



T&R PRODUCTS

ACOUSTIC SOLUTIONS





PLEASE NOTE

T&R Interior Systems rely on a range of testing reports, both international and local - and label our products to the best of our knowledge.

We are committed to honest reporting and believe in constantly re-testing and checking the data that we have.

We regularly update our technical documents, datasheets and website with the latest testing (some older printed literature may have incorrect numbers on them). Please check the website for the latest datasheets, this will always be the most up to date.

www.tris.co.nz

Please contact us if you have any questions or wish to discuss testing.

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PHONIC

ACOUSTIC CEILING TILES



PRODUCT RANGE

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PHONIC

ACOUSTIC CEILING TILES

PHONIC ABSORB

High Performance Acoustic Ceiling Tile



High Absorption



Hygrothermal



Hygiene



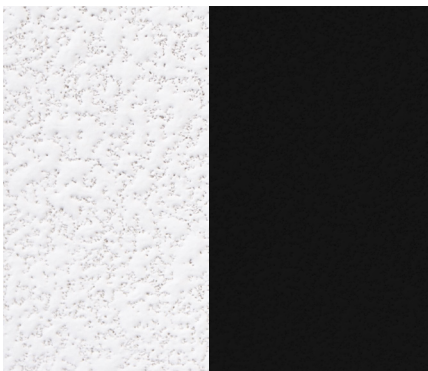
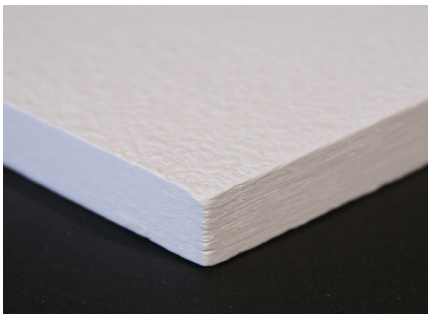
Fire Test Group-15



Lightweight Tile



Glasswool



PRODUCT SUMMARY

Phonic Absorb is a glass wool tile with a refined white painted, monolithic, pre-finished face:

- High Noise Reduction Coefficient (NRC) efficiently reduces Reverberation Time.
- Mid-range tile suitable for exhibit halls, museums, medical centres, offices, classrooms, receptions, meeting rooms and other commercial interiors.
- Phonic Absorb is also available in black. Can be matched with black CBI Grid for a sleek and sophisticated ceiling. Can also be integrated with black GridLux lights.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and the tile meets Cleanroom ISO Class 3.
- Constructed from 90% dry felt resin bonded glass-wool, utilising longer fibres in a more compact fibre arrangement. This non-absorbent, non-water soluble design gives Phonic Absorb improved durability when compared to mineral fibre.
- The high density glass-wool tile achieves a density of 100kg/m³. This results in a light weight, high performance ceiling tile which is user friendly and ideal for use in large spaces. It won't sag or pillow.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

PHONIC ABSORB

High Performance Acoustic Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Light Reflectance	LR 87% +	ASTM E1477-98
Density	100kg/m ³	
Fire Test - ISO 5660 Part1	Group 1-S 	Cone Calorimeter NZBC C/VM2 Appendix A
Cleanroom	ISO Class 3	ISO 14644.3:2015
Moisture Rate	≤ 1 %	JC/T 670 – 2005
Thermal Resistance	≥ 0.4 (m ² -k/w)	ASTMC 423
Antimicrobial	(any result <1000 is considered low)	

Sample	Total Bacteria per 10cm ²	Total Actinomycetes per 10cm ²	Total Yeast per 10cm ²	Total Fungi per 10cm ²
Tile 1	10 Staphylococcus aureus 100%	<10	<10	30 Cladorsporium 34%, Penicillium 33%, Non- sporing fungus 33%
Tile 2	<10	<10	<10	10 Penicillium 100%

Size	15mm, 20mm, 30mm and 40mm* Depth Square Edge, Reveal Edge, Direct Fix (20mm and 40mm* only) *Concealed, [600 x 600] [1200 x 600] *[2400 x 600] *[2400 x 600] *[1200 x 300] *[1500 x 300] * Available by indent order. To suit 24mm Grid patterns (Phonic 15mm RE available to suit 15mm grid) Other sizes available on request.
Colour	Black and White

This tile comes with a 30 year lifetime system warranty to withstand conditions up to 40° and 99% relative humidity without visible sag, when used with a T&R Interior Systems branded suspension system. Tiles should be installed in accordance with NZS1170.5 and the grid manufacturer's instructions.

PLEASE NOTE THAT SOME TILES MAY HAVE A LEAD TIME. CONTACT US FOR LEAD TIME OR ALLOW 12 WEEKS FOR DELIVERY. MINIMUM ORDER QUANTITIES MAY APPLY


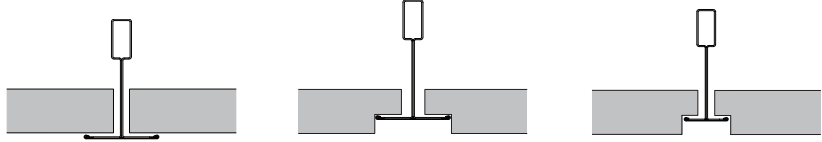
PHONIC

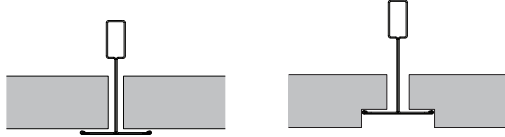
ACOUSTIC CEILING TILES

PHONIC ABSORB

High Performance Acoustic Ceiling Tile



15mm DATA	RESULT	TEST METHOD
Absorption (ISO 354)	NRC 0.85	ASTM C423
	SAA 0.94	ASTM C423
	α_W 0.80	ISO 11654: 1997
Attenuation (ASTM E1414-11A)	CAC 22	ASTM E413-10
Fire Test - ISO 5660 Part1	Group 1-S	Cone Calorimeter
		NZBC C/VM2 Appendix A
Weight	1.5kg per m ²	
Est R Value	R0.4	
Edge Detail		

20mm TEST DATA	RESULT	TEST METHOD
Absorption (ISO 354)	NRC 0.90	ASTM C423
	SAA 1.02	ASTM C423
	α_W 0.90	ISO 11654: 1997
Attenuation (ASTM E1414-11A)	CAC 23	ASTM E413-10
	D _{n,c,w} 23	ISO 717-1
Weight	2.0kg per m ²	
Est R Value	R0.5	
Edge Detail		

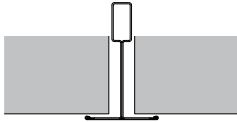
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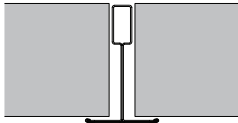
ACOUSTIC CEILING TILES

PHONIC ABSORB

High Performance Acoustic Ceiling Tile



HD (30mm) TEST DATA	RESULT	TEST METHOD
Attenuation (ASTM E1414-11A)	CAC 30	ASTM E413-10
	NRC 0.95	ISO 717-1
Weight	3.6kg per m ² (Density 120kg/m ²)	
Est R Value	R0.8	
Edge Detail		

40mm TEST DATA	RESULT	TEST METHOD
Absorption (ISO 354)	NRC 0.95	ASTM C423
	SAA 1.12	ASTM C423
	α_W 0.95	ISO 11654: 1997
Attenuation (ASTM E1414-11A)	CAC 32	ASTM E413-10
	$D_{n,c,w}$ 32	ISO 717-1
Weight	4.0kg per m ²	
Est R Value	R1	
Edge Detail		

Acoustic Performance re-tested in New Zealand labs in 2019. Absorption Test: E400 Mounting Method.
Please note; these results may differ from earlier datasheets

PHONIC

ACOUSTIC CEILING TILES

PHONIC DIRECT FIX

High Performance Acoustic Ceiling Tile



High Absorption



Hygrothermal



Hygiene



Fire Test- Group 15



Glasswool



PRODUCT SUMMARY

Phonic Direct Fix is a white painted, textured glasswool acoustic ceiling tile. Direct Fix eliminates the need for an exposed grid and enhances the clean smooth monolithic surface.

- It has a high noise reduction coefficient (NRC 0.75 – 1.00 depending on installation method) to reduce reverberation time. A high end tile.
- Designed for direct fix application to new existing gypsum board or over timber/metal battens. The Direct Fix 20mm tile on batten exceeds Department of Education acoustic requirements when installed over gypsum board backing.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and the tile meets Cleanroom ISO Class 3.
- This product is constructed from 90% dry felt resin bonded glass-wool, utilizing longer fibres in a compact fibre arrangement. The non-absorbent, non-water soluble design gives Phonic Direct Fix improved durability when compared to mineral fibre.
- Phonic Direct Fix achieves a density of 100kg/m³. This results in a lightweight, high performance ceiling tile which is user friendly and ideal for use in classrooms, offices, medical centres, lobbies and receptions and other commercial interiors.

30 year lifetime system warranty to withstand conditions up to 40°- 99% relative humidity without visible sag.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

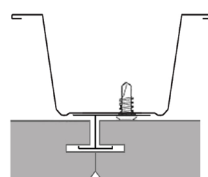
PHONIC DIRECT FIX

High Performance Acoustic Ceiling Tile

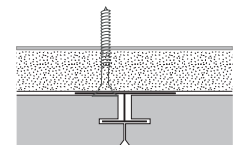
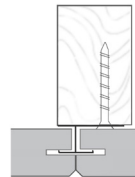


GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354) 20mm Direct Fix	NRC 0.75	ASTM C432
	α_w 0.55	ISO 11654
	SAA 0.94	ASTM C423
With 35mm air gap	NRC 0.85	ASTM C432
	α_w 0.85	ISO 11654
	SAA 0.92	ASTM C423
Attenuation (ASTM E1414-11A) 20mm (without plasterboard backing)	CAC & D _{n,c,w} 23	ISO 717-1 ASTM E413-10
Light Reflectance	LR 87% +	ASTM E1477-98
Density	120kg/m ³	
Weight	20mm: 2.4kg/m ²	
Fire Test - ISO 5660 Part1	Group 1-S 	Cone Calorimeter NZBC C/VM2 Appendix A
Cleanroom	ISO Class 3	ISO 14644.3:2015
Moisture Rate	≤ 1%	JC/T 670 – 2005
Thermal Conductivity	≥ 0.04 (kcal/mh°C)	JIS A 1412
Est. R-Value (m ² k/w)	20mm: R0.5	
Size	20mm Depth x [600x600] [1200x600]	
	Other sizes available on request.	
Colour	White	

Installation Tiles are best installed in an Ashlar pattern. Phonic Direct Fix is only covered by warranty if only installed in the Ashlar pattern.



Shown with air gap



Shown as direct fix

Acoustic Performance re-tested in New Zealand labs in 2019. Please note; these results may differ from earlier datasheets

PHONIC

ACOUSTIC CEILING TILES

PHONIC IMPACT

Acoustic Sports Ceiling Tile



High Attenuation



High Absorption



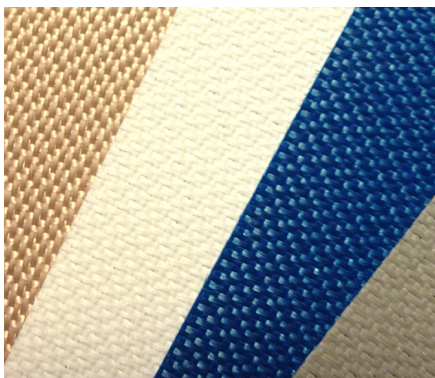
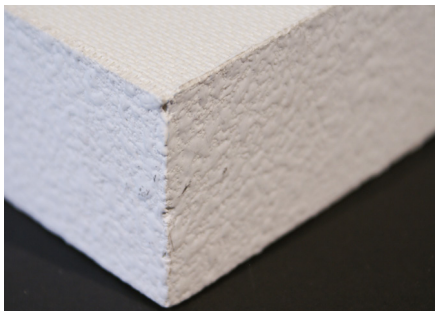
Impact Resistant



Fire Test- Group 15



Glasswool



PRODUCT SUMMARY

The Phonic Impact sports sound panel is a 40mm thick glasswool ceiling tile with a strong fibre glass face.

