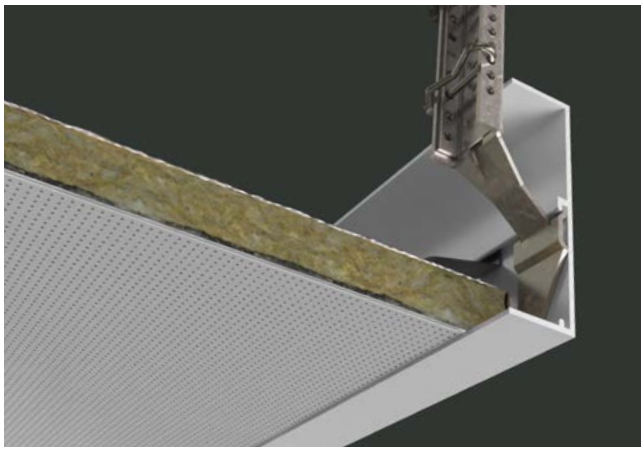
Trims | SAS**330A**

AUS-EW-70

Length (mm) **3000**
Accessories **TCP90, TCP180, Suspension Bracket**

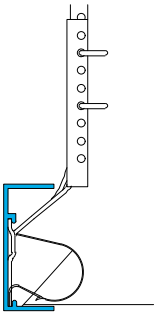


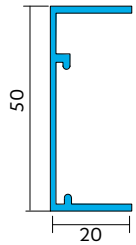


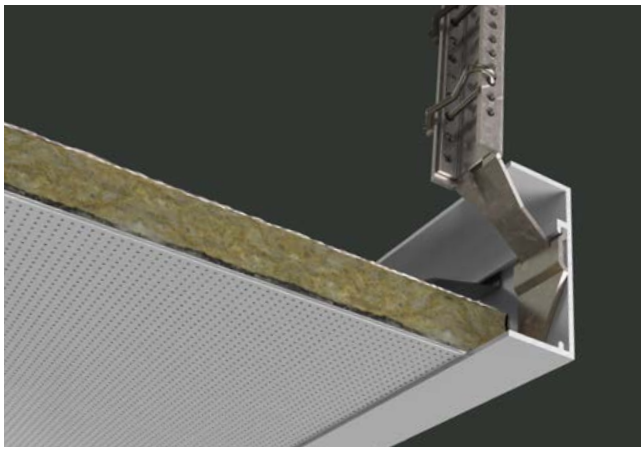


AUS-EW-50

Length (mm) **3000**
Accessories **TCP90, TCP180s Suspension Bracket**

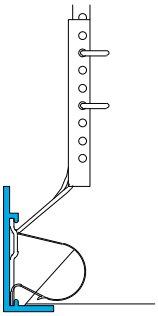


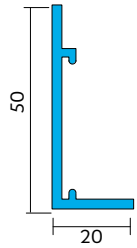


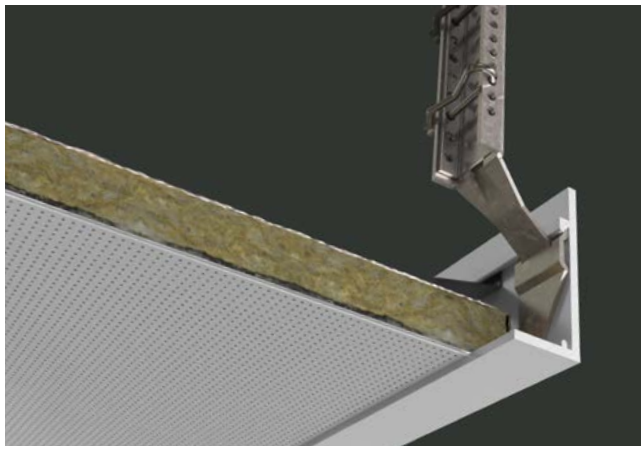


AUS-LB-50

Length (mm) **3000**
Accessories **TCP90, TCP180, Suspension Bracket**





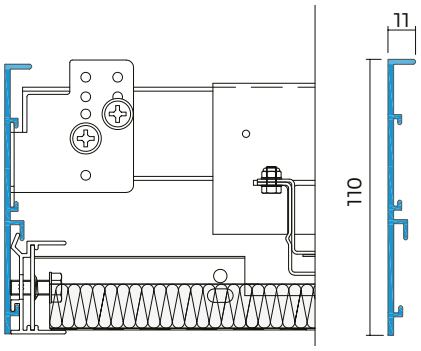


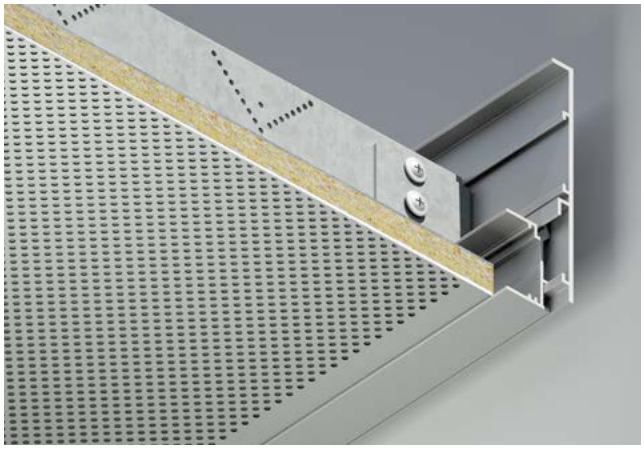
All dimensions are in mm.

Trims | Floating Edge

TCA 0861

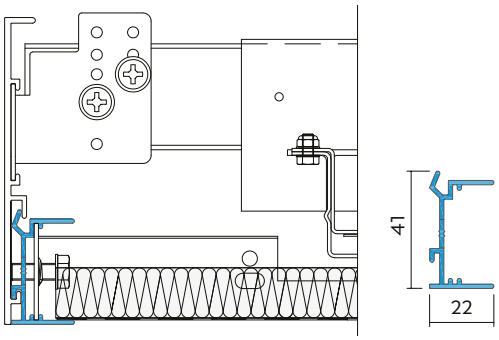
Floating Edge Detail - Closure
Length (mm) **3000**
Accessories **Dominos Bracket (299222), Snap In Extrusions, TCP 180, TCP 90**





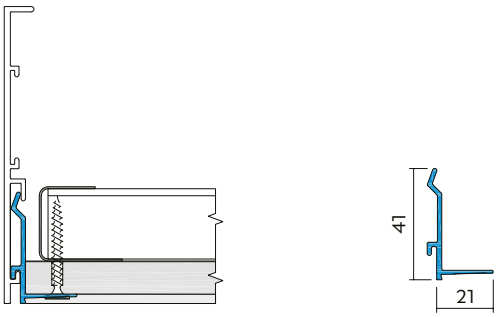
TCA 0860

Snap-in Edge Detail - Cut/Full Tile Trim
Length (mm) **3000**
Accessories **TS 180, TS 90, TCP 180, TCP 90, Perimeter Edge**



TRU HM 100

Snap-In Edge Detail - Plasterboard Trim
Length (mm) **3000**
Accessories **TCP 180, TCP 90**

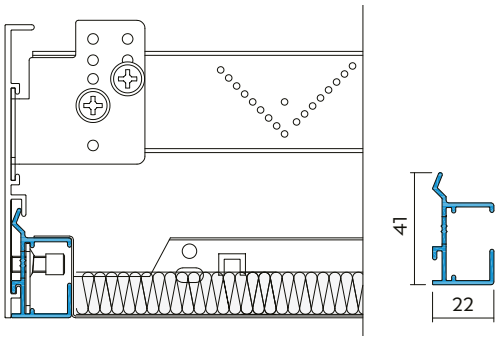


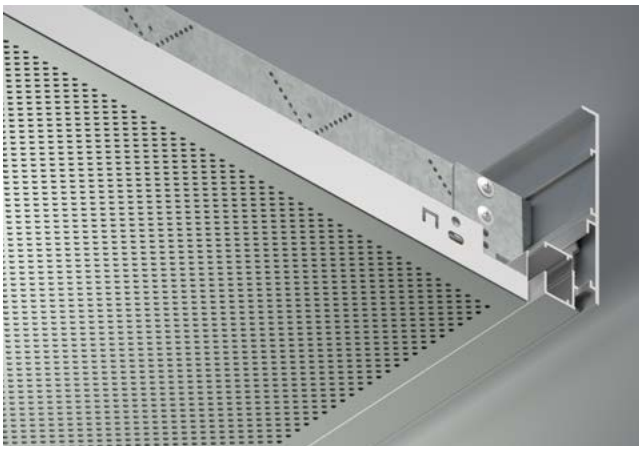
All dimensions are in mm.

Trims | Floating Edge

TCA 1301

Snap-In Edge Detail SAS330
Length (mm) **3000**
Accessories **TS 180s, TS 90s, TCP 180, TCP 90**

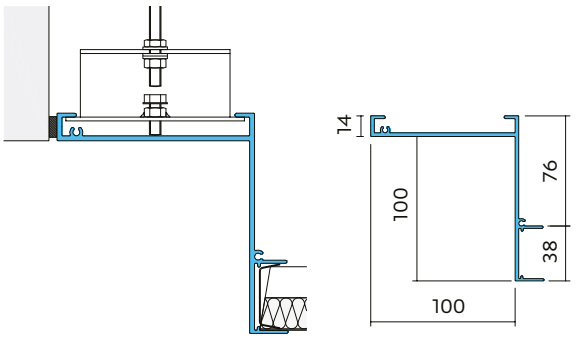




Trims | Blind box

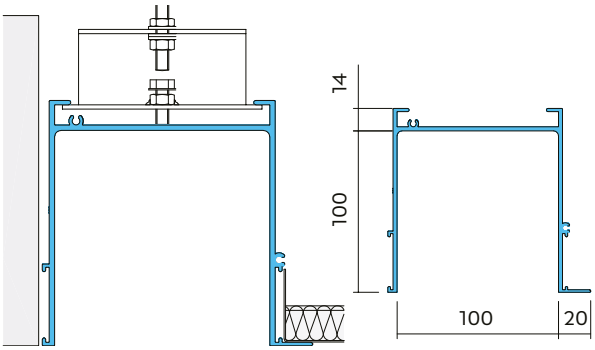
TCA 0312

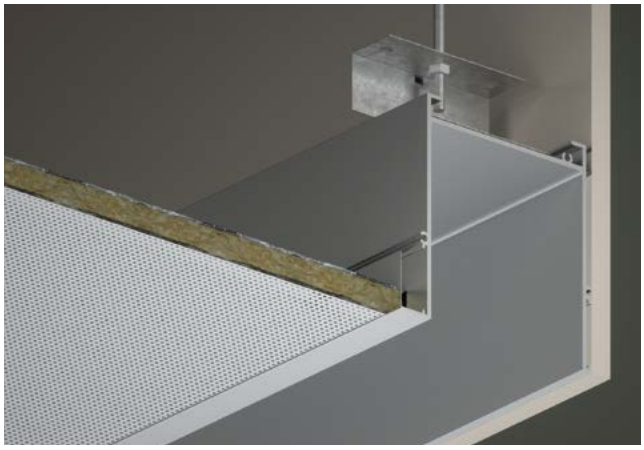
100mm Blind Box Channel Trim
Length (mm) **3000**
Accessories **TCB50, TCP90, TCP180, TCP360, Perimeter Wedge, End Plate**



