

Guide to Fixing and Installing Stratocell® Whisper®

August 2020

Sealed Air®



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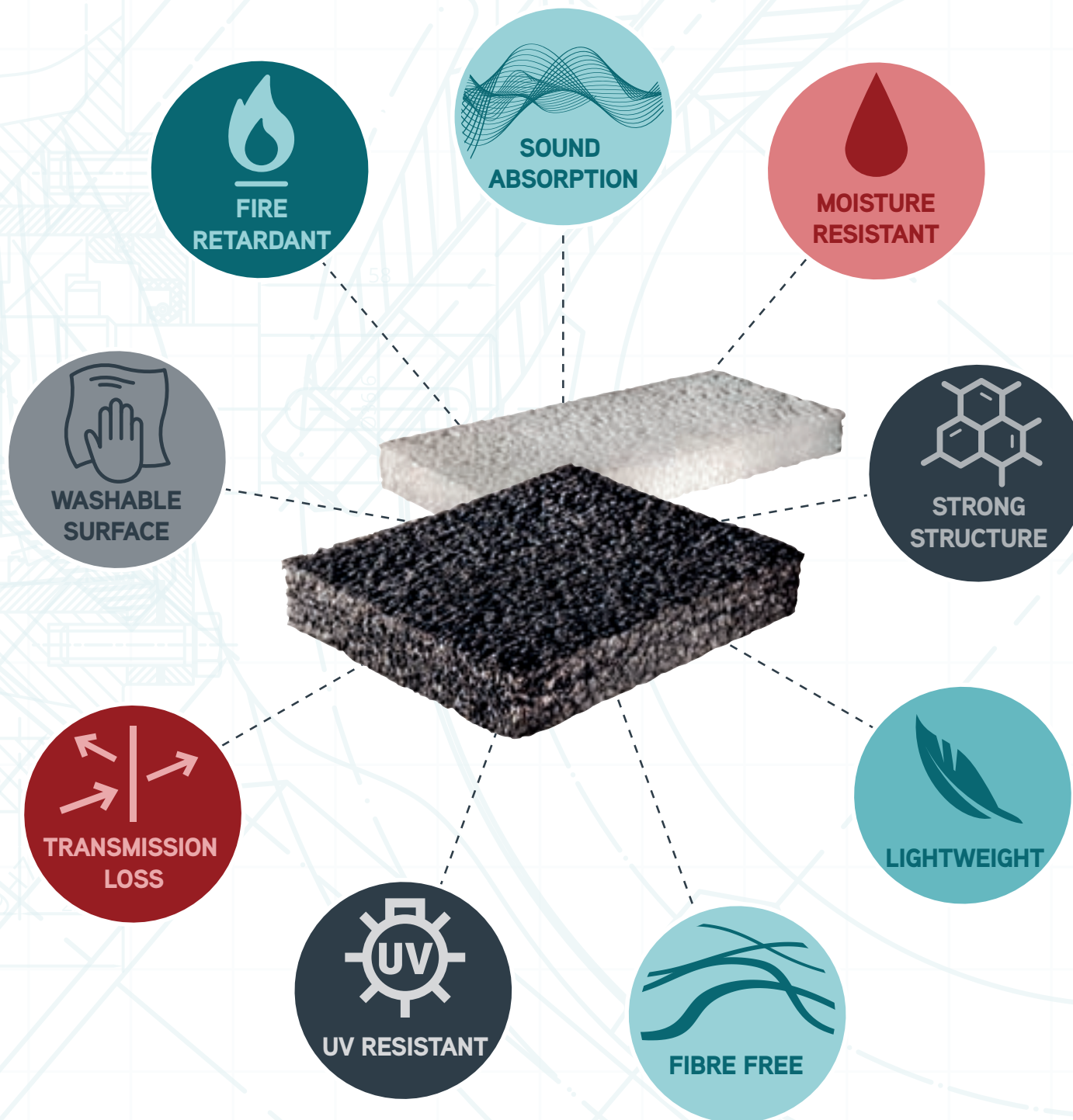
Contact: Michael Turtledove