- Exceptionally high acoustic properties, the high Noise Reduction Coefficient will reduce reverberation time. Withstands knocks and ball impact. Mid-range tile.
- Due to its unique strong impact resistant fibre glass face, it is ideal for gymnasiums, sports centres, schools and community halls. It can withstand significant impact and the Robo-clip system will prevent tiles from dislodging if required.
- This product is constructed from 90% dry felt resin bonded glass-wool, utilizing longer fibres in a compact fibre arrangement. The non-absorbent, non-water soluble design gives Phonic Impact improved durability when compared to mineral fibre. Phonic Impact achieves a density of 100kg/m³. This results in a light weight, high performance ceiling tile which is user friendly and ideal for use gymnasiums, sport centres, community halls, workshops, kitchens and schools.
- Suspend Phonic Impact sports panels in a standard T&R Interior System two way grid system. Use Robo clips to prevent tiles from dislodging.
- Can be ink-jet printed with custom designs and logos. Available in a selection of colours on indent – standard colour is white.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

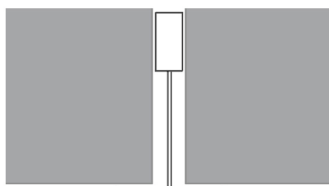
PHONIC IMPACT

Acoustic Sports Ceiling Tile

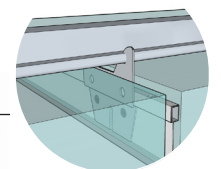
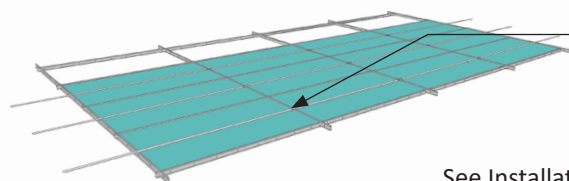
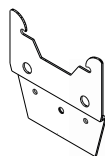


GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354) 40mm	NRC 0.90	ASTM C432-99
	α_w 0.95	ISO 11654
	SAA α_w 0.96	ASTM C423-99
Attenuation (ASTM E1414-11A) 40mm	CAC 40	ASTM E413-10
	$D_{n,c,w}$ 40	ISO 717-1
Light Reflectance	LR 84% +	(white panel only)
Density	100kg/m ³	
Weight	40mm: 4kg/m ²	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	Cone Calorimeter NZBC C/AS1-AS27
Thermal Conductivity	≥ 0.04 (kcal/mh°C)	JIS A 1412
Est. R-Value (m ² k/w)	R1	
Size	40mm Depth Square Edge x [600x1200] [600x600]. Other sizes available on request.	
Colour	White Available on indent; Black, Blue, Grey, Caramel - MOQ apply	
Installation	Designed to fit into a standard 24mm two way exposed grid. Use Robo Clip detail to prevent tiles from dislodging. For High impact zones use two rails, for standard impact zones use one rail across each tile.	

Edge Detail



Square Edge 24mm Grid



Robo Clip

See Installation Guide for details

PHONIC

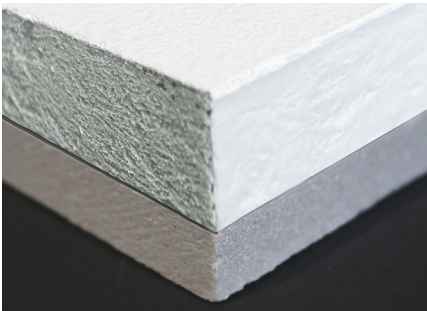
ACOUSTIC CEILING TILES

PHONIC COMBO +

High Performance Acoustic Ceiling Tile



 High Attenuation	 High Absorption	 Hygrothermal	 Fire Test- Group 1S
 Mineral Fibre	 Glasswool	 Hygiene	



PRODUCT SUMMARY

Phonic Combo + is a composite tile with a refined white painted, monolithic, pre-finished face. It has an absorptive layer with an attenuating backer behind. Combo + not only has amazing acoustic properties (and meets Ministry of Education requirements) but also is a much better solution for seismic requirements. Performance data demonstrates an NRC of 0.85 and a minimum CAC of 42, that can be increased to a CAC of 52 quite easily.

The invention comprises two layers of material that are flexibly attached together with an air gap in between. This allows each of the layers to flex and vibrate and to define a cavity. The resulting tile weight is only 7.5kg/m².

- Patent is pending on this revolutionary design.
- The absorbent face is made from a compounded, high density glass-wool.
- The attenuating backer reduces sound transfer over office partitions and reduces rain noise from roofing. It is a high performance ceiling tile which is user friendly and ideal for use in airports, offices, classrooms, boardrooms, museums and other commercial interiors.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and the tile meets Cleanroom ISO Class 3.

This tile comes with a 30 year lifetime system warranty to withstand conditions up to 40° and 99% relative humidity without visible sag, when used with a T&R Interior Systems branded suspension system. Tiles should be installed in accordance with NZS1170.5, AS/NZS2785 and the grid manufacturer's instructions.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

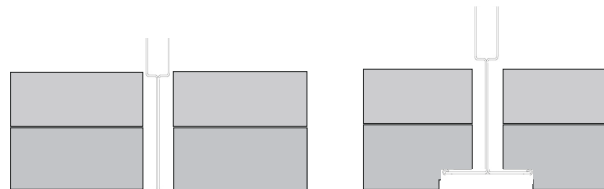
PHONIC COMBO +

High Performance Acoustic Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354)	SAA 0.94	ASTM C432
	α_w 0.90	ISO 11654 -1997
	NRC 0.85	ASTM C423
Attenuation (ASTM E1414-11A)	CAC 42	
	$D_{n,c,w}$ 42	ASTM E413-10
Weight	7.5kg/m ²	
Density	Glasswool: 100kg/m ³	Mineral fibre: 250kg/m ³
Light Reflectance	LR 87% +	ASTM E1477-98
Fire Test - ISO 5660 Part1	Group 1-S	Cone Calorimeter
		NZBC C/VM2 Appendix A
Cleanroom	ISO Class 3	ISO 14644.3:2015
Moisture Rate	≤ 1%	JC/T 670 – 2005
Est. R-Value (m ² k/w)	R0.7	
Size	35mm depth, Square Edge, Reveal Edge*, [600x600], [1200x600], [1200x300]*, To suit 24mm Grid patterns.	
	* Available by indent order. Other sizes available on request.	
Colour	White (Black available on indent and MOQ)	

Edge Detail



INGREDIENTS

Glasswool

Fibreglass tissue face with acrylic resin (back and front of tile) 7-10% - Fibreglass (Glasswool) 80-85%, Acrylic resin 15-20%, **Acoustic board 70-80%** - Glasswool 88-89%, Phenolic resin 11-12%, **Water-based paint 20-25%** - Acrylic emulsion 10-15%, Inorganic filler (Kaolin, Calcium carbonate) 40-55%, Environmentally friendly flame retardant 15-25%, A variety of additives (Dispersant, Leveling agent; from Polycarboxylate ammonium salt, EGBE-Ethylene glycol monobutyl ether, Water) 3-5%, Ion water 15-20%, **Glue 2-4%** - Acrylic resin 50-55%, Ion water 45-50%.

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.

PHONIC

ACOUSTIC CEILING TILES

PHONIC COMBO +

High Performance Acoustic Ceiling Tile



ATTENUATION

CAC & D_{n,c,w} 32

ASTM E413-10

The ceiling attenuation class of one room with Phonic Combo + and an adjacent room of Phonic Absorb 15mm ceiling tiles in a suspended ceiling grid.

ATTENUATION

CAC & D_{n,c,w} 47

ASTM E413-10

The ceiling attenuation class of one room with Phonic Combo + and an adjacent room of Phonic Absorb 15mm ceiling tiles in a suspended ceiling grid with a baffle stack (with NOVAhush 900P 600mm wide and 30% compression) across the partition.

ATTENUATION

CAC & D_{n,c,w} 51

ASTM E413-10

The ceiling attenuation class of Phonic Combo + ceiling tiles in a suspended ceiling grid with a baffle stack (with NOVAhush 900P 600mm wide and 30% compression) across the partition.

ATTENUATION

CAC & D_{n,c,w} 48

ASTM E413-10

The ceiling attenuation class of Phonic Combo + ceiling tiles in a suspended ceiling grid with a 1200mm insulation strip across the partition. In addition, a strip of polyester insulation, 90 mm thick, 900 gsm, in 2 pieces 1200 mm wide, was laid on the first tile on either side of the two test rooms dividing wall.

ATTENUATION

CAC & D_{n,c,w} 52

ASTM E413-10

The ceiling attenuation class of Phonic Combo + ceiling tiles in a suspended ceiling grid with R3.6 insulation across the entire ceiling (EarthWool Ceiling Batt).

Acoustic Performance re-tested in New Zealand labs in 2020.
Please note; these results may differ from earlier datasheets.

Absorption Test: E400 Mounting Method.



Wellington East Girls' College - WSP



Marist School - Auckland - DLM Architects

PHONIC

ACOUSTIC CEILING TILES

PHONIC IMPACT COMBO +

High Performance Acoustic Sports Tile



Indent Item



High Attenuation



High Absorption



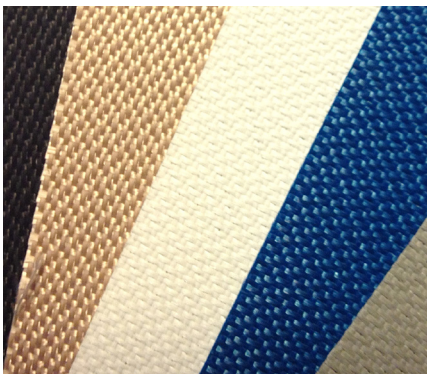
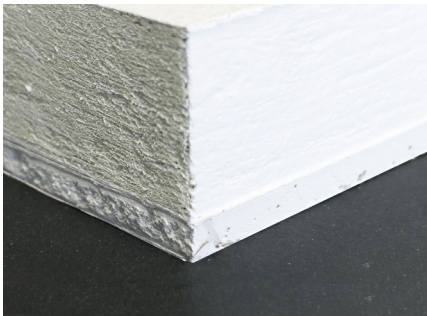
Fire Test- Group 1S



Glasswool



Mineral Fibre



PRODUCT SUMMARY

- The Phonic Impact Combo + Sports Sound Panel is thick glasswool tile with a strong impact-resistant fibre glass face and an attenuating layer behind (this is adhered on site). This combination results in a tile with an extremely high Noise Reduction Coefficient (NRC) combined with a high Ceiling Attenuation Class (CAC).
- The tile has exceptionally high acoustic properties for both absorption and attenuation: the high Noise Reduction Coefficient (NRC) will reduce reverberation time and the mineral fibre backer blocks noise from the ceiling plenum (such as rain noise). This is an ideal tile for gymnasiums where sound transfer is a concern.
- Due to its unique strong impact resistant fibre glass face, it is ideal for gymnasiums, sports centres, schools and community halls. It can withstand significant impact. Suspend Phonic Impact Combo + Sports tiles in a standard CBI two way grid system. Use custom Robo clips to prevent tiles from dislodging.
- This product is constructed from 90% dry felt resin bonded glasswool, utilising longer fibres in a compact fibre arrangement. The non-absorbent, non-water soluble design gives Phonic Impact improved durability when compared to mineral fibre.
- Can be ink-jet printed with custom designs and logos. Available in a selection of colours on indent – standard colour is white.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