TCA 0317

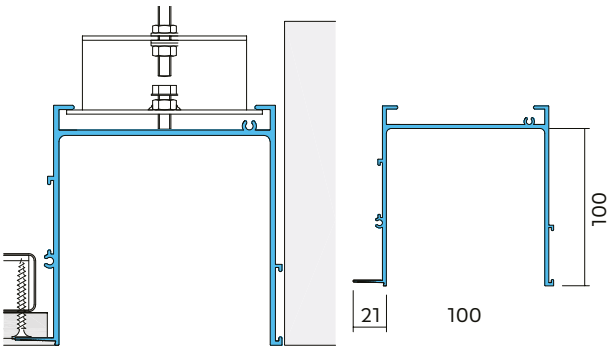
100mm Blind Box Angle Trim
Length (mm) **3000**
Accessories **TCB50, TCP90, TCP180, TCP36, End Plate**

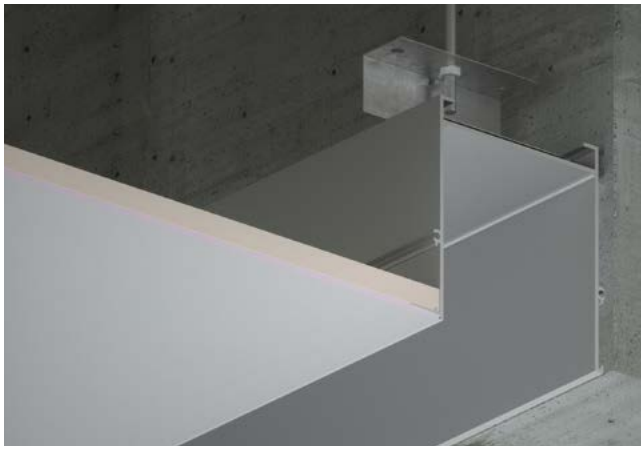




TCA 1147

98mm Blind Box Plasterboard Trim
Length (mm) **3000**
Accessories **TCB50, TCP90, TCP180, TCP360, End Plate**

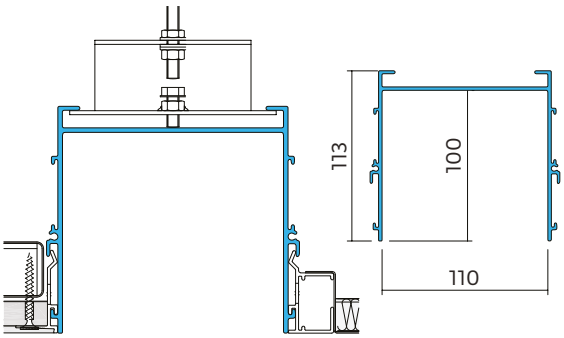


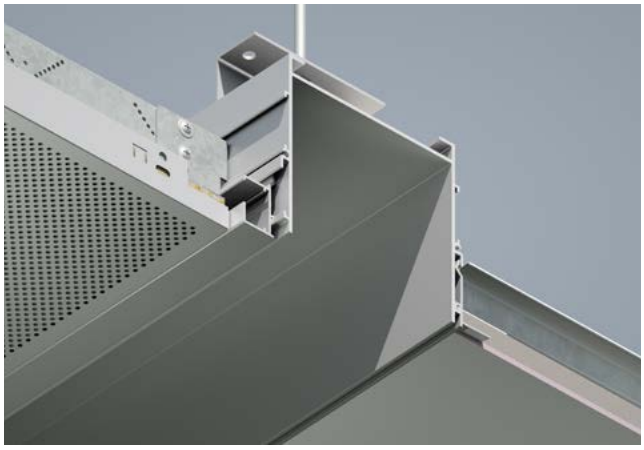


Trims | Blind box

TCA 0863

100mm x 110mm Snap-In Blind Box
Length (mm) **3000**
Accessories **TCB50, TCP90, TCP180, TCP360, Perimeter Wedge, End Plate**



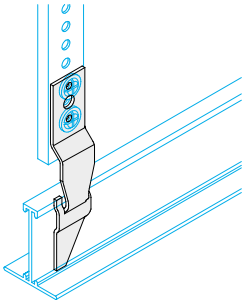


All dimensions are in mm.

Trims | Accessories

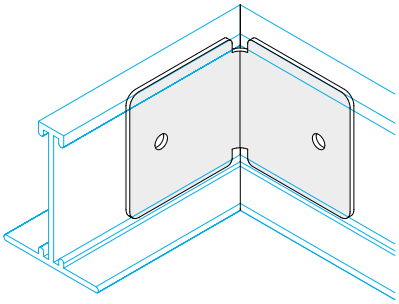
TCB 08

Descriptor **Extrusion to Emac Hanger Bracket**



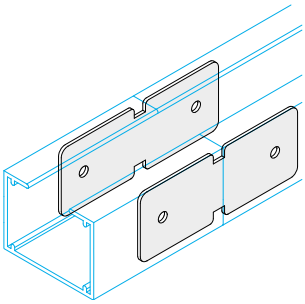
TCP 90

Descriptor **Corner Splice to suit 34.5mm keyway**



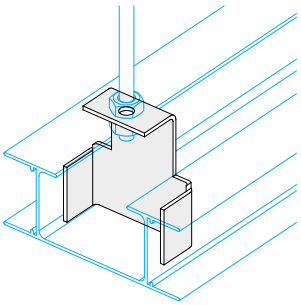
TCP 180s

Descriptor **Straight Splice to suit 26.8mm keyway**

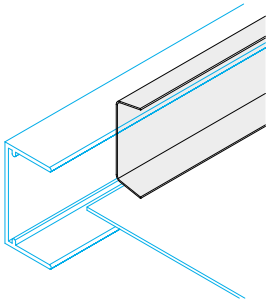


TCB 60

Descriptor **TCA 0310 Hanger Bracket to suit Threaded Rod**

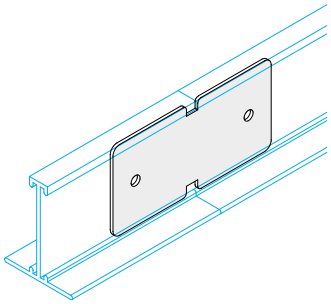


Descriptor **Perimeter Wedge**



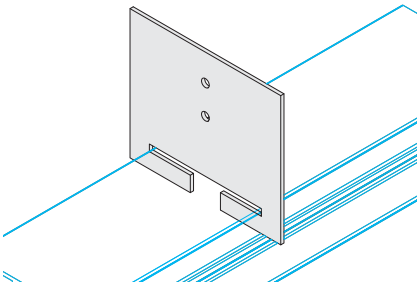
TCP 180

Descriptor **Straight Splice to suit 34.5mm keyway**



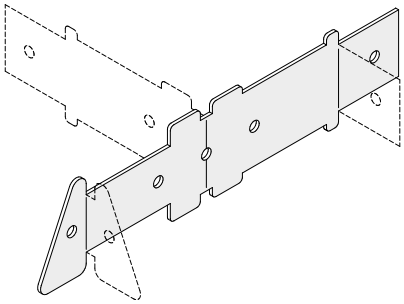
TCB 12

Descriptor **TCA 0215 Hanger Bracket**



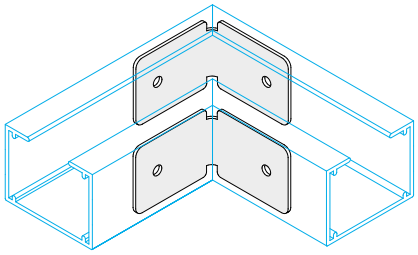
TCP 360

Descriptor **Multi Splice**



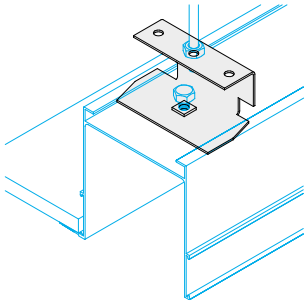
TCP 90s

Descriptor **Corner Splice to suit 26.8mm**



TCB 50

Descriptor **Blind Box Hanger to suit Threaded Rod**



All dimensions are in mm.

SAS**330A**

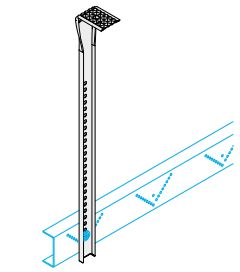
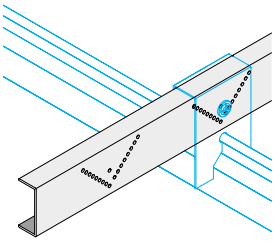
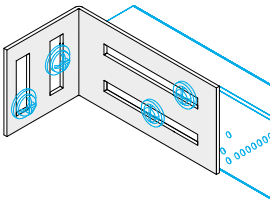
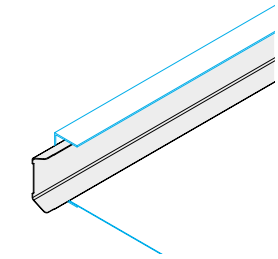
Gilbert + Tobin, Barangaroo

Location
Sydney, Australia
Architect
Woods Bagot

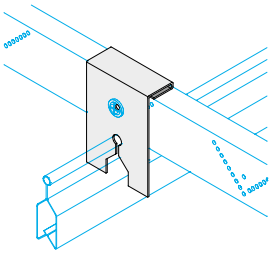
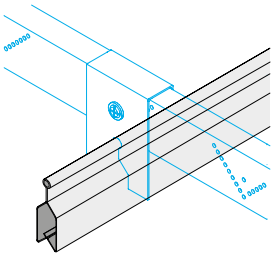
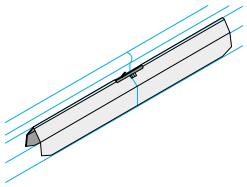
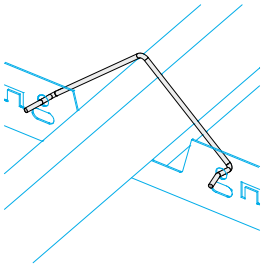
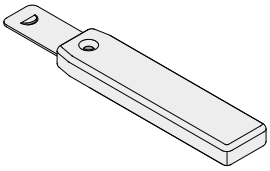
Contractor
Lendlease
Purpose
Commercial

Components

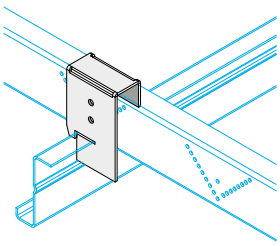
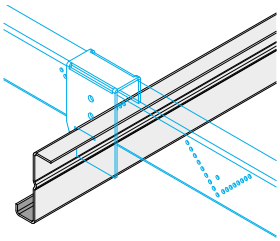
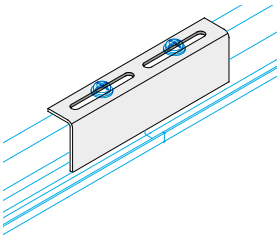
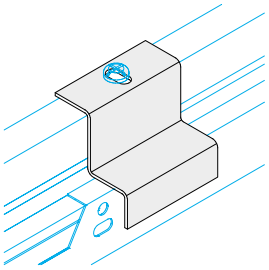
Components | Emac suspension

	Item Description	Folded Length (mm)	Gauge (mm)	Colour (% Gloss)	Units
EMAC SUSPENSION COMPONENTS					
	Emac Hanger	300	–	Mill	50 no.
	Emac Hanger	400	–	Mill	50 no.
	Emac Hanger	500	–	Mill	50 no.
	Emac Hanger	600	–	Mill	50 no.
	Emac Hanger	800	–	Mill	50 no.
	Emac Hanger	1000	–	Mill	50 no.
	Emac Hanger	1200	–	Mill	50 no.
	Emac Hanger	1500	–	Mill	50 no.
	Emac Hanger	2000	–	Mill	50 no.
	Emac Channel	4000	1.2	Mill	1 no.
	Emac Channel	3000	1.5	Mill	1 no.
	Emac Channel	4000	1.5	Mill	1 no.
	Emac Wall Anchor	–	–	Mill	100 no.
	Border Wedge	–	–	Mill	100 no.