T: 0409 938 606

E: michael@soundblock.com.au

W: www.soundblock.com.au





INTRODUCTION

Stratocell® Whisper®

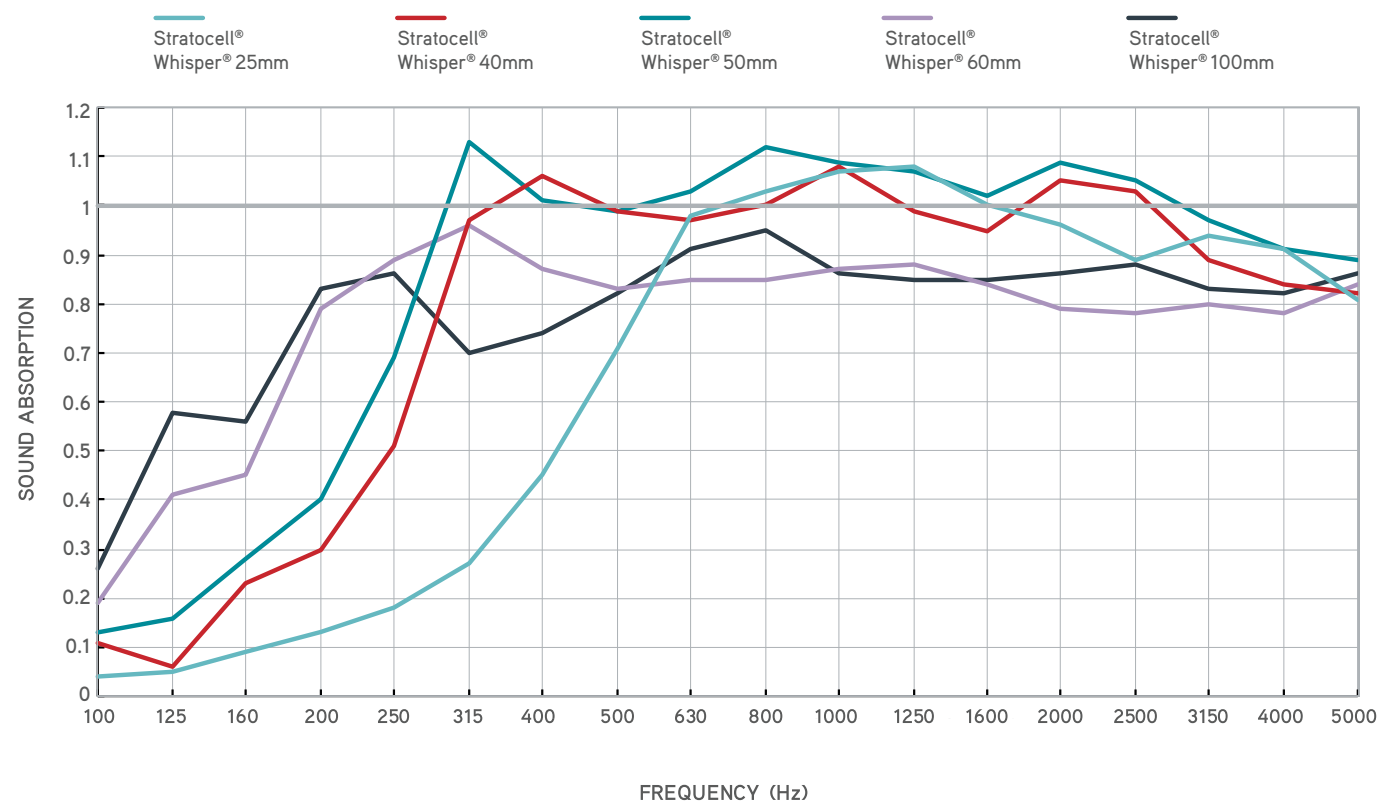
Stratocell® Whisper® is a closed cell polyethylene foam which uses a high performance honeycomb like structure to absorb noise. This durable material remains acoustically 'soft' eliminating the problem of hard reflective surfaces that contribute to reverberation and echo.

If you have challenging conditions to deal with such as, water, moisture, humidity, dirt, dust, ultraviolet light, chlorine and harsh chemicals, then Stratocell® Whisper® is the right acoustic solution for you.

Stratocell® Whisper® is easy to fabricate, light weight, quick to install, and retains its structure in humid environments. Its superior noise reduction qualities are proven in some of the most rigorous applications, such as road and rail traffic and industrial machinery.

Stratocell® Whisper® sound absorbing panels help to safely reduce noise, make music sound better, allow people to speak and hear one another, and contribute to a safer and more productive work environment, indoors, or outside.

Sound Absorption ISO 354



Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	AW	NRC	SAA	Class
Stratocell® Whisper® 25mm	0.04	0.05	0.09	0.13	0.18	0.27	0.45	0.71	0.98	1.03	1.07	1.08	1	0.96	0.89	0.94	0.91	0.81	0.50	0.75	0.78	D
Stratocell® Whisper® 40mm	0.11	0.06	0.23	0.30	0.51	0.97	1.06	0.99	0.97	1	1.08	0.99	0.95	1.05	1.03	0.89	0.84	0.82	0.90	0.90	0.91	A
Stratocell® Whisper® 50mm	0.13	0.16	0.28	0.4	0.69	1.13	1.01	0.99	1.03	1.12	1.09	1.07	1.02	1.09	1.05	0.97	0.91	0.89	1	1	0.98	A
Stratocell® Whisper® 60mm	0.19	0.41	0.45	0.79	0.89	0.96	0.87	0.83	0.85	0.85	0.87	0.88	0.84	0.79	0.78	0.8	0.78	0.84	0.85	0.85	0.85	B
Stratocell® Whisper® 100mm	0.26	0.58	0.56	0.83	0.86	0.7	0.74	0.82	0.91	0.95	0.86	0.85	0.85	0.86	0.88	0.83	0.82	0.86	0.9	0.85	0.84	A



Installer Checklist

Name Company

Project Address..... Date.....



Brochure

☐

Tolerance sheet

☐

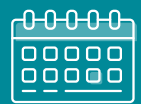
Technical data sheet

☐

Material Safety data sheet

☐

Installation guide

☐Annual inspection
plan set☐Batch codes
recorded

☐

STORAGE & HANDLING CONSIDERATIONS

Stratocell® Whisper® is manufactured in sheets at 1200x2400mm for maximum efficient coverage.