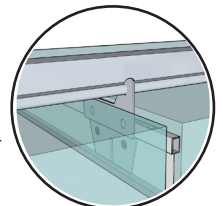
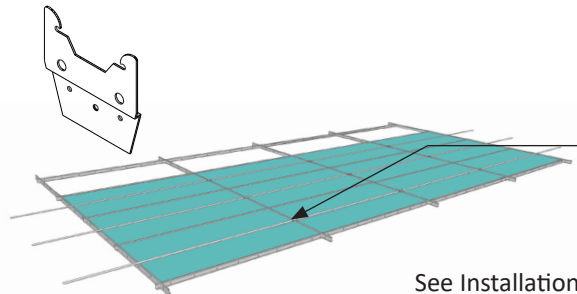
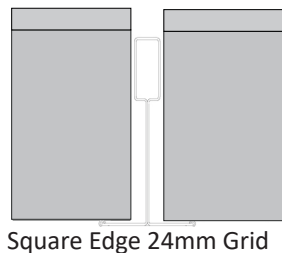
PHONIC IMPACT COMBO +

High Performance Acoustic Sports Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354)	NRC 0.90	ASTM 432-17
	SAA 1.02	ASTM 423-17
	α_W 0.85	ISO 11654 -2002
Attenuation (ASTM E1414-11A)	CAC 46	ISO 717-1
	$D_{n,c,w}$ 42	ASTM E413-10
Light Reflectance	LR >85% +	(white panel only)
Density	38mm Glasswool: 100kg/m ³	15mm Mineral fibre: 280kg/m ³
Combined Weight	8.2/m ²	
Fire Test - ISO 5660 Parts 1&2	Group 1-S	Cone Calorimeter
	 1-S Classification	NZBC C/AS1-AS27
Size	Available on indent- MOQ and lead times apply 53mm depth, Square Edge [600x1200], [600x600] Other sizes available on request.	
Colour	White, Black, Blue, Grey, Caramel	
Installation	Designed to fit into a standard 24mm two way exposed grid. Use Robo Clip detail to prevent tiles from dislodging.	

Edge Detail



Robo Clip

See Installation guide for details

INGREDIENTS

Glasswool

Fibreglass tissue face with acrylic resin (back and front of tile) 7-10% - Fibreglass (Glasswool) 80-85%, Acrylic resin 15-20%, **Acoustic board 70-80%** - Glasswool 88-89%, Phenolic resin 11-12%, **Water-based paint 20-25%** - Acrylic emulsion 10-15%, Inorganic filler (Kaolin, Calcium carbonate) 40-55%, Environmentally friendly flame retardant 15-25%, A variety of additives (Dispersant, Leveling agent; from Polycarboxylate ammonium salt, EGBE-Ethylene glycol monobutyl ether, Water) 3-5%, Ion water 15-20%, **Glue 2-4%** - Acrylic resin 50-55%, Ion water 45-50%.

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.



Tauranga Airport - Jasmx



Above Your Space - Christchurch - AE Architects



Offices - Christchurch - Buchan Group



Marist School - Auckland - DLM Architects

PHONIC

ACOUSTIC CEILING TILES

PHONIC HARMONY

Acoustic Suspended Ceiling Tile



High Absorption



Hygrothermal



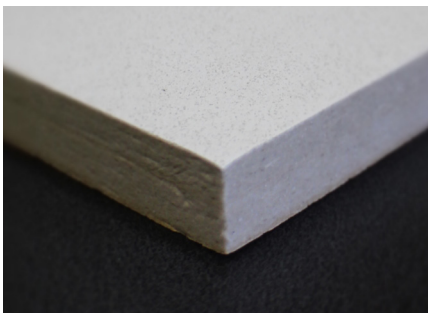
Hygiene



Fire Test- Group 1S



Mineral Fibre



30
YEAR
warranty

PRODUCT SUMMARY


Phonic Harmony acoustic ceiling tiles have monolithic white face with a very subtle sandy fibre texture. The clean monolithic look is an ideal aesthetic choice for many commercial interior space requirements. The surface is specifically engineered to provide high absorption (NRC) to reduce reverberation time while the density of the mineral fibre provides good attenuation performance across the ceiling plenum. This versatile mineral fibre ceiling tile is able to meet most standard acoustic specifications.

- Fine, monolithic texture. High light reflectance.
- High sound absorption qualities, which reduces reverberation time, and a medium Ceiling Attenuation Class (CAC) to reduce sound transfer through the ceiling plenum.
- Suitable for use in offices, education centres, lobbies, reception areas, call centres and commercial interiors.
- Mineral Fibre tiles are not only non-combustible, but also less likely to emit gas or smoke, or to melt, break or become deformed under normal fire conditions.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and the tile meets Cleanroom ISO Class 3.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.

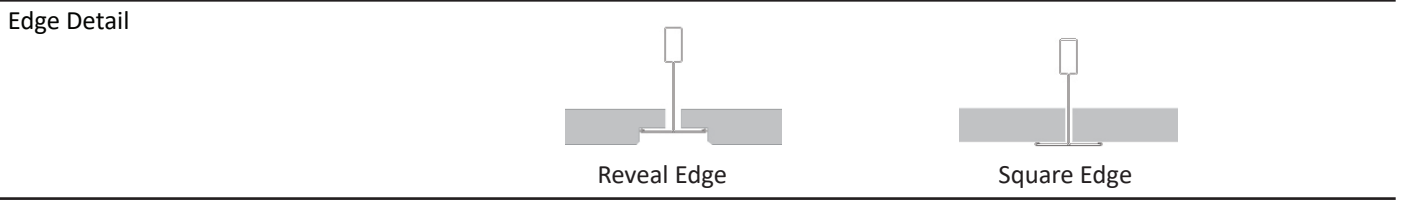


GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption	NRC 0.70 α_w 0.70	ASTM C432-99 ASTM C432
Attenuation	CAC 37 (500-4000 Hz)	ASTM E 413
Light Reflectance	LR 75% +	BS 8493:2008
Weight	19mm: 5.3kg/m ²	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	BRANZ Cone Calorimeter NZBC C/AS1-AS27
Cleanroom	Class 3	ISO 14644.3:2015
Relative Humidity	RH 99%	
Thermal Conductivity	≥ 0.045 (kcal/mh°C)	JIS A 1412
Est. R-Value (m ² k/w)	R0.5	
Antimicrobial	(any result <1000 is considered low)	

Sample ID	Total Aerobic Bacteria Count		Actinomycetes Count		Yeast Count		Filamentous fungi Count	
	cfu/ swabbed area		cfu/ swabbed area		cfu/ swabbed area		cfu/ swabbed area	
43531/1 Tile 1	30		<10		<10		450	
	<i>Bacillus</i> sp	33%					<i>Penicillium</i>	96%
	Staph/Micrococci	67%					Unidentified other	4%
43531/2 Tile 2	<10		<10		<10		750	
							<i>Penicillium</i>	100%

Size 19mm Depth Square Edge [1200x600] [600x600] [1200x300]*
19mm Reveal Edge [1200x600] [600x600] [1200x300]*
To suit 15 or 24mm grid patterns. Other sizes available on request.
*Available on indent

Colour White



30 year lifetime system warranty to withstand conditions up to 50°-99% relative humidity without visible sag when used with a T&R Interior Systems brand suspension system.

INGREDIENTS

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.

PHONIC

ACOUSTIC CEILING TILES

PHONIC NDF

Mineral Fibre Suspended Acoustic Ceiling Tile



High Absorption



Hygrothermal



Fire Test- Group 1S



Mineral Fibre



PRODUCT SUMMARY

The invention comprises two layers of material that are flexibly attached together with an air gap in between. This allows Phonic NDF Mineral Fibre Acoustic ceiling tile has a non-directional fissured clean white surface.

- Phonic NDF has a medium Noise Reduction Coefficient and medium Ceiling Attenuation Class to help reduce reverberation time and to prevent sound transfer through the ceiling plenum
- NDF is the most economical tile in the Phonic range.
- The NDF tile has been used in NZ for twenty years and is still available for supply and ongoing maintenance. They are favoured for their durability and ease of handling.
- This is the ceiling contractors most favoured commodity panel.
- Phonic Mineral Fibre Ceiling tile materials are not only non-combustible but also less likely to emit gas or smoke, or to melt, break or become deformed under normal fire conditions.
- 30 year lifetime system warranty to withstand conditions up to 40° - 99% relative humidity without visible sag when used with a T&R Interior Systems brand suspension system.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

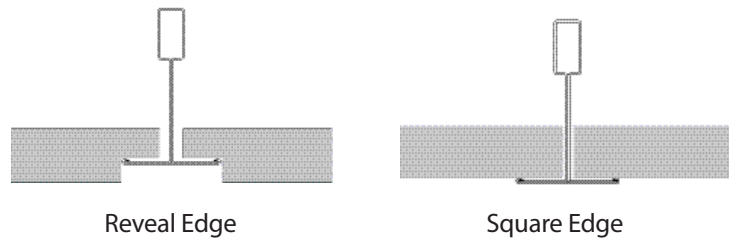
PHONIC NDF

Mineral Fibre Suspended Acoustic Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption	NRC 0.55-0.60	ASTM C432
Attenuation	CAC 36	ASTM C432
Weight	15mm: 4.2kg/m ²	
Light Reflectance	LR 1 75% +	ASTM C523
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	BRANZ Cone Calorimeter NZBC C/AS1- AS27
Relative Humidity	RH 99%	
Moisture Rate	≤ 1 %	JIS A 1412
Est. R Value	R0.3	
Size	15mm Depth Square Edge x [1200x600], 15mm Depth Reveal Edge x [1200x600] [600x600] To suit 15mm or 24mm grid patterns. Other sizes available on request.	
Colour	White	

Edge Detail



INGREDIENTS

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.

PHONIC

ACOUSTIC CEILING TILES

PHONIC DAI LOTONE

T&G Staple and Glue Direct Fix Ceiling Tile



High Absorption



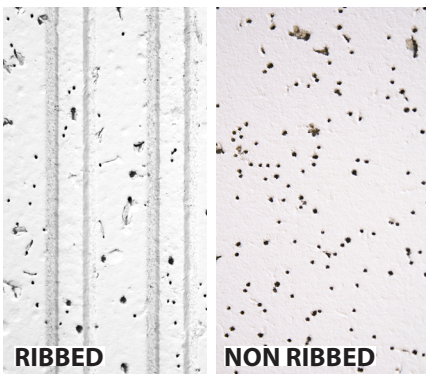
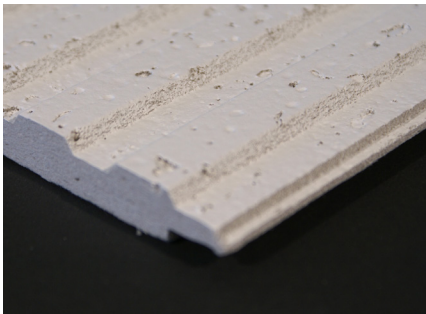
Hygrothermal



Fire Test- Group 1S



Mineral Fibre



RIBBED

NON RIBBED



30
YEAR
warranty

PRODUCT SUMMARY

Phonic Dai Lotone is a high density tongue and groove mineral fibre ceiling tile with a white painted finish designed for direct fix applications to new and existing gypsum board or timber battens. No additional painting required.