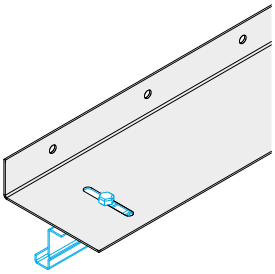
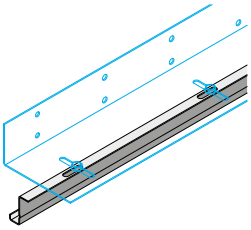
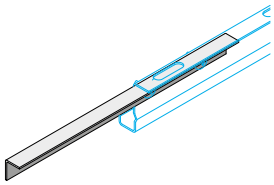
Components | SAS**150**

	Item Description	Nominal Height (mm)	Length (mm)	Colour (% Gloss)	Units
SAS150 COMPONENTS					
	Deep Omega Bar to Channel Bracket (Standard)	–	–	Mill	100 no.
	Deep Omega Bar	–	4000	Mill	1 no.
	Shallow Omega	–	4000	Mill	1 no.
	Deep Omega Bar Splice	–	–	Mill	100 no.
	Shallow Omega Splice	–	–	Mill	100 no.
	Wire Security Clip	–	–	Mill	100 no.
	Access Tool for 150 (Pair)	–	–	–	2 no.

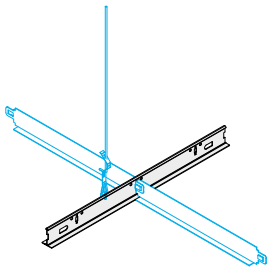
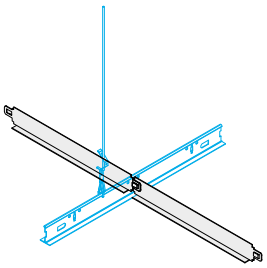
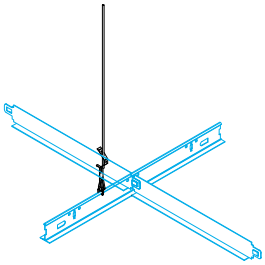
Components | SAS**200**

	Item Description	Size (mm)	Nominal Height (mm)	Length (mm)	Colour (% Gloss)	Units
SAS200 COMPONENTS						
	J-Bar to Channel Bracket (To suit 50mm J-Bar) Right hand	–	99	–	Mill	100 no.
	J-Bar with slots	50	-	4000	Mill	1 no.
	J-Bar without slots	50	–	4000	Mill	1 no.
	J-Bar Splice	–	–	–	Mill	100 no.
	Security Clip for 50mm J-Bar	–	–	–	Mill	100 no.

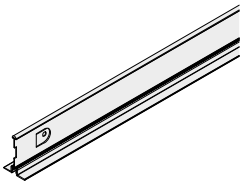
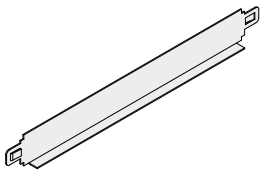
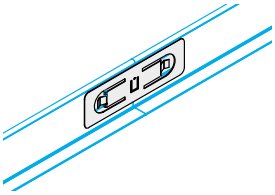
Components | SAS**205**

	Item Description	Size (mm)	Nominal Height (mm)	Length (mm)	Colour (% Gloss)	Units
SAS205 COMPONENTS						
	Closure Angle White (Slotted)	50x100	–	3000	RAL 9003 (20%)	1 no.
	Closure Angle Black (Slotted)	50x100	–	3000	RAL 9005 (30%)	1 no.
	J-Bar with slots	38	–	4000	Mill	1 no.
	J-Bar Splice (SAS205)	–	–	–	Mill	100 no.

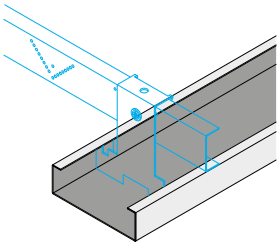
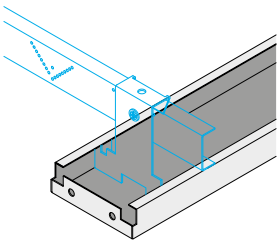
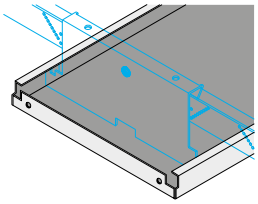
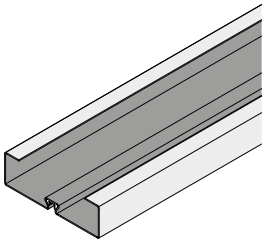
Components | SAS**310**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS310 COMPONENTS					
	SAS310 Tee Bar Main Runner	3600	24	RAL 9003 (20%)	N/A
	SAS310 Tee Bar Cross Runner	600	24	RAL 9003 (20%)	N/A
		1200	24	RAL 9003 (20%)	N/A
	SAS310 Suspension Clip	N/A	N/A	RAL 9005	N/A

Components | SAS**310**

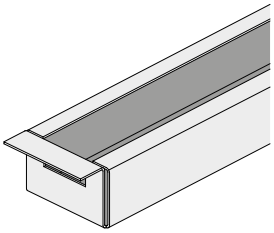
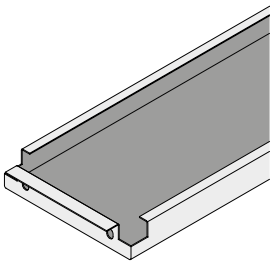
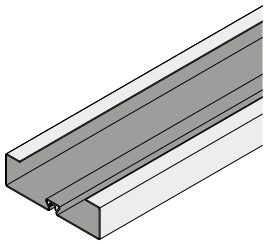
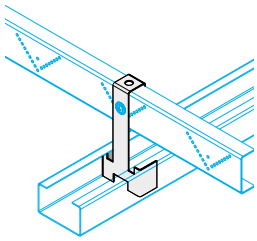
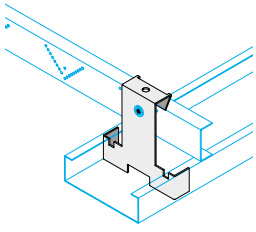
	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS310 COMPONENTS					
	SAS310 Top Hat Main Runner	3600	32	RAL 9003 (20%)	N/A
		4500	32	RAL 9003 (20%)	N/A
	SAS310 Top Hat Cross Runner	600	32	RAL 9003 (20%)	N/A
		1200	32	RAL 9003 (20%)	N/A
		1500	32	RAL 9003 (20%)	N/A
	SAS310 Top Hat Joiner Clip	80	37.5	RAL 9003 (20%)	N/A
	SAS310 Tee Bar Joiner Clip	80	32.8	RAL 9003 (20%)	N/A

Components | SAS**330**

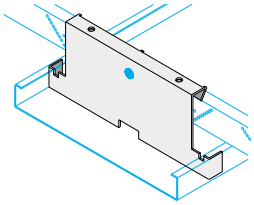
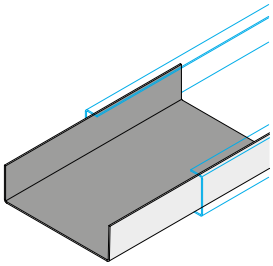
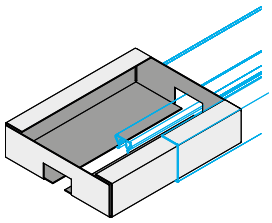
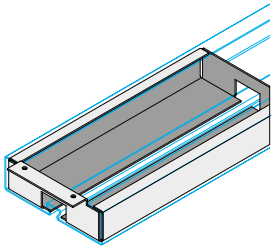
	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	C-Profile Open Ends	3000	50	RAL 9003 (20%)	1 no.
	C-Profile Open Ends	3000	100	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	50	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	100	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	150	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	200	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	250	RAL 9003 (20%)	1 no.
	C-Profile Closed Ends	3000	300	RAL 9003 (20%)	1 no.
SAS330 COMPONENTS					
	Omega C-Profile Open Ends	3000	100*	RAL 9003 (20%)	1 no.

* Other sizes available on request

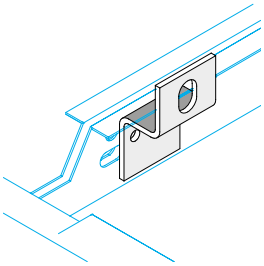
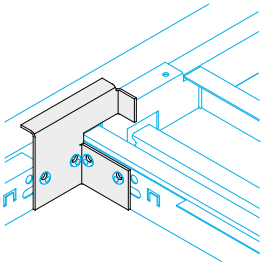
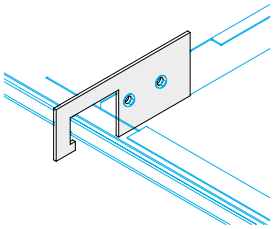
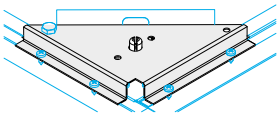
Components | SAS**330**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	C-Profile Noggin (to suit 1500mm modules)	1450	50	RAL 9003 (20%)	1 no.
	C-Profile Noggin (to suit 1500mm modules)	1400	100	RAL 9003 (20%)	1 no.
	C-Profile Noggin (to suit 1500mm modules)	1350	150	RAL 9003 (20%)	1 no.
	C-Profile Noggin (to suit 1500mm modules)	1300	200	RAL 9003 (20%)	1 no.
	C-Profile Noggin (to suit 1500mm modules)	1250	250	RAL 9003 (20%)	1 no.
	C-Profile Noggin (to suit 1500mm modules)	1200	300	RAL 9003 (20%)	1 no.
	Omega C-Profile Noggin	1400	100	RAL 9003 (20%)	1 no.
	C-Profile Hook Over Suspension Bracket for Emac Channel and Rod	100	50	Mill	100 no.
	C-Profile Hook Over Suspension Bracket for Emac Channel and Rod	100	100	Mill	100 no.
	C-Profile Hook Over Suspension Bracket for Emac Channel and Rod	100	150	Mill	100 no.

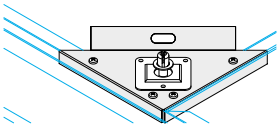
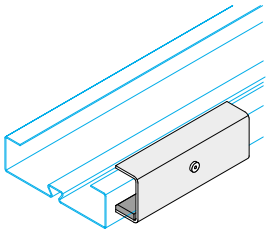
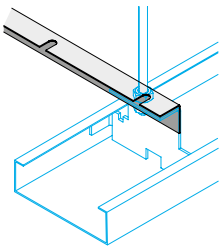
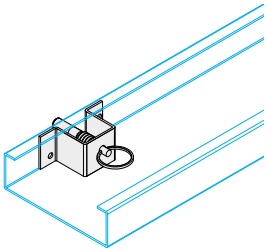
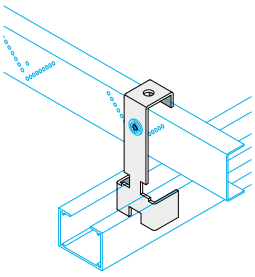
Components | SAS**330**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	C-Profile Hook Over Suspension Bracket for Emac Channel and Rod	100	200	Mill	100 no.
	C-Profile Hook Over Suspension Bracket for Emac Channel and Rod	100	250	Mill	100 no.
	C-Profile Hook Over Suspension Bracket for Emac Channel	100	300	Mill	100 no.
	C-Profile Splice	–	50	Mill	100 no.
	C-Profile Splice	–	100	Mill	100 no.
	C-Profile Splice	-	150	Mill	100 no,
	Omega C-Profile Splice	–	100	Mill	100 no.
	Omega C-Profile End Shoe	–	100	Mill	1 no.
	Omega C-Profile End Shoe	–	200	Mill	1 no.
	Plain C-Profile End Shoe (for 100mm C-Profile)	–	100	Mill	1 no.
	Plain C-Profile End Shoe (for 100mm C-Profile)	–	100	RAL 9003 (20%)	1 no.