Standard Pack Quantities:

- 100mm: 3 sheets
- 60mm: 6 sheets
- 50mm: 7 sheets
- 40mm: 8 sheets
- 25mm: 14 sheets

Packs are based upon as close as possible to a 1m³ volume, MOQ is typically 10 packs.

Packs are individually labelled with batch codes, where possible retain and record pack label data for reference.

Sustainable, ventilated bags are used to package Stratocell® Whisper® to facilitate curing, as a result of the ventilation holes the bags may rip during rough handling. Wherever possible use a forklift, where manual handling is required, one person at each end of a pack using lifting straps is recommended. Do not leave lifting straps around the pack under tension as this may result in foam compression set.

Do not drag bags across the ground on site.

Stratocell® Whisper® should be stored after shipping horizontally, indoors on a flat surface.

Stratocell® Whisper® should not be exposed to temperatures outside the range of -60-+80°C.

Before you install Stratocell® Whisper® also consult the MSDS & tolerance sheet.

Although it is moisture resistant, Stratocell® Whisper® should not be fully immersed or waterlogged prior to installation.

It is best practice to allow sheets to condition indoors, flat on the floor, free of packaging, at 17-28°C for 2 hours immediately prior to installation. This conditioning will ensure any dimensional change from thermal expansion is minimised.

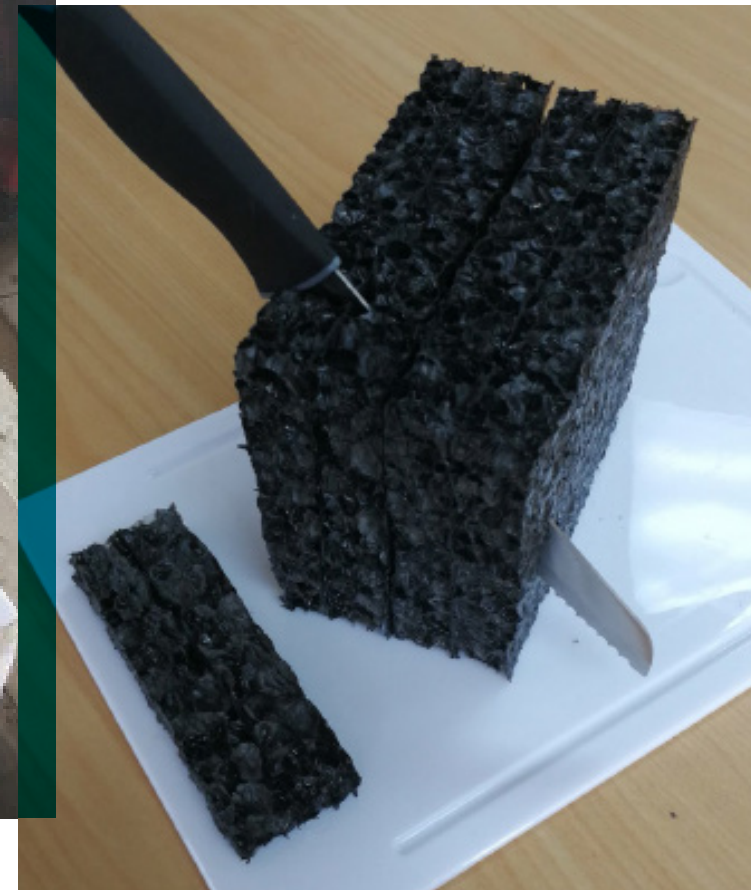
Some surface texture variation is inevitable with this material, try to standardise on material from the same batch to ensure similar appearance.

Cutting Stratocell® Whisper®

Stratocell® Whisper® is very quick and easy to cut around penetrations and openings with conventional methods including:

- Pre-cutting
 - Abrasive wire
 - Die Cut
 - CNC blade
 - Router
 - Waterjet
- Field cutting/trimming
 - Sharp Knife
 - Utility Knife
 - Insulation Saw
 - Insulation Knife

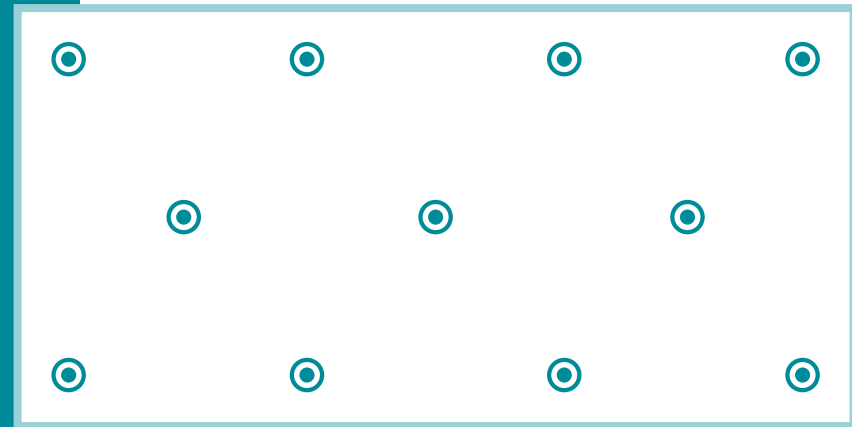
Tidy lines are best made with sharp blades.