- Phonic T&G ceiling tiles have superior noise absorption. A mid-range tile.
- Phonic Dai Lotone Ceiling tiles are manufactured to produce porous properties with a low specific gravity and therefore exhibits efficient thermal insulation and sound absorption qualities, while resisting sound transmission more effectively than glass fibre products.
- Effective thermal insulation (more than 6 times gypsum board).
- Due to its high density and fine grained substrate, Phonic can achieve unique and high quality detailing in their tiles. This is reflected in the Rib 501 pattern.
- Phonic T&G ceiling tiles have outstanding fire resistance. Phonic Mineral Fibre Acoustic Ceiling materials are not only non-combustible but is less likely to emit gas or smoke, or to melt, break or become deformed under normal fire conditions.
- 30 year lifetime system warranty to withstand conditions up to 40° - 98% relatively humidity without visible sag.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


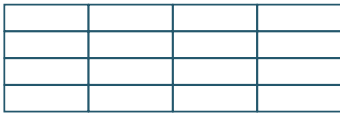
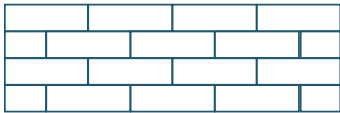
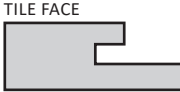
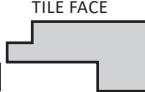
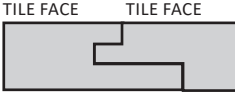
PHONIC

ACOUSTIC CEILING TILES

PHONIC DAI LOTONE

T&G Staple and Glue Direct Fix Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (Direct Fix)	NRC 0.45	ASTM C423
	SAA 0.58	ASTM C423
	α_w 0.45	ISO 11654: 1997
(On 35mm Battens)	NRC 0.50	ASTM C423
Attenuation	CAC Depends on existing ceiling	ASTM E 413
Light Reflectance	LR 1 (over 80%)	ASTM C 523
Weight	Rib: 3.65kg/m ²	Non Rib: 2.72kg/m ²
Moisture Content	1.5%	JIS A 6307
Thermal Conductivity	0.045 kcal/mh ° C	JIS A 1412
Est. R-Value (m ² k/w)	9mm: R0.2 12mm: R0.25	
Fire Test - ISO 5660 Part1	Group 1-S  1-S Classification	Cone Calorimeter NZBC C/VM2 Appendix A
Size	Non Rib: 9mm Depth x [606x303] Rib: 12mm Depth x [606x303] *Other sizes available on request.	
Colour	White	
Installation	<p>Tiles should be installed in accordance with the manufacturers / distributors recommendations. The use of clean hands or gloves is recommended when installing tiles. We recommend the ashlar pattern for aesthetic appeal and ease of installation.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Line Through Pattern</p> </div> <div style="text-align: center;">  <p>Ashlar Pattern</p> </div> </div>	
Edge Detail	<p>Tongue and Groove</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>TILE FACE</p> </div> <div style="text-align: center;">  <p>TILE FACE</p> </div> <div style="text-align: center;">  <p>TILE FACE TILE FACE</p> </div> </div>	

INGREDIENTS

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.

PHONIC

ACOUSTIC CEILING TILES

PHONIC FINE FISSURED

Mineral Fibre Acoustic Suspended Ceiling Tile



High Absorption



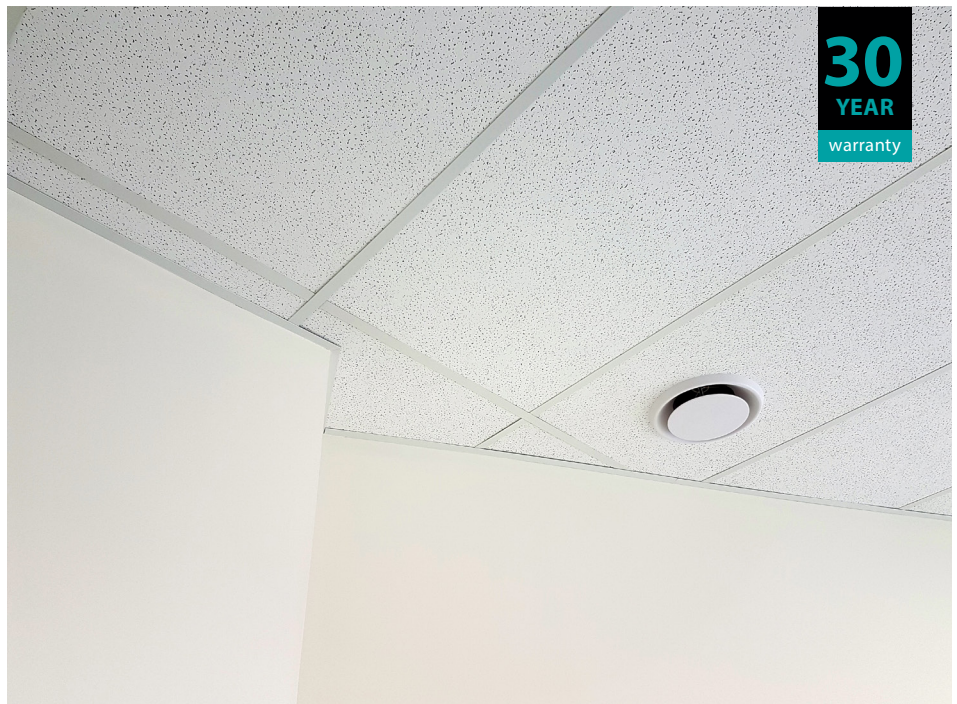
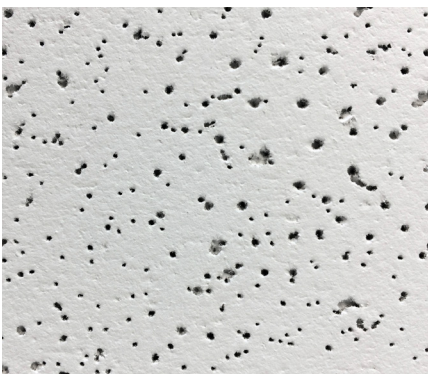
Hygrothermal



Fire Test- Group 1S



Mineral Fibre



PRODUCT SUMMARY

Phonic Fine Fissured Mineral Fibre Acoustic ceiling tile has a non-directional fissured clean white surface.

- The tile has a medium Noise Reduction Coefficient and medium Ceiling Attenuation Class to help reduce reverberation time and to prevent sound transfer through the ceiling plenum
- Fine Fissured is an economical tile in the Phonic range.
- The Fine Fissured tiles are favoured for their durability and ease of handling.
- Phonic Mineral Fibre Ceiling tile materials are not only non-combustible but also less likely to emit gas or smoke, or to melt, break or become deformed under normal fire conditions.
- 30 year lifetime system warranty to withstand conditions up to 40° - 99% relative humidity without visible sag when used with a T&R Interior Systems brand suspension system.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.


PHONIC

ACOUSTIC CEILING TILES

PHONIC FINE FISSURED

Mineral Fibre Acoustic Suspended Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354)	NRC 0.45	ASTM C432-99
	α_w 0.45	ISO 11654
	SAA 0.47	ASTM C423-99
Attenuation (ASTM E1414-11A)	CAC 35	ISO 717-1
	$D_{n,c,w}$ 35	ISO 717-1
Light Reflectance	LR 1 75% +	ASTM C 523
Weight	15mm: 4.2kg/m ²	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	BRANZ Cone Calorimeter NZBC C/AS1-AS27
Relative Humidity	RH 99%	
Thermal Conductivity	≥ 0.045 (kcal/mh°C)	JIS A 1412
Est. R-Value (m ² k/w)	R0.3	
Size	15mm Depth Square Edge x [1200x600], 15mm Depth Reveal Edge x [1200x600] [600x600] on indent only. To suit 15 or 24mm grid patterns. Other sizes available on request.	
Colour	White	

Edge Detail



INGREDIENTS

Mineral Fibre - Made with 76% Recycled Content.

Post Industrial Total 70%- Slag wool 45%, Dust Sludge from ceiling tile production 25%, **Post Consumer Total 6%**- Recycled paper 6%, **Reused materials**- Mineral wool (by product of steel production), volcanic silicate, newsprint. **Recycled materials**- Mineral wool during the manufacturing process (preconsumed) and re collection from building/house demolition sites (postconsumed) newsprint.



Transpower - Boulcott Street - Jasmx & Architecture +



MBIE - Porirua Call Centre - King & Dawson



Radiology - Auckland - ASC Architects



Dawson House - New Plymouth - Catalyst & Jacksons Architects

A photograph of a hospital room interior. The ceiling is white with a grid of acoustic tiles. A large, rectangular light fixture is visible on the left side of the ceiling. The walls are a light beige color. In the center of the wall, there is a control panel with various buttons and switches. Below the control panel, there are two blue shelves. On either side of the shelves, there are blue and white patterned curtains. The floor is a light blue color.

HYGIENE

APPLICATION ACOUSTIC CEILING TILES

PRODUCT RANGE

Phonic Clean	34
Fenta	36
Phonic Gypsum Vinyl	38
Phonic Tech	40

Please note that in addition to the tiles listed here: Focus Panels have achieved an ISO Class 3 Cleanroom Rating and can be used in hygiene applications.



PHONIC

ACOUSTIC CEILING TILES

PHONIC CLEAN

Acoustic Hygiene Ceiling Tile



High Absorption



Hygiene



Hygrothermal



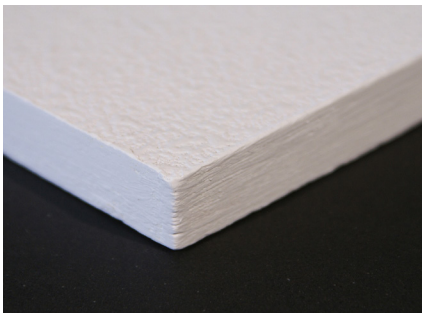
Lightweight Tile



Fire Test- Group 1S



Glasswool



PRODUCT SUMMARY

Phonic Clean is a hydrophobic treatment which can be applied to the Phonic range of ceiling tiles. It is a glasswool ceiling tile with a water-repellent, white painted, monolithic, pre-finished face.

- Suitable for use in medical centres, hospitals, laboratories and other commercial interiors.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and the tile meets Cleanroom ISO Class 3.
- Water repellent face; can be wiped and cleaned, won't allow moisture penetration. Wipeable and cleanable face; stains don't stick.
- Optional foil backing to allow positive pressure in ceiling plenum.
- High Noise Reduction Coefficient. Reduces reverberation time and improves speech intelligibility. This is very important for patient well-being. Good acoustics promote faster recovery times.
- Lightweight tile (non-Combo) is ideal for seismic design.

10 year warranty to withstand conditions up to 40°C and 99% relative humidity without visible sag. Tiles should be installed in accordance with NZS1170.5 and the grid manufacturer's instructions.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.