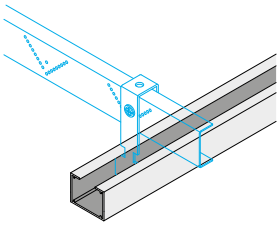
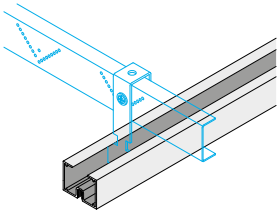
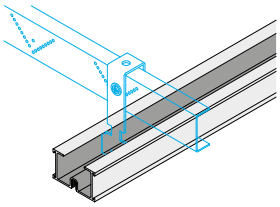
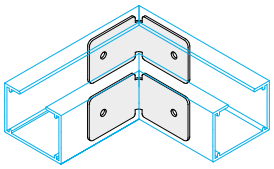
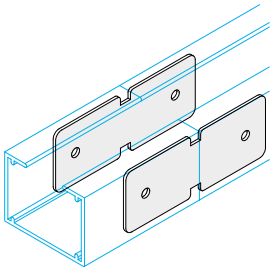
Components | SAS**330**

	Item Description	Nominal Height (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	Safety Cable	300	–	Mill	1 no.
	Safety Cable	600	-	Mill	1 no.
	Safety Cable Bracket	–	–	Mill	1 no.
	Flying Arm Bracket R/H	–	–	Mill	1 no.
	Flying Arm Bracket L/H	–	–	Mill	1 no.
	End Arm Bracket	–	–	Mill	1 no.
	Top Touch Latch Bracket	–	–	Mill	1 no.

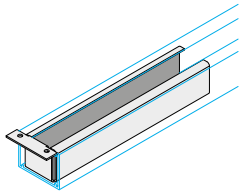
Components | SAS**330**

	Item Description	Nominal Height (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	Bottom Touch Latch Bracket	–	–	Mill	1 no.
	Pivot Hole Drilling Jig	–	–	Mill	1 no.
	Distancing Profile (to suit 1500mm modules)	–	–	Mill	1 no.
	Retractable Pivot Pin	–	–	Mill	1 no.
	C-Profile Extrusion Bracket for direct Emac Hanger support (to suit TCA 1182, TCA 0314 & TCA 0313)	–	40	Mill	100 no.

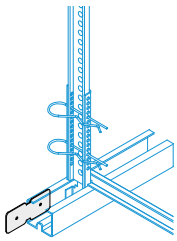
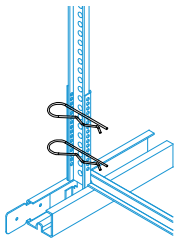
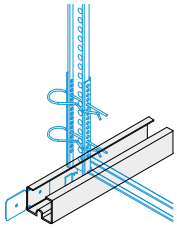
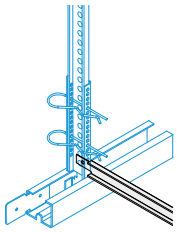
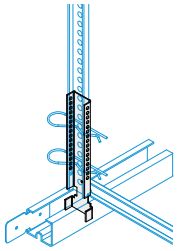
Components | SAS**330**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	C-Profile Aluminium Extrusion (TCA 1182)	3000	40	RAL 9003 (20%)	1 no.
	Thread form C-Profile Aluminium Extrusion (TCA 0314)	3000	40	RAL 9003 (20%)	1 no.
	Thread form C-Profile Aluminium Extrusion (TCA 0313)	3000	50	RAL 9003 (20%)	1 no.
	90° Splice Plate (TCP 90S)	–	–	Mill	100 no.
	Straight Splice Plate (TCP 180S)	–	–	Mill	100 no.

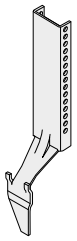
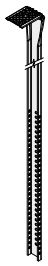
Components | SAS**330**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330 COMPONENTS					
	C-Profile End Shoe (for TCA 1182)	–	–	Mill	100 no.

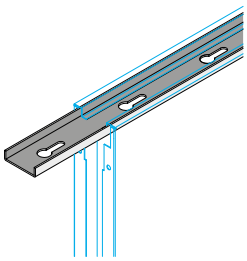
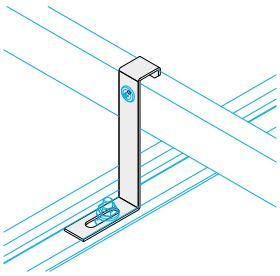
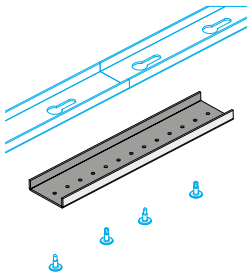
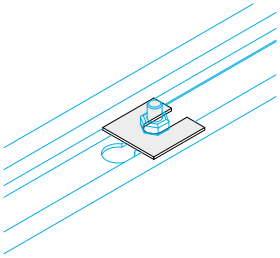
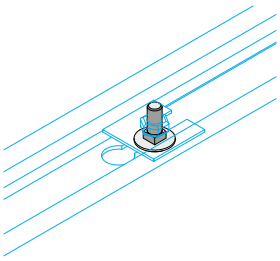
Components | SAS**330A**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS330A COMPONENTS					
	TCP 180s Splice to suit 21.8mm keyway	-	21.8	N/A	100
	Pins	32	2	N/A	100
	C-Profile	up to 3000	up to 300	RAL 9003 (20%)	N/A
	Distancing Profile	To suit required module size	19	N/A	N/A
	C-Profile to emac hanger bracket	120	21	N/A	N/A

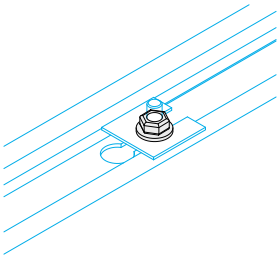
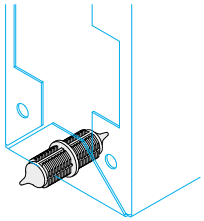
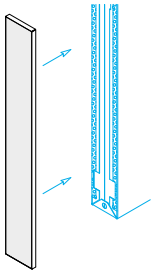
Components | SAS**330A**

	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS310 COMPONENTS					
	Extrusion to emac ofset hanger bracket	120	21	N/A	N/A
	Emac hanger with side holes to allow pins connection	Varies	18	N/A	N/A

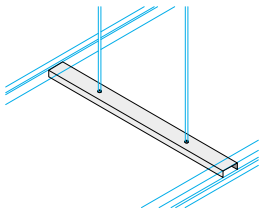
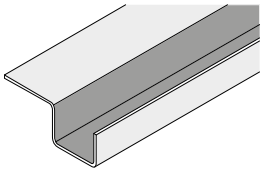
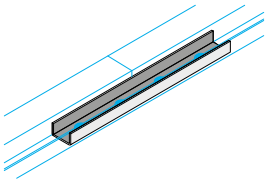
Components | SAS**500**

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS500 COMPONENTS						
	Carrier Rail (Keyway Holes at 100mm Centres) **Note** For use with continuous one-way runs	–	38	3000	Mill	1 no.
	Carrier Rail (Keyway Holes at 100mm Centres) **Note** For use with individually suspended baffles to specification	–	38	Made to Order	Mill	1 no.
	Hanging Bracket	–	17	119	Mill	1 no.
	Hanging Bracket	–	17	119	RAL 9005 (30%)	1 no.
	Carrier Splice	–	64.2	150	Mill	1 no.
	Clamping Plate	–	–	–	Mill	100 no.
	M6 Coach Bolt	–	–	–	–	100 no.

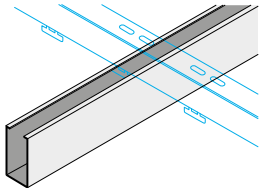
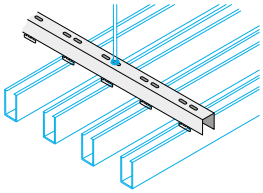
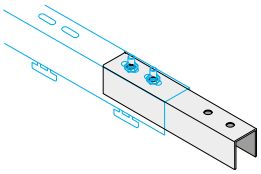
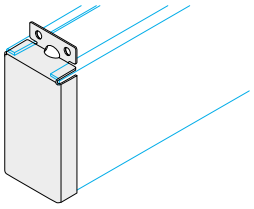
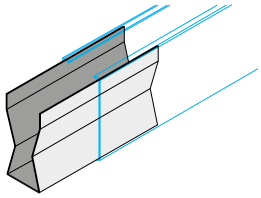
Components | SAS**500**

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS500 COMPONENTS						
	M6 Washer	–	–	–	–	100 no.
	M6 Locking Nut	–	–	–	–	100 no.
	Fir Tree	–	1	35.75	–	100 no.
	End Plate	–	To Suit	To Suit	To Suit	1 no.

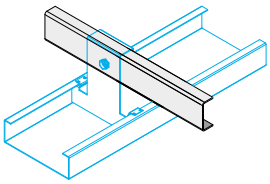
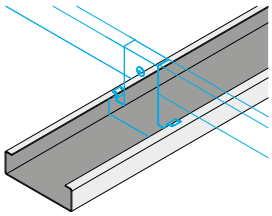
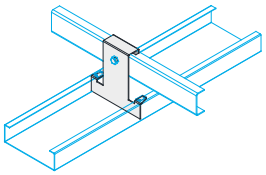
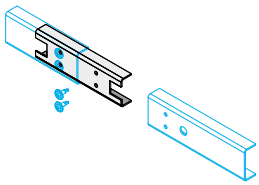
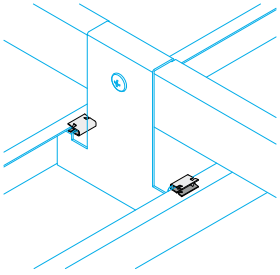
Components | SAS**600**

	Item Description	Size (mm)	Length (mm)	Colour (% Gloss)	Units
SAS600 COMPONENTS					
	Support Channel	50	To Suit	Mill	1 no.
	Support Channel (width to suit)	50	To Suit	Mill	1 no.
	Saucepan J-Bar	60x20	3000	Mill	1 no.
	Saucepan J-Bar Splice	35x12	150	Mill	100 no.

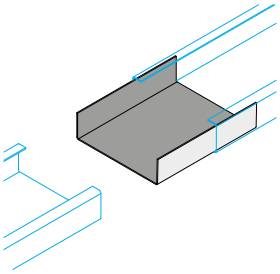
Components | SAS**700**

	Item Description	Size (mm)	Length (mm)	Colour (% Gloss)	Units
SAS700 COMPONENTS					
	Steel Profile	60x30	3000	RAL 9003 (20%)	1 no.
	Steel Profile	80x30	3000	RAL 9003 (20%)	1 no.
	Carrier Profile **Note** Centres to suit. Min. 90mm centres	30	2964	RAL 9005 (30%)	1 no.
	Carrier Splice	30x27	150	RAL 9005 (30%)	100 no.
	End Plate	60x30	–	RAL 9003 (20%)	1 no.
	End Plate	80x30	–	RAL 9003 (20%)	1 no.
	Profile Splice Extrusion	60x30	100	Mill	100 no.
	Profile Splice Extrusion	80x30	150	Mill	100 no.