Mechanical fastening

For interior wall linings, sheets of 1200mm x 2400mm Stratocell® Whisper® FR may be installed with a suitable mechanical fastener such as Screws or Insul Anchors, in conjunction with Insulation Washers with a minimum head diameter of 15mm, achieving sufficient mechanical penetration to anchor the sheet to the solid substrate or framing. Note that Insul Anchors extending beyond the Insulation Washer should be trimmed, capped or bent to mitigate potential injury. **Always consult the fastener manufacturers recommendations prior to installation to confirm suitability for the environment.**

Sheets should be trimmed & butt jointed to cover the desired surface area. A minimum of 11 fasteners per sheet should be applied or 4 fixings per m²; these should be installed no less than 50mm and no more than 150mm from the edge of the sheet and evenly distributed over the area of the sheet. For example on a standard 1200mm x 2400mm sheet we recommend 4 fasteners along each length, and three fasteners along the middle offset from the edge positions. An alternative evenly distributed layout may be used to fix into battens or framing through plasterboard or soffits or to avoid services or on trimmed or partial sheets.

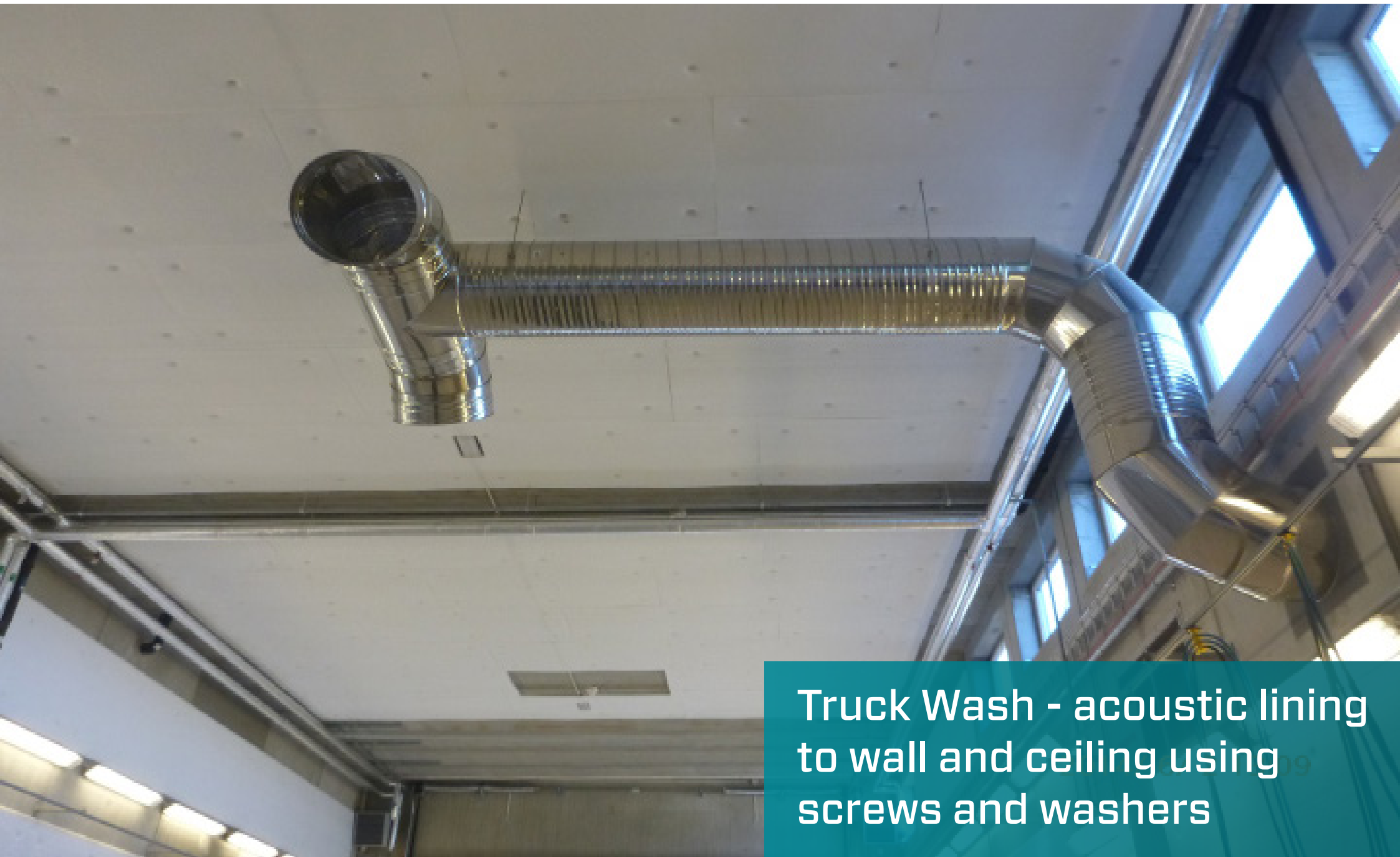


Suggested layout of fasteners
on a 1200 x 2400 sheet

Insul Anchors & Insulation Washers

A wide variety of insulation anchors and insulation locking washers are available in the global market. A minimum head diameter of 12mm is recommended. These fasteners are typically suited only to interior use. Push lockwashers onto the pin until flush with Stratocell® Whisper® sheet then bend the pin over or trim the pin so it does not present a safety risk. Consult manufacturers for details and suitability to the installed environment