PLEASE NOTE THAT SOME TILES MAY HAVE A LEAD TIME. CONTACT US FOR LEAD TIME OR ALLOW 12 WEEKS FOR DELIVERY. MINIMUM ORDER QUANTITIES MAY APPLY


PHONIC

ACOUSTIC CEILING TILES

PHONIC CLEAN

Acoustic Hygiene Ceiling Tile

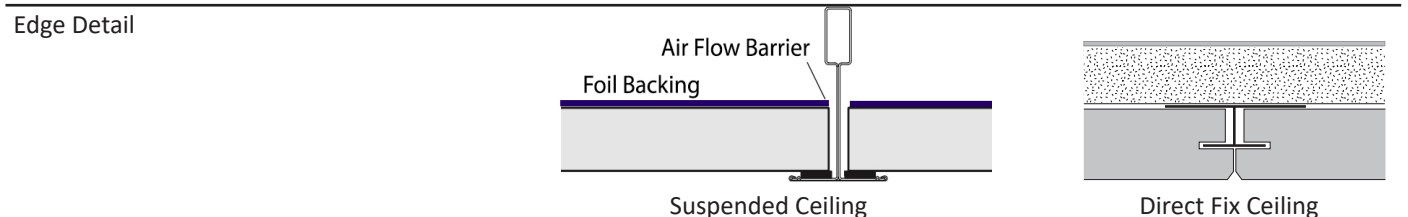


GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354) (with foil backer)	NRC 0.80 SAA 0.87 α W 0.75	ASTM C423 ASTM C423 ISO 11654: 1997
Attenuation (ASTM E1414-11A)	CAC 26 Dn,c,w 26	ASTM E1477-98 ISO 717-1
Light Reflectance	LR 84%+	ASTM E1477-98
Density	100kg/m ³	
Weight	15mm: 1.5kg/m ²	
Fire Test (ISO 5660 Part 1)	Group 1-S	Cone Calorimeter
		NZBC C/VM2 Appendix A
Cleanroom	ISO Class 3	ISO 14644.3:2015
Moisture Rate	≤ 1%	JC/T 670 – 2005
Thermal Resistance	≥ 0.4 (m ² -k/w)	ASTMC 423

Antimicrobial (any result <1000 is considered low)

Sample	Total Bacteria per 10cm ²	Total Actinomycetes per 10cm ²	Total Yeast per 10cm ²	Total Fungi per 10cm ²
Tile 1	10 Staphylococcus aureus 100%	<10	<10	30 Cladospodium 34%, Penicillium 33%, Non- sporing fungus 33%
Tile 2	<10	<10	<10	10 Penicillium 100%

Est. R-Value (m ² k/w)	15mm: R0.4
Colour	White
Size	Depth: 15mm, Square Edge, Concealed Edge, [1200 x 600], to suit 24mm grid patterns.



* For Acoustic performance for different tiles, see the relevant Phonic datasheets. This test data shows 15mm with foil backer. Available on indent as Phonic Direct Fix. See Phonic Direct Fix datasheet. Available on indent as Phonic Combo + (with attenuating backer) See Phonic Combo + datasheet.

INGREDIENTS

Fibreglass tissue face with acrylic resin (back and front of tile) 7-10% - Fibreglass (Glasswool) 80-85%, Acrylic resin 15-20%, **Acoustic board 70-80%** - Glasswool 88-89%, Phenolic resin 11-12%, **Water-based paint 20-25%** - Acrylic emulsion 10-15%, Inorganic filler (Kaolin, Calcium carbonate) 40-55%, Environmentally friendly flame retardant 15-25%, A variety of additives (Dispersant, Leveling agent; from Polycarboxylate ammonium salt, EGBE-Ethylene glycol monobutyl ether, Water) 3-5%, Ion water 15-20%, **Glue 2-4%** - Acrylic resin 50-55%, Ion water 45-50%.

INDENT ONLY

FENTA

Hygiene Ceiling Tile

 High Attenuation	 Hygiene	 Fire Test Group-15	 Impact Resistant
 Abrasion			



PRODUCT SUMMARY

Fenta Ceiling Tiles are white with a high-gloss polyurethane finish. Fenta Ceiling Tiles are a 4.5 mm and 6mm thick fibre cement base tile that weigh 5.04 kg. The tiles are coated with a two-pack white (non yellowing) polyurethane finish suitable for use in a 1200x600 modular suspended two-way ceiling grid system.

- A high end tile.
- Composed of an extremely durable base, coated with a two pack, non-yellowing, high gloss polyurethane finish.
- Fenta tiles are high pressure steam cured, will not rot and are impervious to corrosion, borer or vermin.
- Due to the hard, high quality, durable and washable finish, Fenta tiles are extremely resistant to chemicals, steam and general soiling. This makes them highly suitable for a multitude of hygiene applications and are a recommended solution in kitchens, fast food outlets, medical centres and sports changing areas.
- Fenta tiles have exceptionally high STC and reduce inter-zone sound transfer.
- Fenta tiles meet both Domestic and International Hygiene regulations when correctly installed in a suspended grid system.

COMPOSITION - SURFACE COATING

- Face Surface – a primer coat and two coats Polyurethane full gloss finish
- Reverse face and edges – sealed with primer coat

BASE

- Cellulose fibre
- Portland cement
- Ground sand and water

INDENT ONLY

FENTA

Hygiene Ceiling Tile


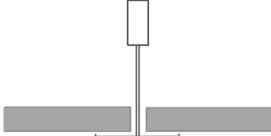
DURABILITY

Fenta Ceiling Tiles use the patented UltraLight Technology - a UV curing process that coats products with a finish of premium quality and outstanding durability. Within the normal range of applications, the life of the product is limited only by the durability of the supporting structure and materials used in the fixing.

Fenta Ceiling Tiles have excellent durability, hardness and chemical resistance, and meet all current domestic and overseas hygiene regulations, when installed correctly.

Fenta Ceiling Tiles are:

- Hardwearing and scratch resistant
- Completely impervious to moisture and will not support mould and mildew growth
- Will not rot and are unaffected by corrosion, borer or vermin
- Have a high gloss surface - making it easy to clean
- More stubborn marks can be removed with a non-abrasive domestic cleaner. To remove dirt and soap build up, Fenta can be wiped down periodically with Polycell SugarSoap or Kerosene on a damp cloth

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Fire Test	Group 1-S 	BRANZ Cone Calorimeter NZBC C/AS1-AS27
Relative Humidity	99%	
Size	4.5mm Depth x [1200 x 600] Also available in 6mm (minimum order quantity - 500 tiles)	
Colour	White	
Edge Detail		






PHONIC

ACOUSTIC CEILING TILES

PHONIC GYPSUM VINYL

Acoustic Ceiling Tile



 High Attenuation	 Hygiene	 Impact Resistant	 Fire Test- Group 15
 Abrasion Tested			



PRODUCT SUMMARY

The Phonic Gypsum Vinyl ceiling tile is a versatile, cost effective product that lends itself to a range of suspended ceiling applications. The tiles are supplied in a standard white finish, in a nominal size of 1200x600x9mm.

- Due to the durable and washable finish of the Vinyl Foil tiles they are highly suitable for a multitude of commercial and hygiene applications such as Retail, Fast Food Outlets, Medical and Sports Facilities.
- The moderately embossed facing gives a crisp clean monolithic look which ensures excellent light reflectance.
- Foil backing balances the tile, enhancing its dimensional tolerance whilst increasing thermal properties.
- Tiles should be installed in accordance with the grid manufacturers instructions.



PHONIC

ACOUSTIC CEILING TILES

PHONIC GYPSUM VINYL

Acoustic Ceiling Tile



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorbtion (ISO 354)	NRC 0.10	ASTM C432
Attenuation (predicted)	CAC < 41	
Light Reflectance	LR 80% +	
Density	790kg/m ³	
Weight	7.1kg/m ²	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	BRANZ Cone Calorimeter NZBC C/AS1-AS27
Size	9mm Depth Square Edge [1200x600] [600x600] To suit 15 or 24mm grid patterns. Other sizes available on request.	
Colour	White	
Edge Detail		

PHONIC

ACOUSTIC CEILING TILES

PHONIC TECH

Specialised Acoustic Panel



High Absorption



Hygrothermal



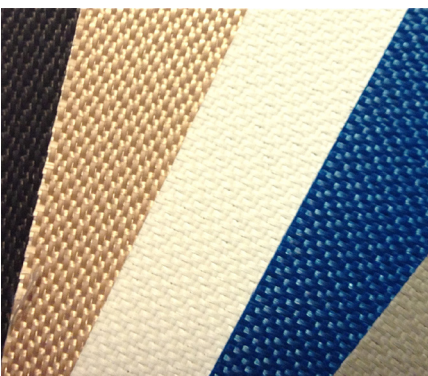
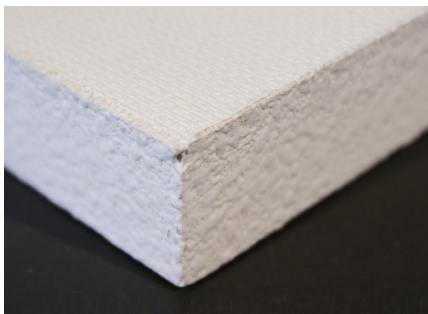
Fire Test- Group 15



Glasswool



Hygiene



PRODUCT SUMMARY


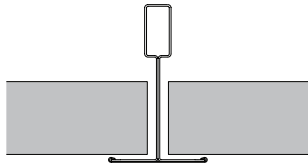
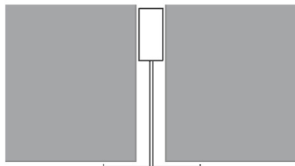
The Phonic Tech is a 20mm and 40mm thick glasswool ceiling tile or 40mm acoustic panel with a strong woven fibre glass face.

- Great acoustic properties, the high Noise Reduction Coefficient will significantly reduce reverberation time.
- Can be wiped for easy cleaning. Stain resistant face. Mid-range tile.
- Due to its unique strong woven fibre glass face, it is ideal for workshops, tech spaces, kitchens, laboratories and hygiene spaces. The face has been tested and proven to prevent growth of microbial activity. Suspend Phonic Tech panel in a standard T&R Interior Systems two way grid system or mount on the wall using a specialised aluminium frame.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and meets Cleanroom ISO Class 3.
- This product is constructed from 90% dry felt resin bonded glasswool, utilizing longer fibres in a compact fibre arrangement. The non-absorbent, non-water soluble design gives Phonic Tech improved durability when compared to mineral fibre. This tile achieves a density of 100kg/m³. This results in a lightweight, high performance ceiling tile which is user friendly and ideal for use gymnasiums, sport centres, community halls, workshops, kitchens and schools.
- Available in a selection of colours on indent – standard colour is white.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

For Green Star rated projects, Phonic meets the Greenguard Emission Certificate standard.



GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354) (40mm)	NRC 0.90	ASTM C432-99
	α_w 0.95	ISO 11654:1997
	SAA 0.96	ASTM C423-99
Absorption (ISO 354) (20mm)	NRC 0.85	ASTM C423-99
Attenuation (ASTM E1414-11a) (40mm)	CAC 40	ASTM E413-10
	D_{ncw} 40	ISO 717-1
Light Reflectance	LR 84% +	
Weight	20mm: 2kg/m ²	40mm: 4kg/m ²
Density	100kg/m ³	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	Cone Calorimeter NZBC C/AS1-AS27
Thermal Conductivity	≥ 0.04 kcal/mh°C	JIS A 1412
Est. R-Value (m ² k/w)	40mm: R1	20mm: R0.5
Microbial Test: When tested for surface contamination the microbial levels were found to be very low. While there were low levels of fungi detected it should also be noted that there were no bacteria or yeasts found in the samples taken.		
Size	20mm Depth and 40mm Depth Square Edge [600x1200] [600x600] [1200x2400] 40mm other sizes available on request.	
Colour	White Black, Blue, Grey, Caramel available on indent- MOQ apply.	
Installation	Designed to fit into a standard 24mm two way exposed grid.	
Edge Detail	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>20mm Square Edge</p> </div> <div style="text-align: center;">  <p>40mm Square Edge</p> </div> </div>	

INGREDIENTS

Fibreglass tissue face with acrylic resin (back and front of tile) 7-10% - Fibreglass (Glasswool) 80-85%, Acrylic resin 15-20%, **Acoustic board 70-80%** - Glasswool 88-89%, Phenolic resin 11-12%, **Water-based paint 20-25%** - Acrylic emulsion 10-15%, Inorganic filler (Kaolin, Calcium carbonate) 40-55%, Environmentally friendly flame retardant 15-25%, A variety of additives (Dispersant, Leveling agent; from Polycarboxylate ammonium salt, EGBE-Ethylene glycol monobutyl ether, Water) 3-5%, Ion water 15-20%, **Glue 2-4%** - Acrylic resin 50-55%, Ion water 45-50%.