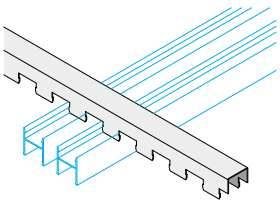
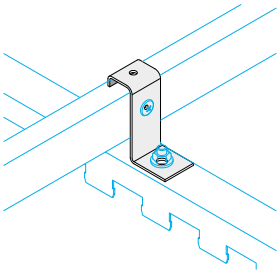
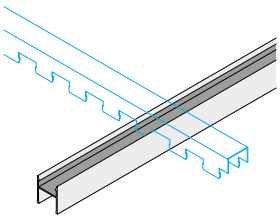
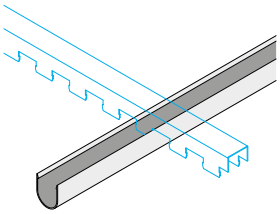
Components | SAS**720**

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS720 COMPONENTS						
	Emac Grid (Clinch Nut at 200mm)	–	30	3000	RAL 9005 (30%)	1 no.
	C-Profile (Without Notches and Paint Holes)	–	100	3000	RAL 9003 (20%)	1 no.
	C-Profile Bracket	–	97	97	RAL 9005 (30%)	100 no.
	Carrier Splice	35.5x12	38	150	RAL 9005 (30%)	100 no.
	Edge Clip	–	13	9	Black	100 no.

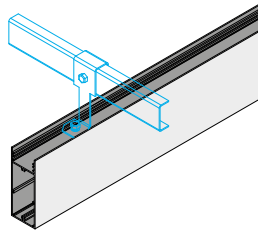
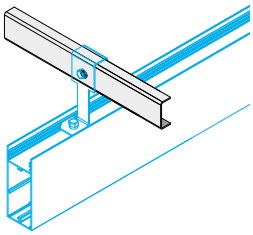
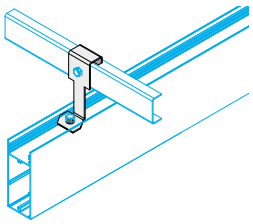
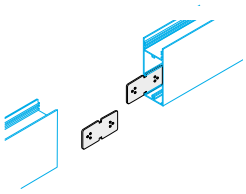
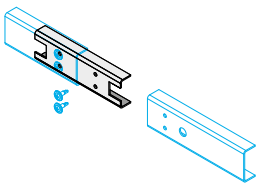
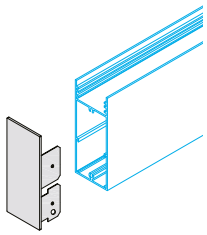
Components | SAS**720**

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS720 COMPONENTS						
	C-Profile Splice	–	100	150	Mill	100 no.

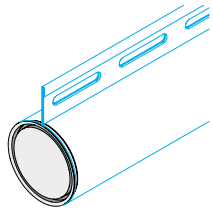
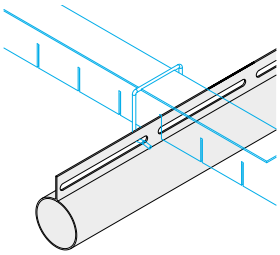
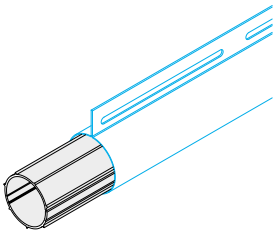
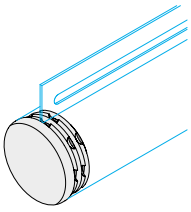
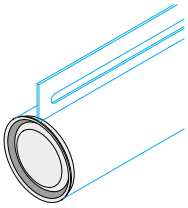
Components | SAS**730**

	Item Description	Size (mm)	Length (mm)	Colour (% Gloss)	Units
SAS730 COMPONENTS					
	H-Line Carrier Centres	50x30	3000	RAL 9005 (30%)	1 no.
	U-Line Carrier Centres	50x30	3000	RAL 9005 (30%)	1 no.
	Hook Over Bracket	55x25	–	RAL 9005 (30%)	100 no.
	H-Profile (TCA 1170)	30	3000	–	1 no.
	U-Profile (TCA 1165)	30	3000	–	1 no.

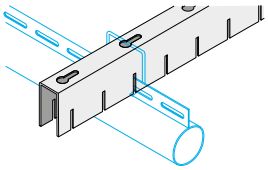
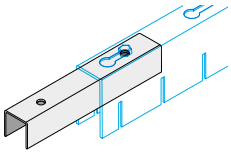
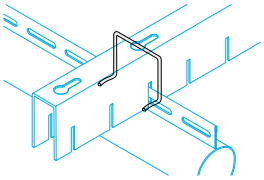
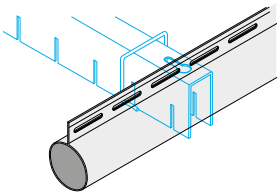
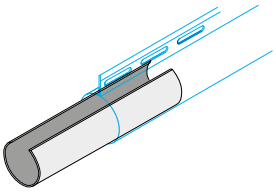
Components | SAS**740**

	Item Description	Size (mm)	Length (mm)	Colour (% Gloss)	Units
SAS740 COMPONENTS					
	One-way Profile	100x40	3000	RAL 9003 (20%)	1 no.
	Slotted Emac Grid (150mm Centres)	38x16	3000	RAL 9005 (30%)	1 no.
	Hanger Bracket (Long – with tiles)	36x90	–	RAL 9005 (30%)	100 no.
	Hanger Bracket (Short - without tiles)	36x65	–	RAL 9005 (30%)	100 no.
	TCP 180 Splice Plate	37x50	–	Mill	100 no.
	Carrier Splice	35.5x12	120	RAL 9005 (30%)	100 no.
	End Plate	100	40	RAL 9003	On Request

Components | SAS**750** Tubeline

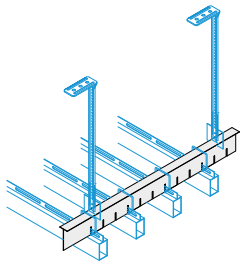
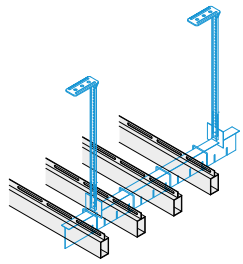
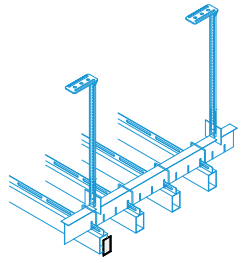
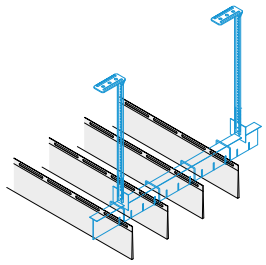
	Item Description	Tube Centres (mm)	Length (mm)	Colour (% Gloss)	Units
SAS750 COMPONENTS – STEEL					
	50mm Steel Flat End Cap	–	–	RAL 9003 (20%)	1 no.
SAS750 COMPONENTS – ALUMINIUM – EXTERNAL					
	25mmØ Tube Aluminium*	–	3000	RAL 9003 (20%)	1 no.
	50mmØ Tube Aluminium *	–	3000	RAL 9003 (20%)	1 no.
	25mmØ SAS750 Splice	–	–	Mill	100 no.
	50mmØ SAS750 Splice	–	–	Mill	100 no.
	25mmØ Plastic End Cap*	–	–	White	1 no.
	50mm Aluminium Flat End Cap	–	–	RAL 9003 (20%)	1 no.

Components | SAS**750** Tubeline

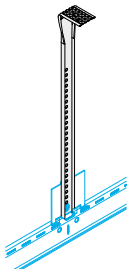
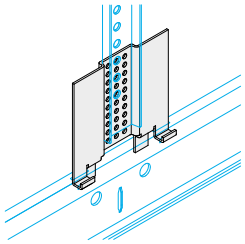
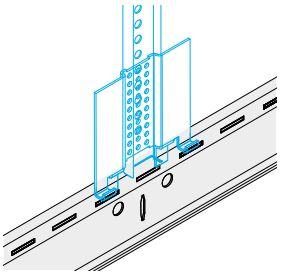
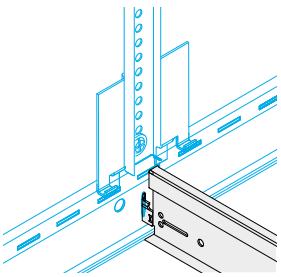
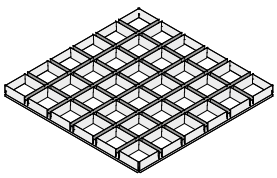
	Item Description	Tube Centres (mm)	Length (mm)	Colour (% Gloss)	Units
SAS750 COMPONENTS – STEEL					
	Universal carrier notched – Universal at 50mm centres	50	3000	RAL 9005 (30%)	1 no.
	SAS750 Splice	–	–	RAL 9005 (30%)	100 no.
	Wire Clips	–	–	RAL 9005 (30%)	100 no.
	50mmØ Tube Steel*	–	3000	RAL 9003 (20%)	1 no.
	50mmØ SAS750 Splice	–	–	Mill	100 no.

*Other colours are available, see page 28 for further details

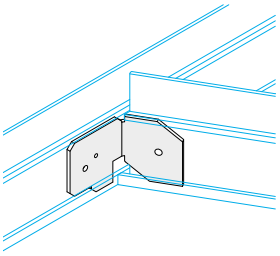
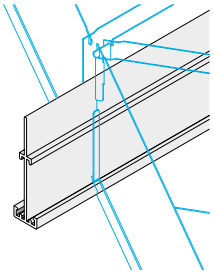
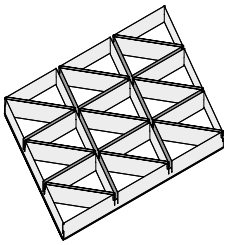
Components | SAS**750** Boxline / Vertiline