Truck Wash - acoustic lining
to wall and ceiling using
screws and washers

Insulation Anchors

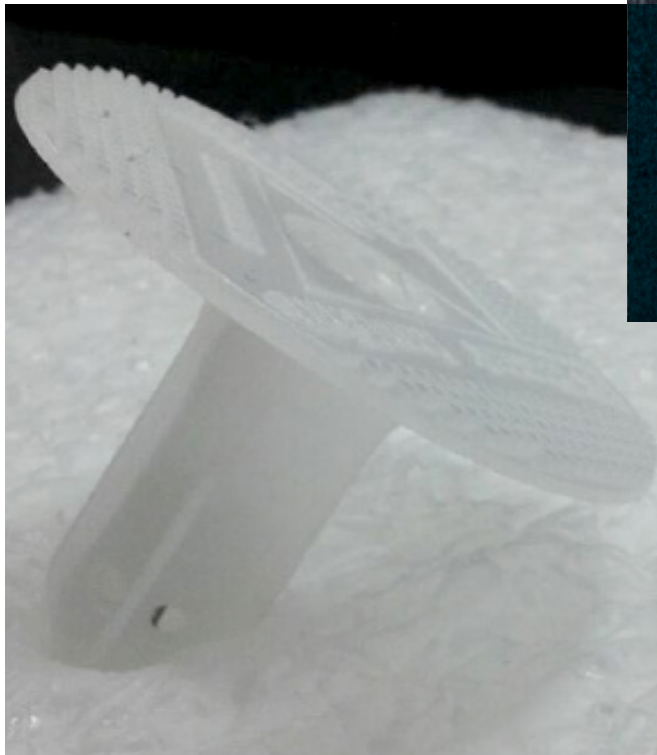
Examples include:

Ramset Insulfast™ & Hilti Insulation Anchors

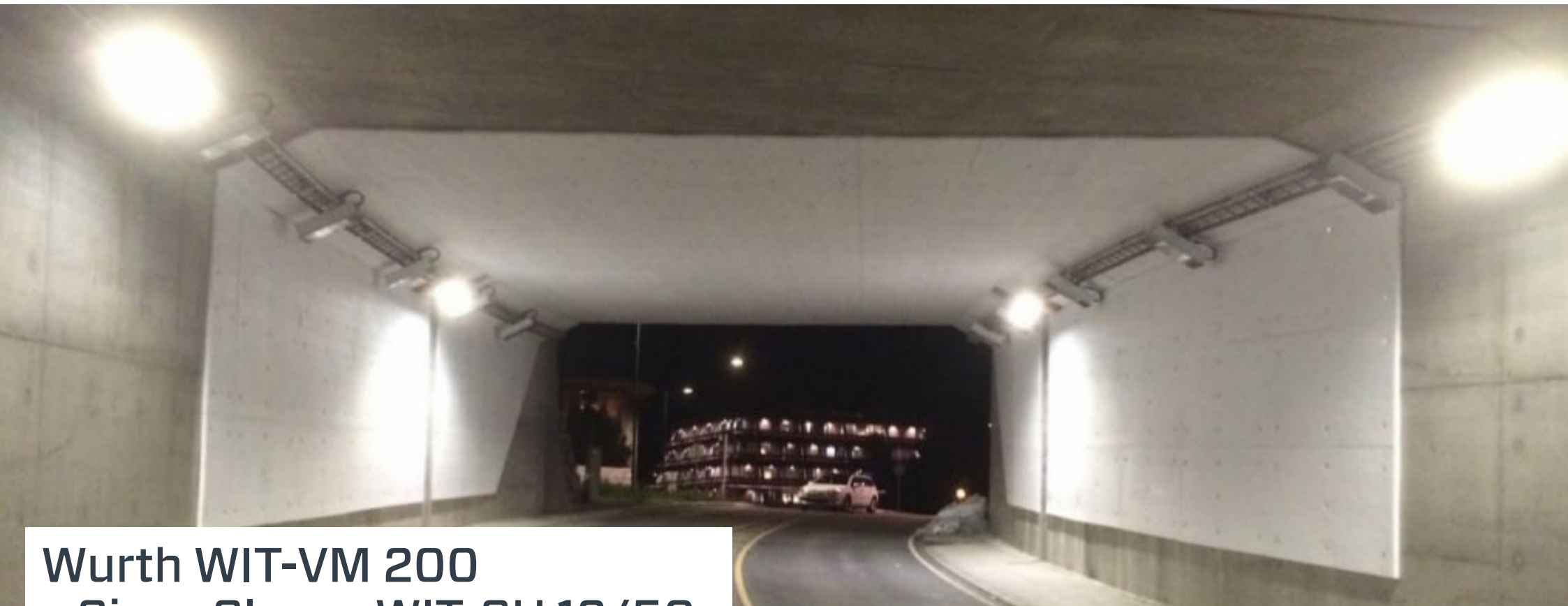
A variety of plastic fasteners and drivers are available in the worldwide market using pneumatic pistols and hammers. This fastener type can speed up installation of foams in construction; known as insulation anchors, cobb plug dowels, or spankers. Those with a head diameter of 25mm or more can be used, evenly distributed across the surface of the sheet.