INNOVATIVE

ACOUSTIC SOLUTIONS

PRODUCT RANGE

Floc Panel	44
Floc 3D	46
Bosk	48
Aluminium Baffle	50
Focus Panel	52
Focus 3D	54
Focus Baffle	58
Metacoustic	62



FLOC PANEL

Woollen Acoustic Panel



High Absorption



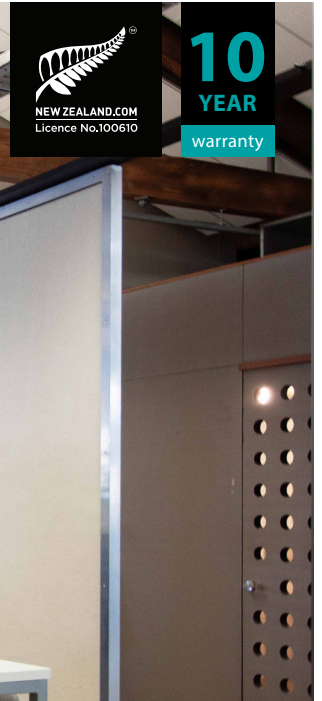
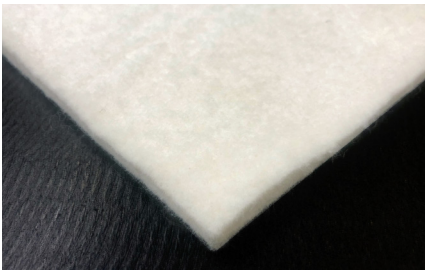
Lightweight



New Zealand Strong Wool



Fire Test Group-15



PRODUCT SUMMARY

Premier acoustic panels made from needle punched New Zealand strong-wool. Floc harnesses the sustainable nature of wool, adding multiple health, wellness and acoustic benefits to commercial interior environments.

Floc harnesses the sustainable nature of wool, enhancing its performance for the built environment. At end of life it can be returned to the earth as the product is fully compostable. Made from 100% New Zealand born, grown and processed strong-wool, utilising the by-product of shearing to create a sustainable wall lining.

- 1.2 x 25.0m L/M Rolls and cut to length available on request.
- Nom. 6-8mm panel thickness.
- Group 1-S Fire Test.
- Colours: Available in a range of neutrals and dyed wool- ex stock.
- Custom colour matches available- MOQ applies.
- Patterns: Printed patterns available- provide project specific patterns.
- Offers the acoustic and wellness benefits of wool used in indoor environments.

**Due to the natural makeup of Floc, organic matter may be present.*



FLOC PANEL


Woollen Acoustic Panel



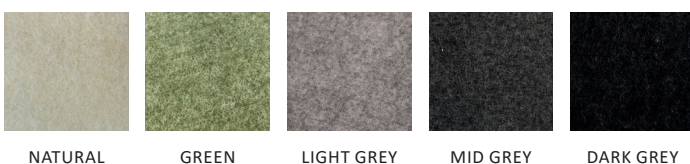
THE BENEFITS OF WOOL

The unique beneficial properties of wool have never been synthetically reproduced.

- Research by AgResearch has revealed that wool absorbs harmful air pollutants (such as formaldehyde, sulphur dioxide and nitrogen oxides) and does not re-emit them. It has been estimated that wool which is used in interiors can help purify the air for up to 30 years.
- Wool is hypoallergenic - it is resistant to bacteria, mould and mildew that can trigger allergic reactions. It has microscopic pores that respond effectively to changes in humidity preventing microorganisms from growing and breeding.
- A by-product of ethical farming practices in New Zealand ensures the supply of quality strong-wool.
- Using wool is a renewable, biodegradable and natural choice which provides naturally air filtering, heat and moisture regulating properties.
- Extensive research has gone into developing a product that meets fire regulations for interior linings. The solution gives a Group 1-S (according to ISO 5660 Part 1) performance and doesn't use nasty chemicals. The product is Red List free and can be buried at end of life.

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (Direct Fix) (ISO 354)	NRC 0.4 α W 0.3 SAA 0.54	ASTM C423-99 ISO 11654: 1997 ASTM C423
Fire Test - ISO 5660 Part 1	Group 1-S 	Cone Calorimeter NZBC C/VM2 Appendix A
British Standard 476	S (Fire Propagation Index): 4.9 Spread of Flame: Nil (Class 1)	BS 476 : Part 6 BS 476 : Part 7
Size	1.2 x 25.0m L/M Rolls and cut to length available on request.	
Weight	1.4kg/m ²	
Patterns	Printed patterns available- provide project specific patterns.	
Substrate Options	Can be fixed directly onto plasterboard, plywood and particle board using an environmentally friendly glue. Other options are available, talk to us to discuss these.	

EX STOCK COLOURS





FLOC 3D
Wool Acoustic Panel



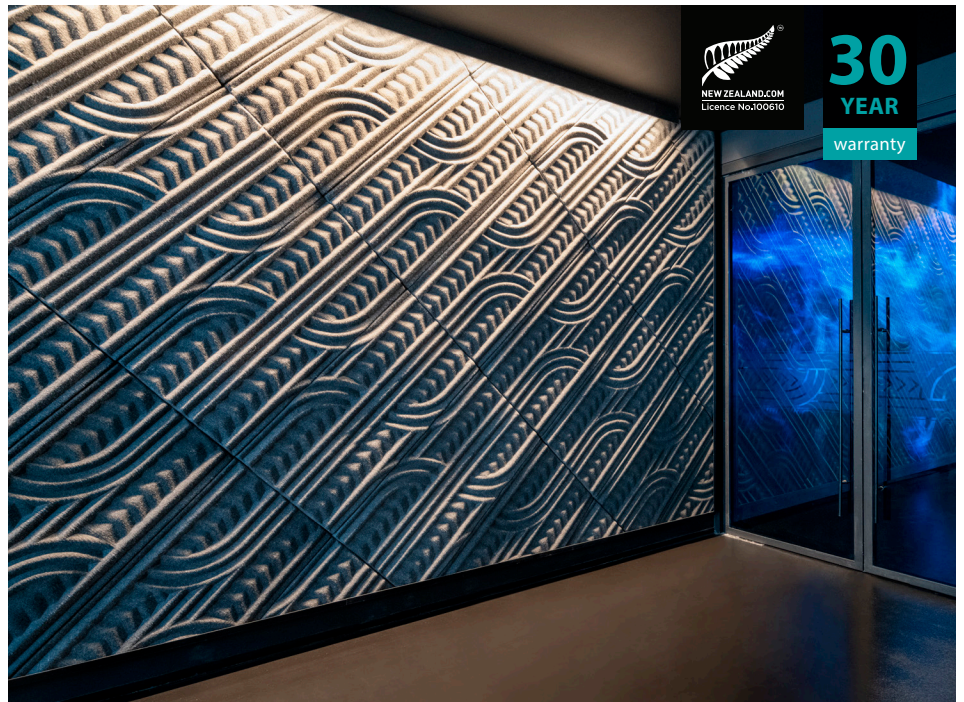
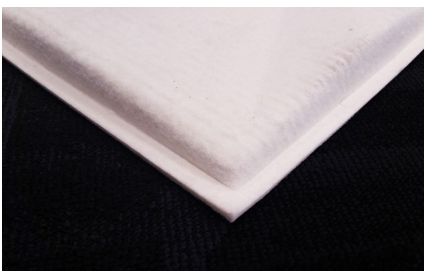
High Absorption



Lightweight Tile



Wool



PRODUCT SUMMARY

A premier 3D wool acoustic tile that is strong, resilient, innovative and brings together all the goodness of Aotearoa into your space.

Floc 3D is a contemporary and sustainable choice for commercial and residential interiors. The tile is made from woollen fibres pressed into a 3D configuration to give exceptional acoustic and wellness benefits to the interior environment. Proudly New Zealand made.

Floc 3D will eliminate common acoustic issues such as headache-inducing echoes and reverberation. Employers aiming to create a healthy and productive workspace must look at all aspects of the interior design including air quality and materials.

- This product has a High Noise Reduction Coefficient (NRC) to reduce Reverberation Time.
- It is suitable for high end offices, meeting rooms and other commercial and residential interiors.
- 30 year lifetime warranty.
- Floc 3D can be complimented with Focus 3D panels, to add contrast and colour to a Floc array.

**Due to the natural makeup of Floc, organic matter may be present.*



FLOC 3D
Wool Acoustic Panel



THE BENEFITS OF WOOL

The unique beneficial properties of wool have never been synthetically reproduced.

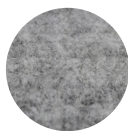
- Wool absorbs harmful air pollutants (such as formaldehyde) and does not re-emit them. It has been estimated that wool which is used in interiors can help purify the air for up to 30 years.
- Wool is hypoallergenic - it is resistant to bacteria, mould and mildew that can trigger allergic reactions. It has microscopic pores that respond effectively to changes in humidity preventing microorganisms from growing and breeding.

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (Direct Fix) (ISO 354)	NRC 0.65	ASTM C423-99
	α W 0.45	ISO 11654: 1997
	SAA 0.86	ASTM C423
Absorption (Suspended) (ISO 354)	NRC 0.80	ASTM C423-99
	α W 0.80	ISO 11654: 1997
	SAA 0.89	ASTM C423
Weight	1.4kg/m ²	

COLOURS



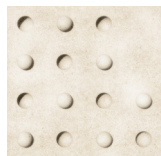
NATURAL WHITE



GREY

TILE RANGE

Direct Fix Wall Tiles (500x500)



DIMPLE



GEMINI



PIVOT



CHEVRON



FLAT



FRACTILE



SIREN



SPECTRUM



ATLAS



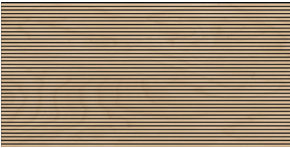
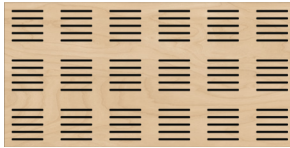
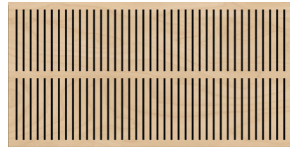
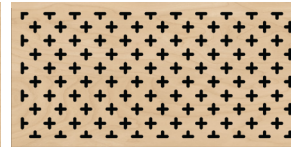
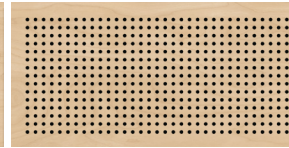

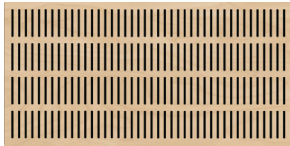

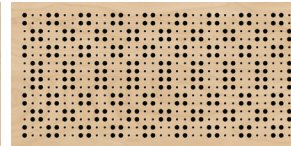
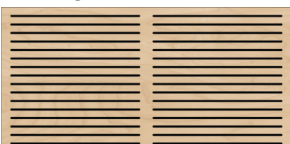


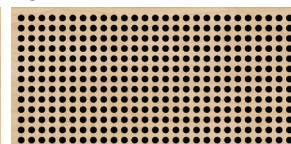
SWISH



PRODUCT SUMMARY

Bosk panels are perforated and slotted sheets in a variety of finishes which achieve a high level of absorptive acoustic performance. They are ideal for use in commercial interiors, lobbies, gymnasiums, restaurants, schools and residential applications. Bosk is highly durable and available in a many iterations to achieve the desired design aesthetic.