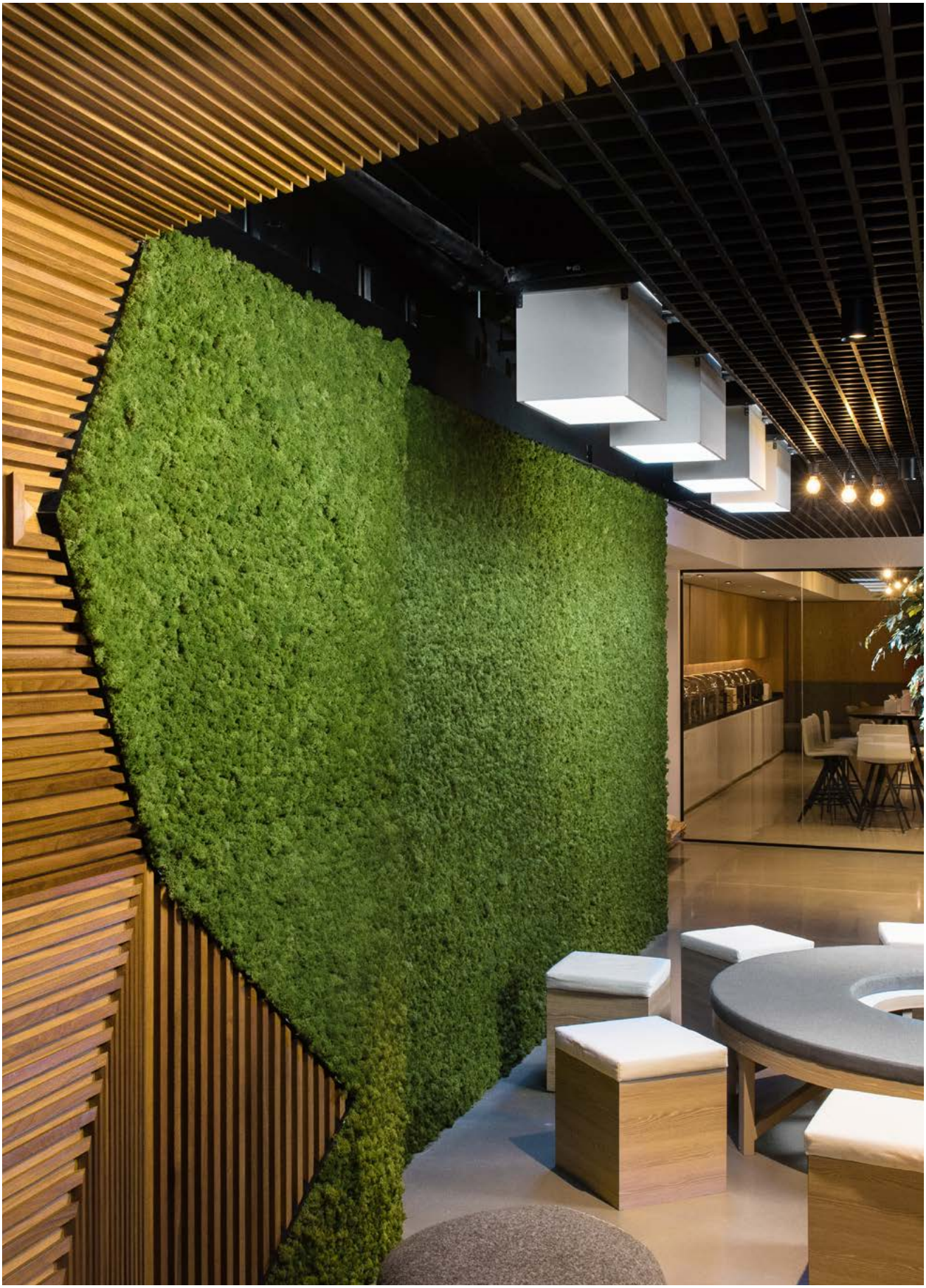
	Item Description	Length (mm)	Width (mm)	Colour (% Gloss)	Units
SAS750 COMPONENTS					
	TCA 0219 Carrier	3000	40	RAL 9005 (as standard)	N/A
	SAS750 Boxline Profile	-	-	-	-
	70 x 40mm	3000	40	RAL 9003 (20%) as standard	N/A
	25 x25mm	3000	25	RAL 9003 (20%) as standard	N/A
	22 x 88mm	3000	22	RAL 9003 (20%) as standard	N/A
	SAS750 Boxline End Caps				
	70 x 40mm	-	40	RAL 9003 (20%) as standard	N/A
	25 x25mm	-	25	RAL 9003 (20%) as standard	N/A
	22 x 88mm	-	22	RAL 9003 (20%) as standard	N/A
	SAS750 Vertiline Profile				
	Cranked	3000		RAL 9003 (20%)	N/A
	Straight	3000		RAL 9003 (20%)	N/A

Components | SAS**800** Trucell

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS800 TRUCELL COMPONENTS						
	Emac Hanger	–	Varies	Varies	Mill	100 no.
	Emac Hanger Bracket	50x50	–	–	Mill	100 no.
	SAS Tee Grid T15 Main Runner	–	15	3000	White	20 no.
	SAS Tee Grid T15 Cross Tee	–	15	600	White	60 no.
	SAS Tee Grid T15 Cross Tee	–	15	1200	White	60 no.
	Trucell Panel 50mmx50mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 75mm x 75mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 86mm x 86mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 100mm x 100mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 120mm x 120mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 150mm x 150mm Cell	600x600	–	–	White	15 no.
	Trucell Panel 200mm x 200mm Cell	600x600	–	–	White	15 no.

Components | SAS**810** Tricell

	Item Description	Size (mm)	Width (mm)	Length (mm)	Colour (% Gloss)	Units
SAS810 TRICELL COMPONENTS						
	R/H Splice (120 degrees)	30x36	–	–	Mill	100 no.
	L/H Splice (120 degrees)	30x36	–	–	Mill	100 no.
	Main Runner	–	15	3000	RAL 9006 (30%)	1 no.
	Noggin	–	15	864	RAL 9006 (30%)	1 no.
	Cross Tee	–	15	1743	RAL 9006 (30%)	1 no.
	SAS810 Cellular Tile	–	875	758	RAL 9006 (30%)	1 no.

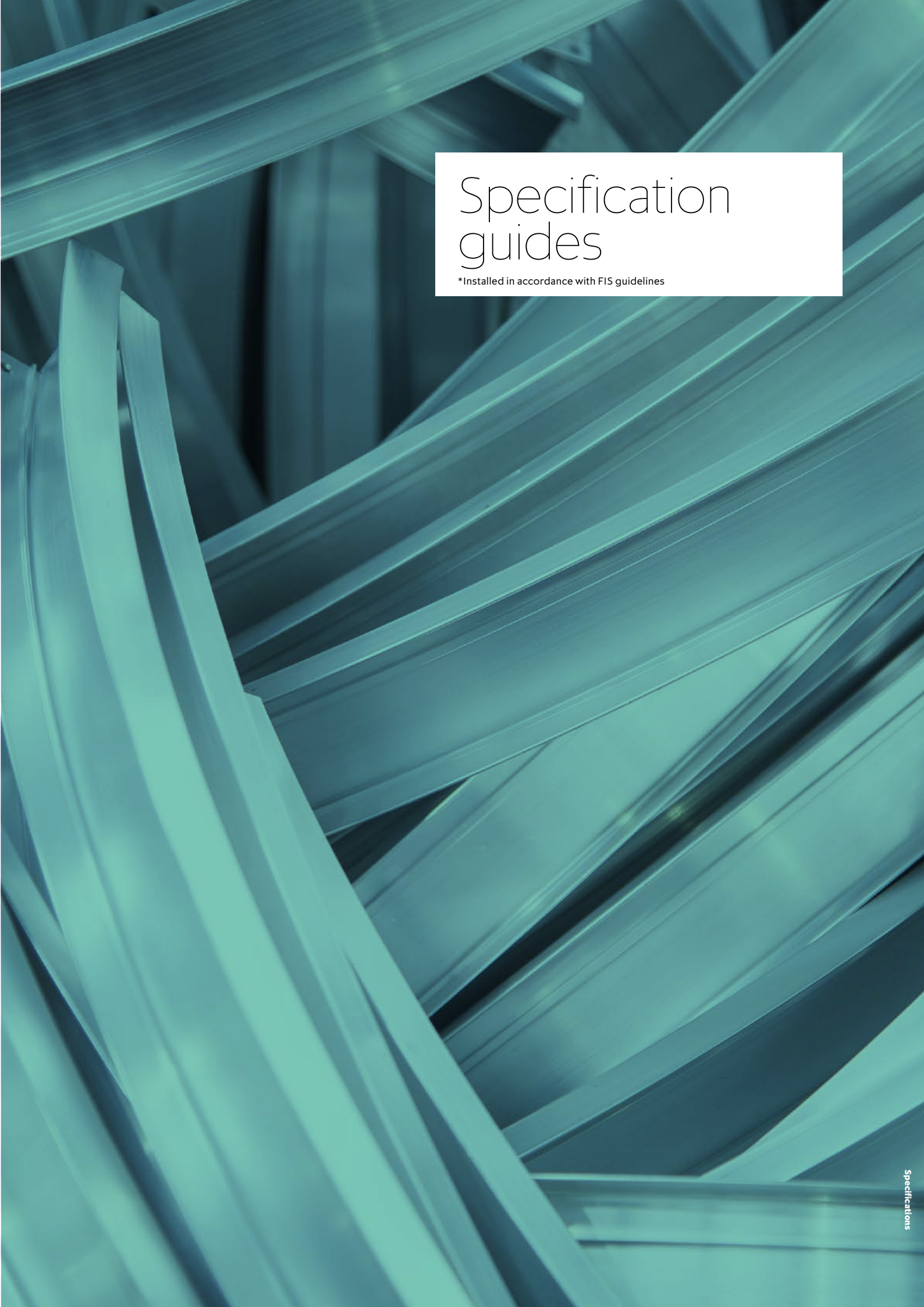


SAS**800**

Smart Dubai

Location
Dubai, UAE
Architect
Bluehaus LLC

Contractor
Summertown Interiors
Purpose
Commercial



Specification guides

*Installed in accordance with FIS guidelines

Specification guides

SAS150

9kg/m²
Based on standard 600 x 600 system and insulation

Joints

Bevel edge (standard) | Butt joint | Square or rectangular grids

System Depth
105mm

Hangers
1500mm centres (1)
1200mm centres (2)

Primary Grid
1500mm centres (1)
1200mm centres (2)

Services
2.5kg
6.0kg

Note Loads in excess of 6.0kg must be supported independently. Nothing must be inserted into the Spring Tee except SAS ceiling tiles.

Maximum load applied to the ceiling tile is **2.5kg** including spreader yokes / SAS pattresses. Loads greater than **2.5Kg** and less than **6.0kg** must be supported by an SAS pattresses.

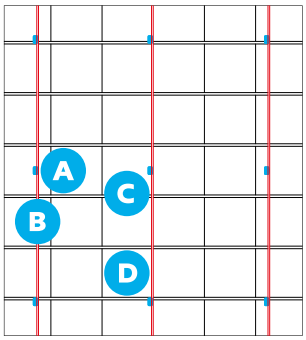
Access
Hinge Downward
Access tool required

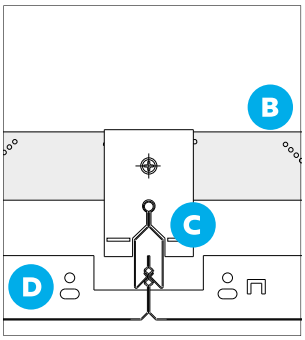
Standard Sizes (mm)

300 x 300	500 x 500
600 x 300	1500 x 500
900 x 300	600 x 600
1200 x 300	1200 x 600
1500 x 300	750 x 750

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B emac Primary channels
C Omega bar
D Tiles

SAS200

10kg/m²
Based on standard 600 x 600 system and insulation

Joints

Square edge | Butt joint or 3mm recessed gaskets | Square or rectangular grids

System Depth
111mm standard J-Bar / 111 deep J-Bar

Hangers
1500mm centres (1)
1200mm centres (2)

Primary Grid
1500mm centres (1)
1200mm centres (2)

Services
3.5kg
6.0kg

Note Loads in excess of 6.0kg must be supported independently.

Maximum load applied to the ceiling tile is **3.5kg** including spreader yokes / pattresses. Loads greater than **3.5Kg** and less than **6.0Kg** must be supported by an SAS pattresses..

Access
Lift & Tilt

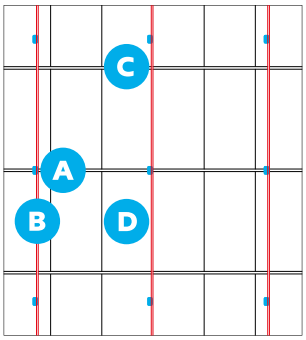
Maximum Sizes (mm)

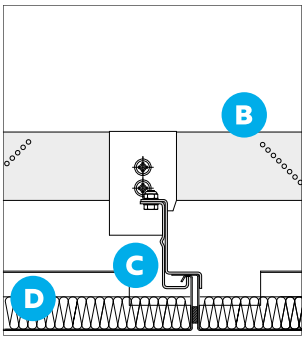
Length (mm)	Width (mm)
2100	600

- Panels made to suit.
- SAS recommend a maximum panels size of 1m² in area to reduce deflection. Panels supported on long edges require deep J-bar.