Consult the fastener manufacturer for instruction, suitability and fixing method for your particular application.

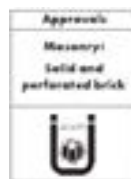
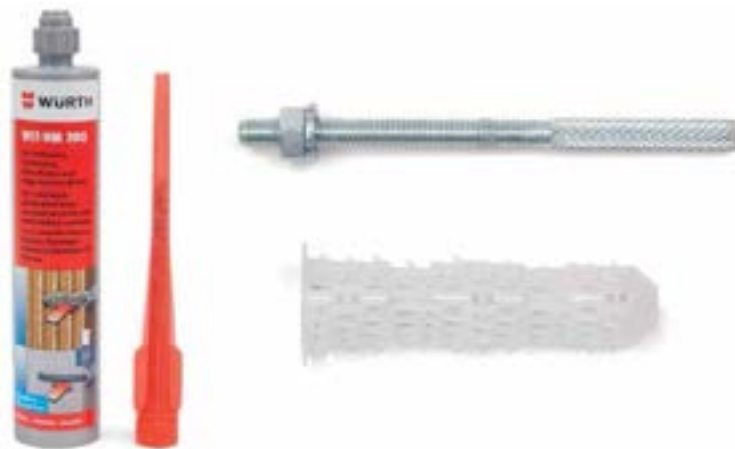
Be sure to include details such as environmental conditions, material thickness and substrate and identify and mitigate corrosion risks.



Sodar Wind Profiler



Wurth WIT-VM 200 + Sieve Sleeve WIT-SH 12/50



Advantages

- Safe anchoring in solid and perforated bricks
- The anchor may also be anchored in masonry joints
- No spreading effect, enabling small edge and axial distances to be complied with
- Cartridge can be used up to expiration of the best before date by replacing the static mixer or by being closed again with the sealing cap
- Consult manufacturer for options and suitability for a specific project or application and further installation instructions

Interior Hanging Baffles

Stratocell® Whisper® 2205 stainless steel corkscrew fittings can be used to fix the product to droppers or rigging wires for hanging baffles. If corresponding fittings are not also 2205 stainless, isolate the corkscrew from the fitting with a non-conductive material to prevent galvanic corrosion.

Corkscrews should extend at least 25mm into a 50mm thick sheet. When fitted to either the short or long edge of the sheet, at least one fitting per 450mm is recommended to prevent sagging. Always close and lock the corkscrew loop to prevent fall during earthquakes or impact.

Corkscrew fittings can be fitted to faces of the sheet with at least two fasteners per square metre recommended and to support no bigger than a 450mm span without additional framing.

A drilled ABS profile can be used to maintain straight lines however this is not always necessary. It is a good measure to prevent water getting into the open vertical cell structure from the top if designers anticipate frequent splashing or rain.