- Constructed in sheet form for easy use as a wall and ceiling lining, and also available in tile form for placement in a suspended ceiling system.
- The panels are sourced from the Prime Panel and Bestwood ranges from NZ Panels Group and all their sheet options in 12mm or thicker are available for perforation.
- Bosk Panels meets Group 1-5 fire test requirement; or Group 3 test requirements.
- The panels come with standard black acoustic backing material and additional polyester acoustic insulation is available. Variable NRC ranges from 0.35 up to 0.75 dependant on perforation.
- Bosk panels are available in a range of perforation patterns or bespoke options. Standard sheet sizes are 1200 x 2400mm for full sheets or 600 x 600mm and 600 x 1200mm for ceiling panels.

STILT 	KEA 	PUKEKO 	STITCHBIRD 	PIHIPIHI 
TAKAHE 	KAKA 	FANTAIL 	RURU 	For the full range refer to our website or the Bosk Catalogue. 600 x 1200 shown
KERERU 	KIWI 	WEKA 	TUATARA 	

COLOURS

Bestwood and Prime Melamine are a favourite of New Zealand interior designers, architects and joiners. Their range of easy care, pre-finished, panels are available in a large range of finishes with their iconic timber aesthetic. Inspired by the warmth and nature beauty of timber.



BESTWOOD®



WASHED OAK



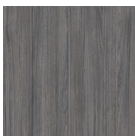
COASTAL ELM



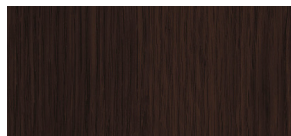
VINTAGE ASH



SOUTHERN OAK



SMOKED ASH



DARK OAK

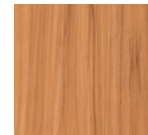
PrimePanels^{NZ}



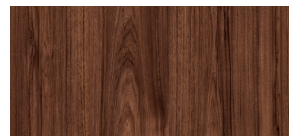
ASHEN WALNUT



PRIME MAPLE



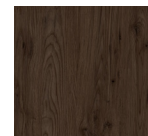
PRIME RIMU



HICKORY WALNUT



SHALE



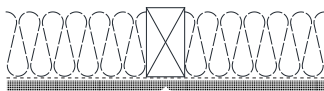
FUMED OAK

For the full range refer to our website or the Bosk Catalogue.

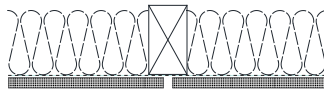
FIRE GROUP NUMBER CHART

PROPERTIES	TEST METHOD	UNITS	RESULT
Prime Melamine on MDF FR Black	C/AS2	Group Number	Group 1-S
Prime Veneer on MDF FR Black coated with a 2 pack low yellowing polyurethane	C/AS2	Group Number	Group 1-S
Prime Veneer on MDF Standard	C/VM2	Group Number	Group 3
Prime MDF FR Black	C/AS2	Group Number	Group 1-S

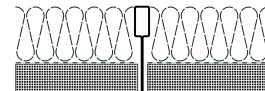
VEE JOINT



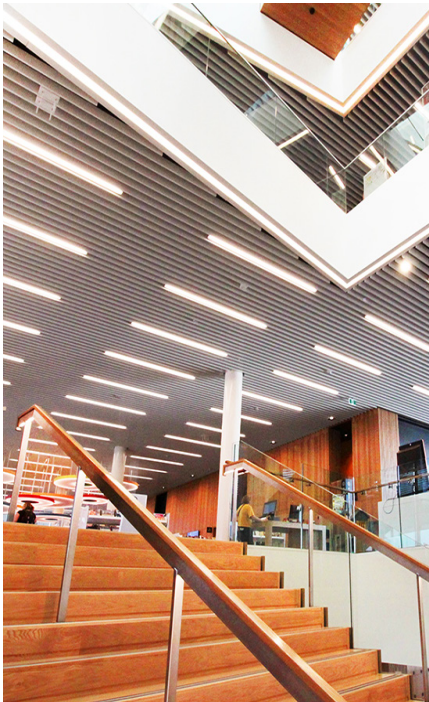
EXPRESSED JOINT



SUSPENDED CEILING



Bosk panels are a wood based product so consideration needs to be taken regarding expansion and contraction- especially over large areas.



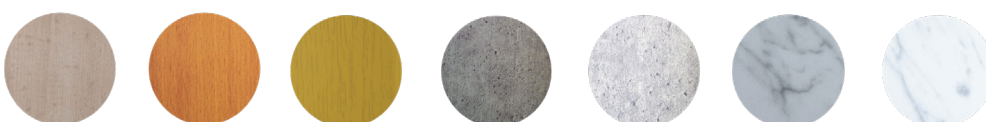
PRODUCT SUMMARY

- Eclipse Aluminium Baffle is an elegant linear ceiling, made up of extruded aluminium profiles.
- Has a sleek and seamless appearance. Appropriate for airports, malls, offices, hotel foyers, museums and commercial areas.
- The baffles are aesthetically pleasing and easy to maintain. Unlike timber, the baffle doesn't warp. Powdercoating options allow for a timber look.
- Can be installed with integrated lighting options; Gridlux can be incorporated into the aluminium extrusion and the luminaires are flush with the base of the baffle.
- 500+ Resene and Dulux powdercoat colours, 15 MetWood finishes, bespoke and others available upon request. An antimicrobial coating can be applied for when used in hygiene and medical spaces.
- Unique and client specific in its suspension system options.
- Add acoustic absorption behind for good reverberation control/high NRC.

METWOOD FINISHES



Black Bean Darkest Gum Dark Riverwood Washed Riverwood Plywood Washed Teak Honey Manuka Oak Broom



Beachwood Tawa Kahikatea Concrete White Concrete Grey Marble White Marble

LEAD TIMES APPLY

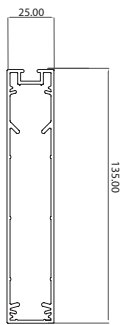


ECLIPSE ALUMINIUM BAFFLE

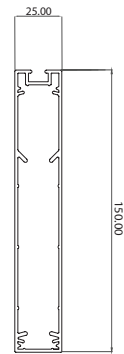
Suspended Ceiling Baffle

GENERAL TEST DESCRIPTION	RESULT
Noise Reduction Coefficient	Depends on acoustic material behind
Weight	Depends on configuration
Luminaires	Able to incorporate GridLux

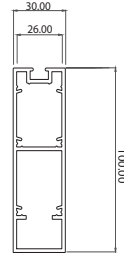
135mm x 25mm Baffle



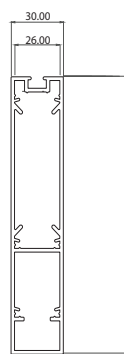
150mm x 25mm Baffle



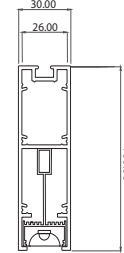
100mm x 30mm Baffle



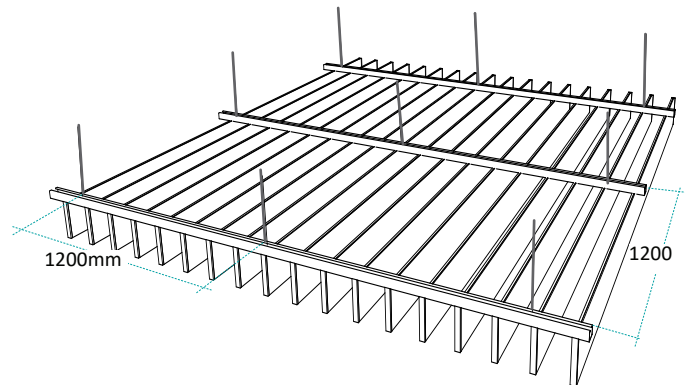
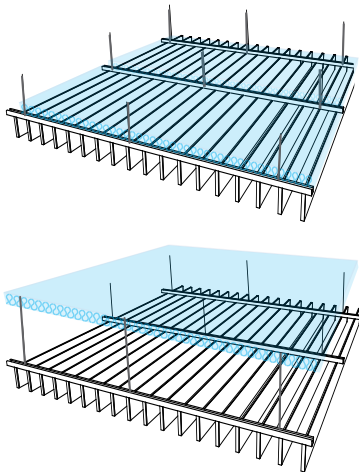
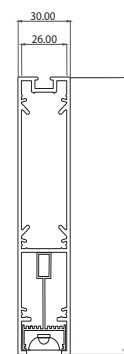
150mm x 30mm Baffle



100mm Baffle with GridLux



150mm Baffle with GridLux



Poyester Insulation above the baffle (either directly on top or in the ceiling plenum) will create an acoustically absorbent ceiling.

FOCUS

FOCUS Acoustic Polyester Panel



High Absorption



Hydrothermal



Fire Test Group-1S



Impact Resistant



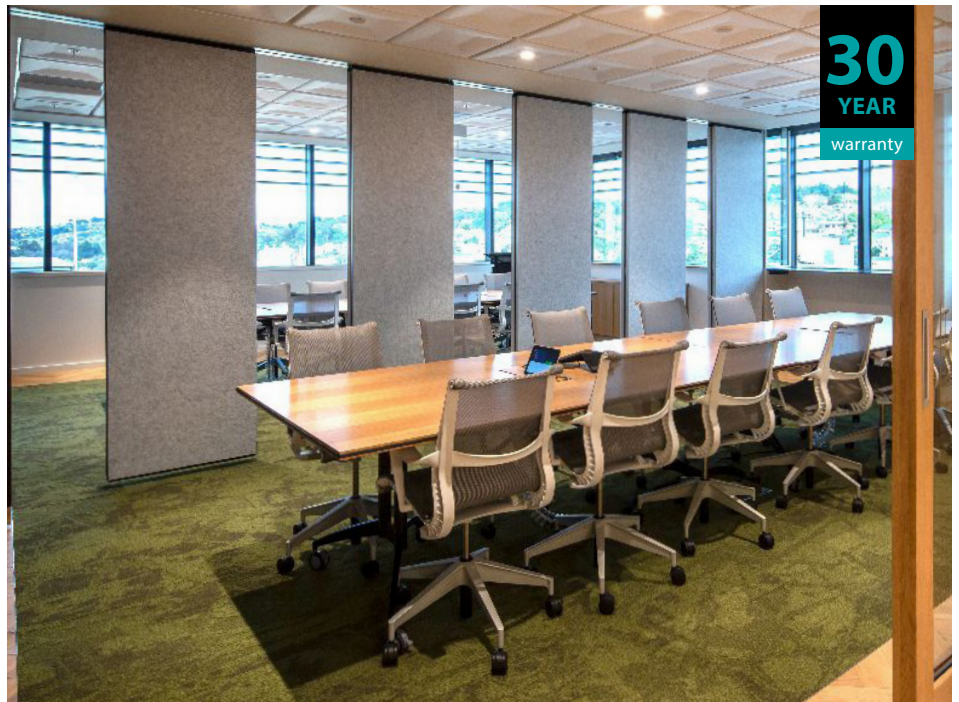
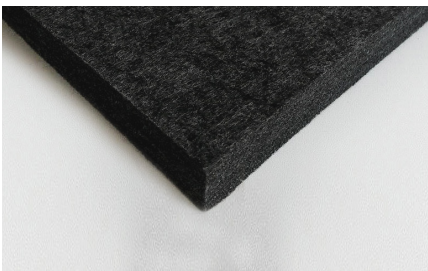
Lightweight Tile



Abrasion



Polyester



PRODUCT SUMMARY

Focus is an innovative acoustic panel with a sleek polyester texture. The sheets have been acoustically tested for sound absorption performance and perform very well with an airgap behind. The panel is a baseboard for a large variety of innovative and acoustically absorbent products. Easy to suspend or direct fix.