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B emac Primary channels
C 50mm J-Bar
D Tiles

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS**205**

9kg/m²
Based on standard 600 x 600 system and insulation

Joints

Square edge | Butt joint or 3mm recessed gaskets | Square or rectangular grids

System Depth
60mm

Hangers
900mm centres (1)
600mm centres (2)

Primary Grid
Not required

Services
2.5kg

Note Loads in excess of 2.5kg must be supported independently.

Maximum load applied to the ceiling tile is **2.5kg** including spreader yokes / SAS pattresses.

Access
Lift & Swing Down

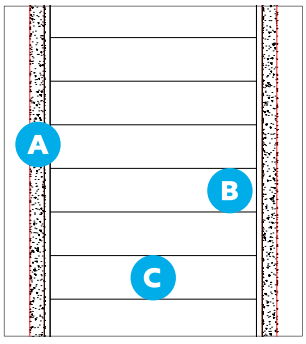
Maximum Sizes (mm)

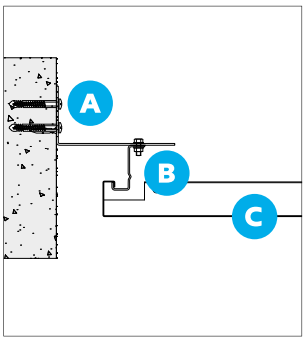
Length (mm)	Width (mm)
2100	600

- Panels made to suit.
- SAS recommend a maximum panels size of 1m² in area to reduce deflection.

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Closure Angle Support
B J-Bar
C Panel

SAS**310**

6.5kg/m²
Based on standard 600 x 600 system and insulation

Joints

Square edge | Butt joint or 3mm recessed gaskets | Square or rectangular grids

System Depth
38mm
50mm

Hangers
1200mm centres

Tee Grid
24mm wide
38mm high

Top Hat
32mm wide
50mm high

Services
6.0kg

Note Loads in excess of 6kg must be supported independently.

Maximum load applied to the ceiling tile is **6.0kg** including spreader yokes / SAS pattresses.

Access
Lift & Tilt

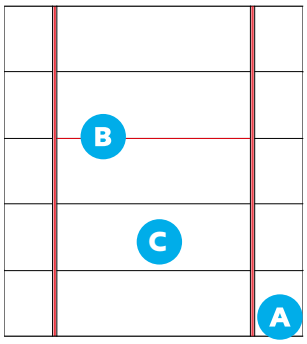
Maximum Grid Sizes (mm)

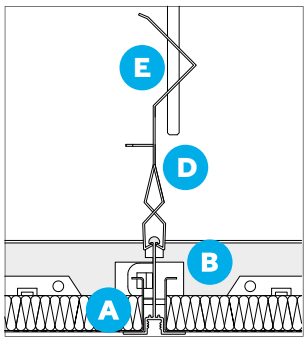
C/R	M/R
1500	1500
1200	1200
600	600

- Panels made to suit.
- SAS recommend a maximum panels size of 1m² in area to reduce deflection.

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Main Runner
B Cross Runner
C Tile
D Suspension Clip
E Threaded Rod (by others)

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS330

14 - 16kg/m²
Based on standard 1500 x 1500 system and insulation

Joints

Square edge | Butt joint or 3mm recessed gaskets | Square or rectangular grids

System Depth
100mm

Hangers
1500mm centres (1)
1200mm centres (2)

Primary Grid
1500mm centres (1)
1200mm centres (2)

Services
7.0kg

Note Loads in excess of 7.0kg must be supported independently.

Maximum load applied to the ceiling tile is **7.0kg** including spreader yokes / SAS pattresses.

Access
Lift & Tilt

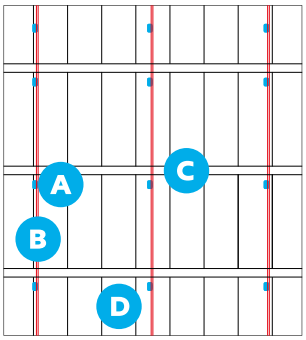
Maximum Sizes (mm)

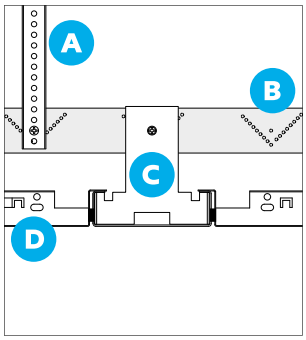
Length (mm)	Width (mm)
3000	1500

- Panels made to suit.
- SAS recommend a maximum panel size of 1 m². Greater sizes can be achieved but may require additional support: Linear Grid: up to 1.2 m² Tartan Grid: up to 1.4m²

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Channel
C C-Profile Suspension
D Tile

Various grid & infill panel options including swing down, coffered, touch latch mega-panels, etc.
≥ 100 wide open ends
> 101 wide closed ends
Maximum 300mm width

SAS330A

14 - 16kg/m²
Based on standard 600 x 600 system and insulation

Joints

Square edge | Butt joint or 3mm recessed gaskets | Square or rectangular grids

System Depth
50mm

Hangers
1200mm centres (2)

Primary Grid
1500mm centres (1)
1200mm centres (2)

Services
7.0kg

Note Loads in excess of 7.0kg must be supported independently.

Maximum load applied to the ceiling tile is **7.0kg** including spreader yokes / SAS pattresses.

Access
Lift & Tilt

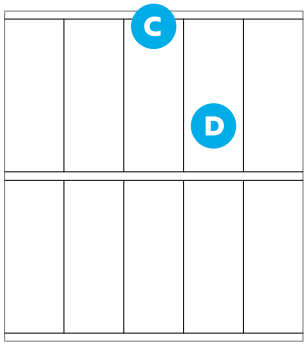
Maximum Sizes (mm)

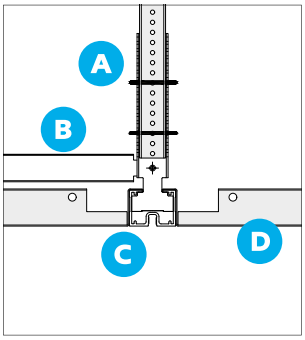
Length (mm)	Width (mm)
3000	1500

- Panels made to suit.
- SAS recommend a maximum panel size of 1 m². Greater sizes can be achieved but may require additional support: One-way Grid: up to 1.2 m² Two-way Grid: up to 1.4m²

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Distancing Profile
C C-Profile
D Tile

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS380

14kg/m²
Based on standard 600 x 600 system and insulation

Joints

System Depth
30-34mm

Hangers
1200mm centres (1)

Primary Grid
1200mm centres (1)

Services
120kg at Grid intersection
60kg within 200mm of hanger

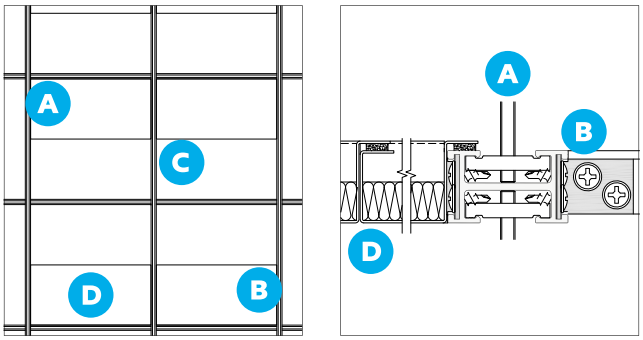
Access
Lift & Tilt

Maximum Sizes (mm)

Length (mm)	Width (mm)
1200	1200

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out

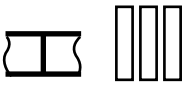


A Hangers
B Aluminium extruded profile
C Aluminium extruded noggin
D Tiles

SAS500 / SAS510

0.73kg/m²
Grid
5.2kg/lm
400mm baffle
Based on standard 1000x400x50 wide

Joints



System Depth
N/A

Hangers
1500mm centres (1)
One-way systems
2No. per baffle
Individual Baffles

Primary Grid
1500mm centres (1)

Services
N/A

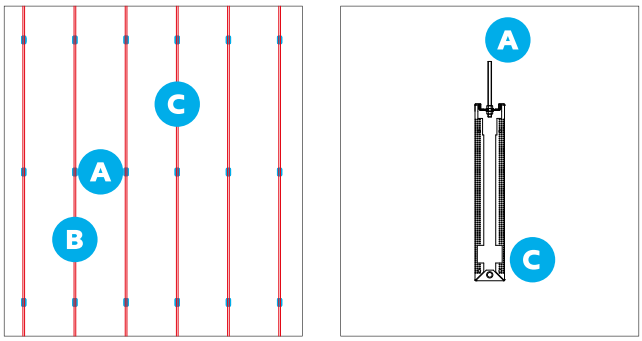
Access
N/A
Open system

Maximum Sizes (mm)

Lengths (mm)	Depth (mm)
1200 / 1500 / 1800	100 - 500
3000	100 - 300

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out



A Hangers
B Carriers (optional)
C Baffles

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS600

6.5kg/m²
Based on standard 1200 x 600 system and insulation

Joints

Bevel edge (standard) | Butt joint | Square or rectangular grids

System Depth
50mm

Hangers
1500mm centres (1)
1200mm centres (2)

Primary Grid
1500mm centres (1)
1200mm centres (2)

Services
7.0kg

Note Loads in excess of 7.0kg must be supported independently.

Maximum load applied to the ceiling tile is **7.0kg** including spreader yokes / SAS pattresses.

Access
Lift & Swing Down
min. space needed in void

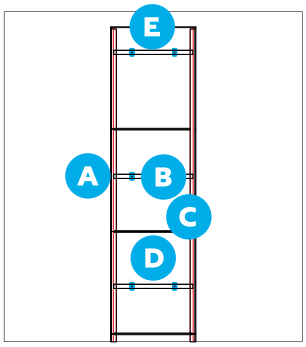
Maximum Sizes (mm)

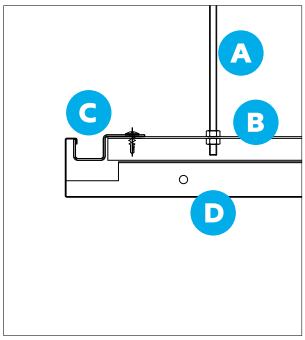
Length (mm)	Width (mm)
3000	1500

- Panels made to suit.
- SAS recommend a maximum panels size of 1m² in area to reduce deflection.

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





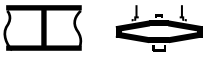
A Hangers
B Channel carriers
C Saucepan J-bars
D Panels

E End panel

SAS610

45kg/item
Based on standard 2500 x 800 x 80 system and insulation

Joints



Butt joints | Joint

System Depth
80mm

Hangers
336mm centres (1)
1220mm centres (2)

Primary Grid
N/A

Services
6kg

Note Loads in excess of 6.0kg must be supported independently.

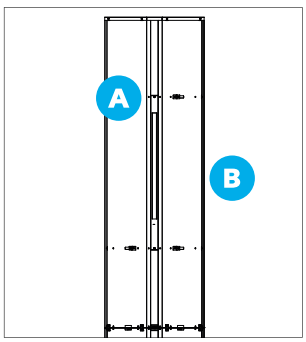
Access
N/A

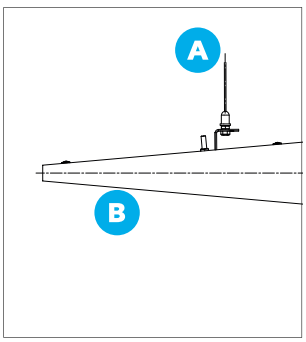
Maximum Sizes (mm)

Length (mm)	Width (mm)
2500	800

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hanger
B Deltawing

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS700

0.73kg/m²
Grid
0.69kg/lm
60mm profile
0.80kg/lm
80mm profile

Joints

Butt joint

System Depth
97 or 117mm

Hangers
1500mm centres (1)
One-way systems

Primary Grid
1500mm centres

Services
Supported independently.