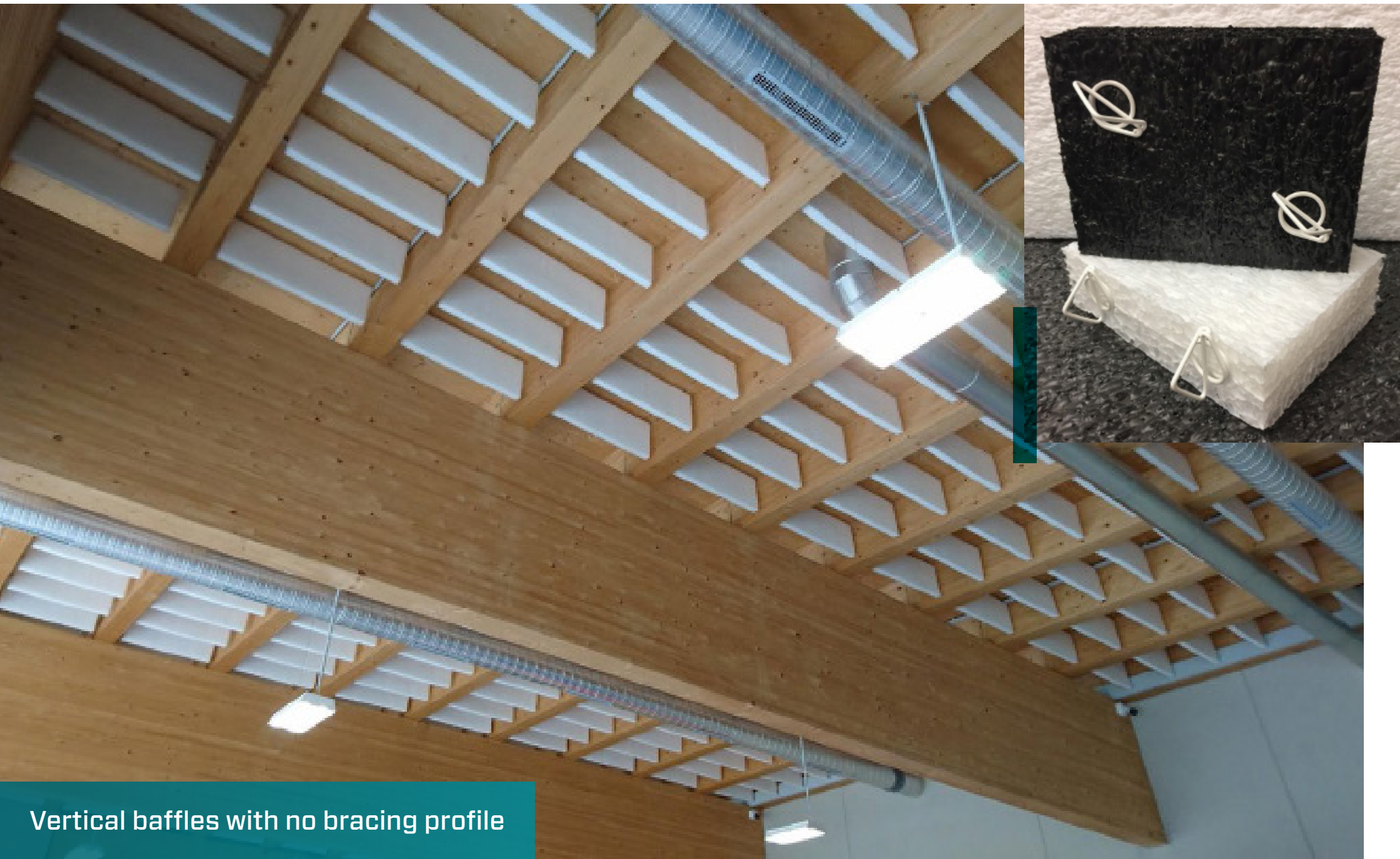
The more face & perimeter area left exposed, typically the greater the absorption of the installation.

Slight curvature in sheets can usually be removed by bending them in the opposing direction, and repeating the conditioning step.



Corrosion Resistant Corkscrews with White ABS Plastic U Channels
Location: Otaki Swimming Pool, New Zealand





Vertical baffles with no bracing profile

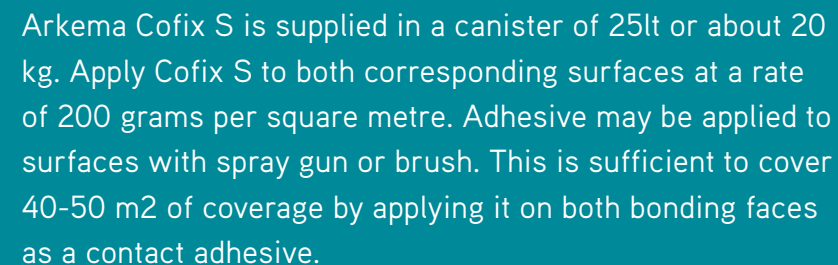


Ceiling Rafts at Hogs Breath Café, Australia

Corkscrew fittings used in 50mm Whisper FR

For ceiling rafts, it is best practise to build a supporting frame to hold the sheet flat, drill 30mm holes in the frame to enable a corkscrew to penetrate through the frame into the foam. Sagging may be observed on spans greater than 450mm unsupported.

Secure to the frame with corkscrew fittings, at least 4 will be required per square metre.



The application using a spray gun instead of brush may optimise the quantity applied.



Adhesives - Bostik



Bostik Supertak HS is a high performance adhesive, tested by Bostik for adhering Stratocell® Whisper® to common non-porous construction materials.

Bostik recommend Bostik Supertak HS for adhesion to Colorsteel Endura paint surfaces such as SIP panel systems & for adhesion to concrete, such as tilt slab materials.

Follow all instructions carefully being sure to apply 80GSM wet weight to each surface.



OTHER ADHESIVES

Two Component Adhesive

Henkel Loctite 3090 ideal for high bond strength to small articles

Solvent-based Adhesive

Spray adhesive 77 from 3M

3M Hi-Strength 90 – Spray Adhesive

For Best Results:

- Follow the adhesive manufacturers instructions
- Apply to clean, dry, surfaces
- If there is dust present on any of the surfaces it may be removed with either a clean microfibre cloth or a broom prior to installation
- Porous surfaces can be primed to promote adhesion
- Coat weights in excess of 80gsm work well for solvent adhesive options

Silane, or polyester based tube or gun adhesives are incompatible with Stratocell® Whisper®

Whispertape - Danco 6657

A double sided tape with an aggressive pressure sensitive adhesive tailored to low surface energy plastics; for fast, low cost DIY installation of Stratocell® Whisper® FR to clean, dry and dust free interior applications.

Consult the separate Danco 6657 Whispertape Installation Guidelines for further advice.



STRATOCELL® WHISPER® FR TIPS

Framed sheets look great!

The face of Stratocell® Whisper® should face the noise source, a screen or any covering may effect performance, if in doubt seek advice from an acoustic engineer.