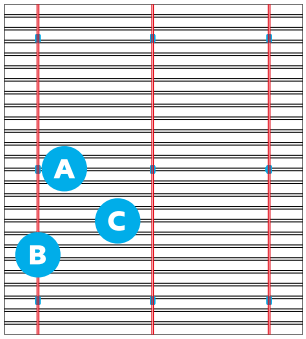
Access
Access Panels

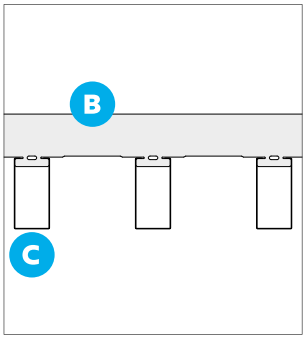
Maximum Sizes (mm)

Length (mm)	Depth (mm)
3000	60 or 95

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

SAS720

1.0kg/m²
Grid
1.4kg/lm
100mm profile

Joints

Spliced or butt joints

System Depth
100mm

Hangers
1200mm centres (1)

Primary Grid
1200mm centres (1)

Services
SAS720 is a robust system able to take additional loads from services, providing their is space to do so.

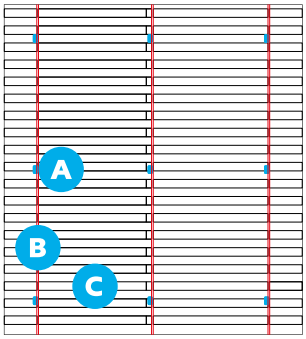
Access
Access Panels

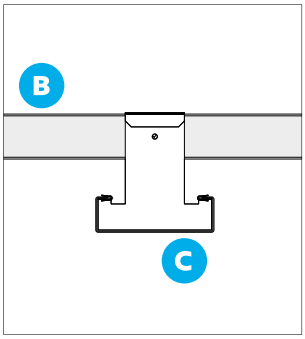
Maximum Sizes (mm)

Length (mm)	Width (mm)
3000	50 - 300

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

≥ 100 wide open ends
> 101 wide closed ends

1 Lightweight installations refer to the ceiling tile and acoustic fleece or pad only. **2** Where the ceiling is expected to support services or upgraded acoustic inlays such as plasterboard or a steel backing plate the loaded installation and the supporting grid should be to the minimum dims shown. Suspension centres should always be considered when applying additional loads. All information from pages 246 - 255 is for guide use only.

Specification guides

SAS730

0.9kg/m²
Grid
0.4kg/lm
100mm profile

Joints

Spliced or butt joints

System Depth
***55* or 111mm**
including sub-grid

Hangers
1200mm centres (1)

Primary Grid
1200mm centres (1)

Services
Supported independently.

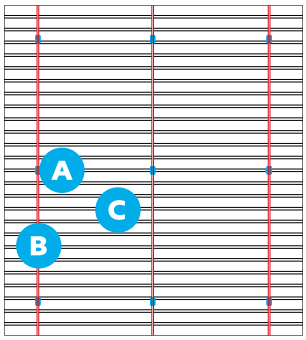
Access
Access Panels

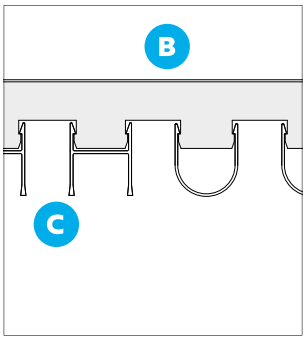
Maximum Sizes (mm)

Length (mm)	Width (mm)
3000	H profile 31
3000	U profile 31

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

SAS740

1.0kg/m² Grid
1.4kg/lm 100x40 profile
1.8kg/lm 165x30 profile
1.2kg/lm 85x15 profile

Joints

Spliced Butt joint

System Depth
Dependent on profile

Hangers
1200mm centres (1)

Primary Grid
1200mm centres (1)

Services
SAS740 has an integrated light as an option. Please see system section.

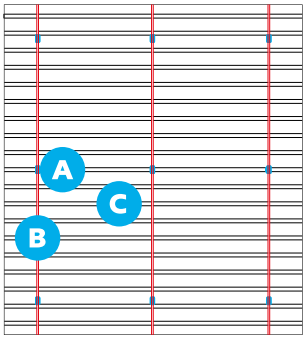
Access
Access Panels

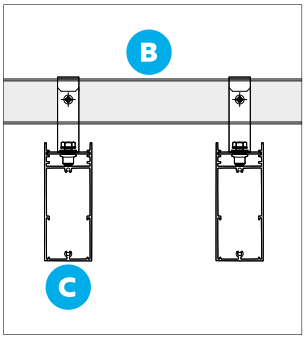
Standard Sizes (mm)

Length (mm)	Width (mm)
3000	40 x 100
3000	85 x 15

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

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Specification guides

SAS**750** Tubeline

3.0kg/m² Grid
0.5kg/lm Ø25
1.0kg/lm Ø50 Steel
50mm Aluminium

Joints

Spliced
Butt joint

System Depth
154mm Dependent on system

Hangers
1500mm max

Primary Grid
1200mm centres (1)

Services

Supported independently.

SAS750 has an integrated light as an option. Please see system section.

Access
Access Panels

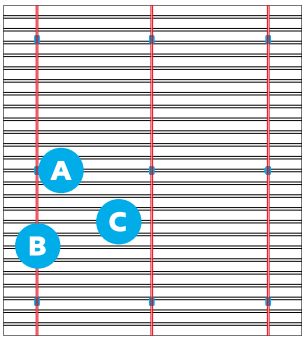
Standard Sizes (mm)

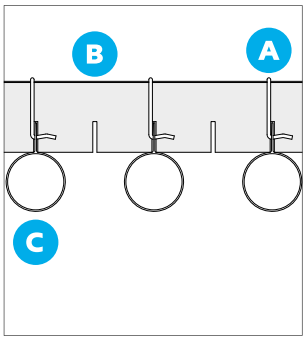
Ø50
Ø25

Acoustics

Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

SAS**750** Boxline / Vertiline

3.0kg/m² Grid

Boxline	Vertiline
1kg/lm 70x40 mm	**0.9kg/lm**
0.5kg/lm 25x25 mm	
1kg/lm 22x88 mm	

Joints

Spliced
Butt joint

System Depth
85mm Dependent on system

Hangers
1500mm max

Primary Grid
1200mm centres (1)

Services

Supported independently.

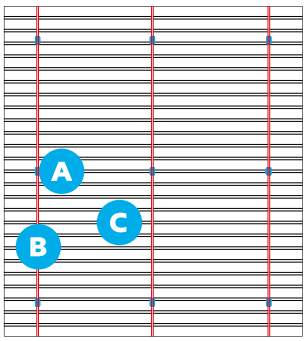
Access
Access Panels

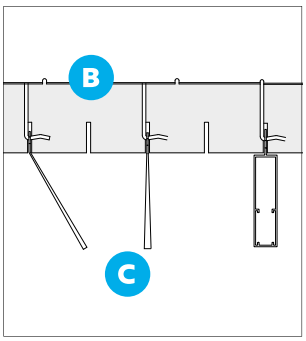
Boxline Standard Sizes (mm)	Vertiline Standard Sizes (mm)
70x40	95mm
25x25	
22x88	

Acoustics

Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Carriers
C Profiles

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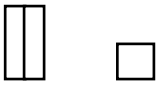
Specification guides

SAS800

2.5kg/m²
Based on standard 600 x 600 system and insulation

Joints



System Depth
39mm

Hangers
1500mm centres

Grid

Widths (mm)	Depths (mm)
15mm 600x600mm	**38mm**

Services
3.0kg
0.36m²

Note Any services supported by the ceiling should not distort or twist the ceiling grid.

Tile **3.0kg** max. Distributed load over **0.36m²** a minimum of 1000mm apart.

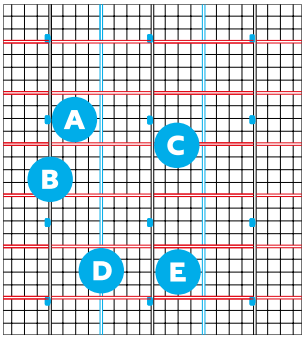
Access
Lift & Tilt

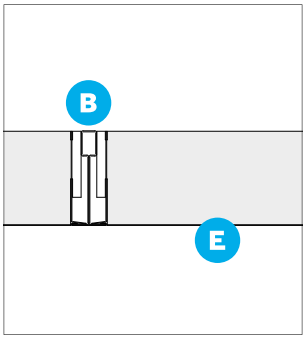
Standard Sizes (mm)
600 x 600
Cell sizes (mm)

50 x 50	120 x 120
75 x 75	150 x 150
86 x 86	200 x 200
100 x 100	

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Main Tee
C Cross Tees
D Noggins
E Tiles

SAS810

2.5kg/m²
Based on standard 876 x 758 system and insulation

Joints

System Depth
80mm

Hangers
1500mm centres

Grid

Widths (mm)	Depths (mm)
15mm 758x758mm	**60mm**

Services
3.0kg
0.36m²

Note Any services supported by the ceiling should not distort or twist the ceiling grid.

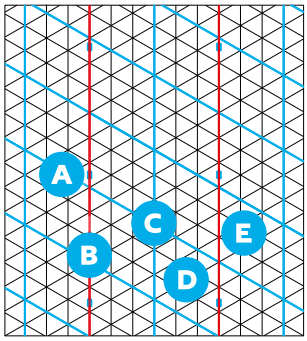
Tile **3.0kg** max. Distributed load over **0.36m²** a minimum of 1000mm apart.

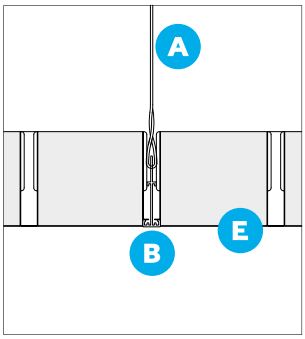
Access
Lift & Tilt

Standard Sizes (mm)
876 x 758
292 x 292 x 292

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B Main Tee
C Cross Tees
D Noggins
E Tiles

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Specification guides

SAS**900**

6kg/m²

Joints

Nodal System

System Depth
87mm

Hangers
1000mm centres (1)
1200mm centres (2)

Primary Grid
866mm centres (1)

Services
2kg

Note loads over 2kg should be supported independently

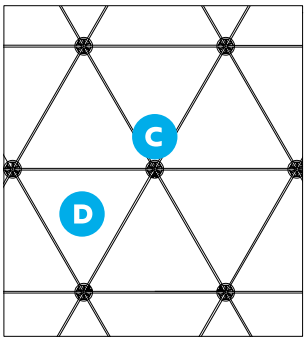
Access
Pull Down & Unhook

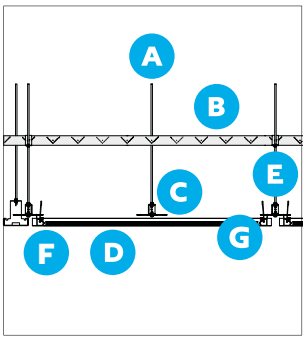
Maximum Sizes (mm)

Length (mm)	Width (mm)
1280	1280

Acoustics
Please refer to the ceiling tile acoustic performance table on page 20.

Setting Out





A Hangers
B EMAC Primary Channels
C Node Plate
D Tiles
E Node Suspension Bracket
F Pivot Bracket
G Torsion Spring

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