Whisper works well as an LED Panel Diffuser

If Stratocell® Whisper® is used in a wet environment, sufficient air movement, temperature and humidity differential must exist to enable it to dry periodically.

Stratocell® Whisper® is unaffected by most common solvent free cleaning products, if you are concerned about chemical damage please contact Sealed Air or your supplier for advice.

It is best practice to allow sheets to condition indoors, free of packaging, at 17-28°C for 2 hours immediately prior to installation.

LED panel lamp, colored stage lighting
gel behind 25mm FR



STRATOCELL® WHISPER® UV TIPS

Stratocell® Whisper® should face the noise source, a screen or any cover may effect performance.

Always install sheets vertically; Stratocell® Whisper® is not a roofing material, cladding or moisture barrier.

Cap sheets with a profile or flashing to prevent water coming into the open cells at the upper sheet edge in particular for outdoor wall mounting.

In noise wall applications seal around holes and gaps to minimise paths for sound to escape through, check for these at night with the aid of a torch.

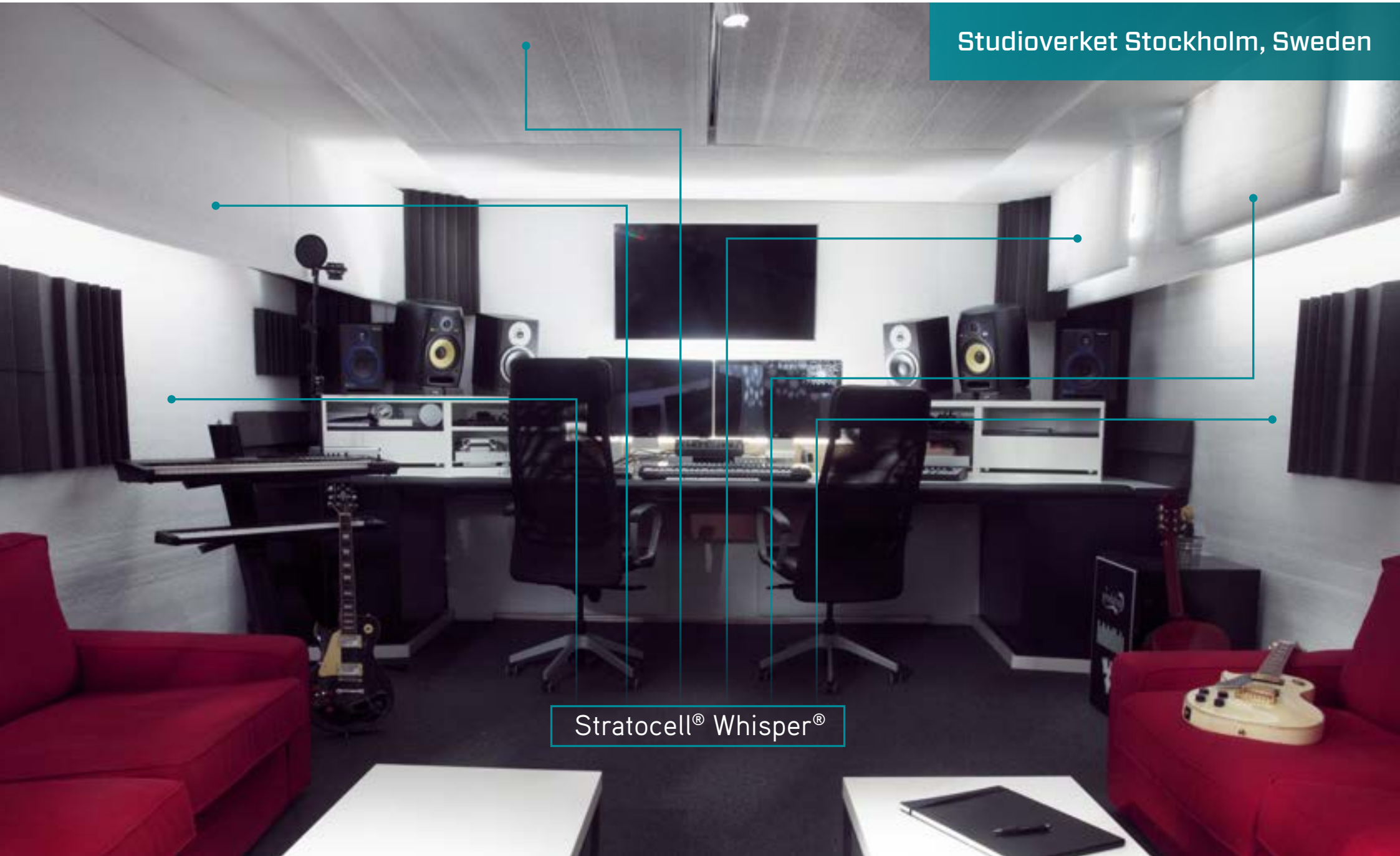
Improve the transmission loss of a wall by using a dense acoustically reflective material behind Stratocell® Whisper®.

It is best practice to allow sheets to condition indoors, free of packaging, at 17-28°C for 2 hours immediately prior to installation.

Sheets can expand up to 3% dimensionally between -60-+80°C in outdoor conditions.



Studioverket Stockholm, Sweden



Stratocell® Whisper®