- Focus panels come in a select range of monochrome colours. The Snow panel can be printed to colour match any desired colours. The surface is receptive to staples for education and office applications and will self-heal.
- The panels are 12mm and available in 24mm thickness as a laminated panel(MOQ applies). Applications include panels for walls and ceilings, workstation panel construction, wall panelling, suspended cloud panels and other decorative features.
- Focus has been tested and meets Cleanroom ISO Class 3 requirements and can therefore be used in medical applications. Because polyester not affected by moisture, mould or mildew the panels will not rot or deteriorate in high humidity environments such as an aquatic centre.

Focus panels are a high quality baseboard and thus can be manufactured to bespoke designs to suit architectural requirements:


- Focus panels can be cut with a range of cutting processes: options include circles, ovals, clouds, hexagons, grooved panels, decorative trellis panels and other complex shapes. Can be folded into 3D geometries. Can be printed with corporate logos or images, and etched or cut for branding and bespoke options.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT

Focus Polyester Panels are made with 60% recycled materials.

FOCUS

FOCUS Acoustic Polyester Panel

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Sound Absorption (12mm)	0.40 NRC with no airgap	ISO 354:2003
Sound Absorption (24mm) (tested Dec. 17)	0.65 NRC with no airgap	ISO 354:2003
Fire Test - ISO 9705	Group 1-S 	ISO 9705
Cleanroom	ISO Class 3	ISO 14644.3:2015
Abrasion-Taber Type Test	Rating 6 (1000 Cycles)	GMW 3208-2007
Density	210kg/m ³	
Composition	100% Polyester Fibre (PET). 60% recycled content.	
Weight	12mm: 2.5kg/m ² 24mm: 5.0kg/m ²	
R-Value (m ² k/w)	12mm: R0.25	
Size	Comes in various sizes but standard blanks are 1220x2440mm Job specific cuts available	

PRINT CUSTOM COLOURS



Provide any CMYK colour value to create a custom colour printed on Snow Focus. Edge to edge colour print on face, with exposed Snow edges.

FOCUS STOCK COLOURS



Please confirm colour selection by referring to a physical sample.

FOCUS

FOCUS 3D 3D Acoustic Tile (Suspended Grid Fix)



High Absorption



Hygrothermal



Fire Test Group-1S



Impact Resistant



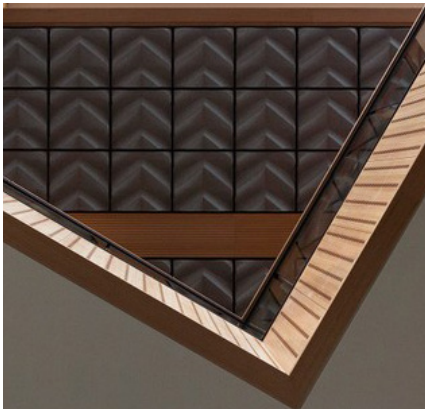
Lightweight Tile



Abrasion

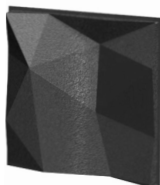
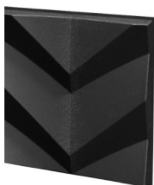
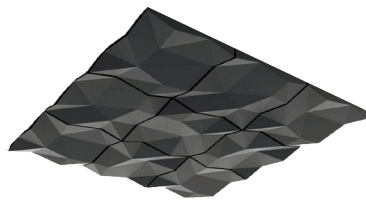


Polyester



PRODUCT SUMMARY

- Suitable for high end commercial and education spaces. Proudly New Zealand made.
- Suitable for use in a suspended ceiling grid. Available in 600 x 600. Can be fitted to existing ceiling grid.
- Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and meets Cleanroom ISO Class 3.
- Elegant and contemporary designs to add interest to most interior spaces.
- Focus 3D perfectly compliments the Floc 3d range and can be used to add contrast to a woollen Floc array.



LEAD TIMES APPLY

FOCUS

FOCUS 3D

3D Acoustic Tile (Suspended Grid Fix)

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 11654)	NRC 0.80 α_W 0.75(L) SAA 0.79	ASTM C423-99 ISO 11654 ASTM C423-99
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	ISO 9705:1993
Cleanroom (tested Oct. 18)	ISO Class 3	ISO 14644.3:2015
Size	600x600 (Ceiling Tiles)	
Weight	2kg/m ² (approx.)	
Designs	Available in Fractile, Chevron, Flat and Vienna tiles Contact T&R Interior Systems for custom designs	

COLOURS



SNOW

FOCUS

FOCUS 3D 3D Acoustic Tile (Direct Fix)



High Absorption



Hygrothermal



Fire Test Group-1S



Impact Resistant



Lightweight Tile



Abrasion



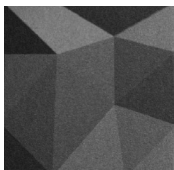
Polyester



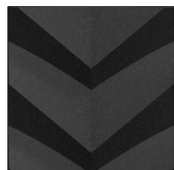
PRODUCT SUMMARY

A striking acoustic solution suitable for cafes, restaurants, offices, boardrooms and other commercial interiors. Proudly New Zealand made.

- Ideal to use as a retrofit solution to reduce reverberation time in most commercial and education spaces. Direct fix to ceilings and walls. Tested to the principal requirements in accordance 14644.1:2015 and ISO 14644.3:2015 and meets Cleanroom ISO Class 3.
- Elegant and contemporary designs to add interest to most interior spaces. Focus 3D perfectly compliments the Floc range and can be used to add contrast to a woollen Floc array.



FRACTILE



CHEVRON



SIREN



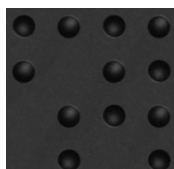
SPECTRUM



ATLAS



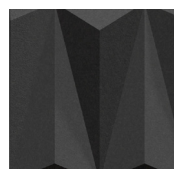
PIVOT



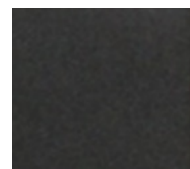
DIMPLE



GEMINI



SWISH




FLAT

LEAD TIMES APPLY

FOCUS

FOCUS 3D 3D Acoustic Tile (Direct Fix)

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption		
Focus 3D Direct Fix	NRC 0.60	ASTM C423-99
Focus 3D Direct Fix (tested with 400mm airgap)	NRC 0.80	ASTM C423-99
Focus 3D Direct Fix with 25mm Absorbent back	NRC 0.90	
	SAA 1.07	
Fire Test - ISO 5660 Parts 1&2	Group 1-5 	ISO 9705:1993
Cleanroom (tested Oct. 18)	ISO Class 3	ISO 14644.3:2015
Size	500x500 (Clip System for Direct Fix)	
Weight	2kg/m ² (approx.)	
Designs	Available in various designs Contact T&R Interior Systems for custom designs	

COLOURS



SNOW

FOCUS

FOCUS BAFFLE Acoustic Ceiling



High Absorption



Hydrothermal



Fire Test Group-1S



Impact Resistant



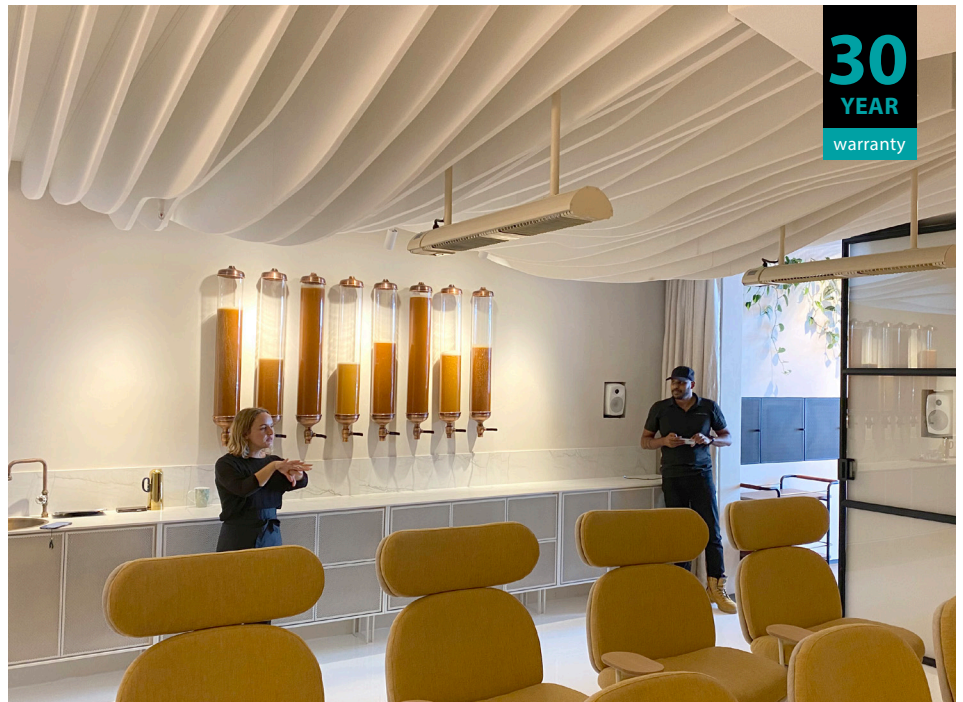
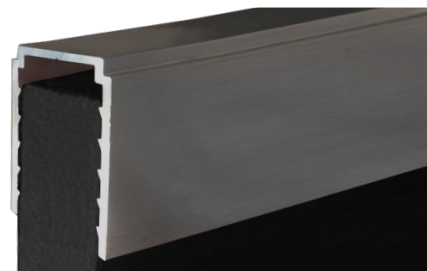
Lightweight Tile



Abrasion



Polyester



30
YEAR
warranty

PRODUCT SUMMARY

The Focus Baffle is a design-friendly, elegant linear ceiling, made up of polyester profiles. Focus polyester baffle sheets have been acoustically tested for sound absorption performance and perform very well. Proudly New Zealand made.

- Appropriate for high-end airports, malls, offices, hotel foyers, museums and commercial areas.
- The baffles are aesthetically pleasing and easy to maintain. Unlike timber, the baffle doesn't warp.
- Available in variable drops. Offers excellent design potential. Also available as a folded box-section. The box shape feature not only looks more substantial, it also increases the NRC rating. The dimensions are variable to suit
- Unique and client specific in its suspension system options.
- Comes in length of 2.4 metres. It can be cut down to size on site. We do not recommend joining baffles. A negative detail between lengths is recommended for a clean look. Can be direct fixed and suspended.
- High quality with design flexibility, thus can be manufactured to bespoke designs to suit architectural requirements.

EMISSIONS, SUSTAINABILITY AND THE ENVIRONMENT


Focus Polyester Panels are made with 60% recycled materials.

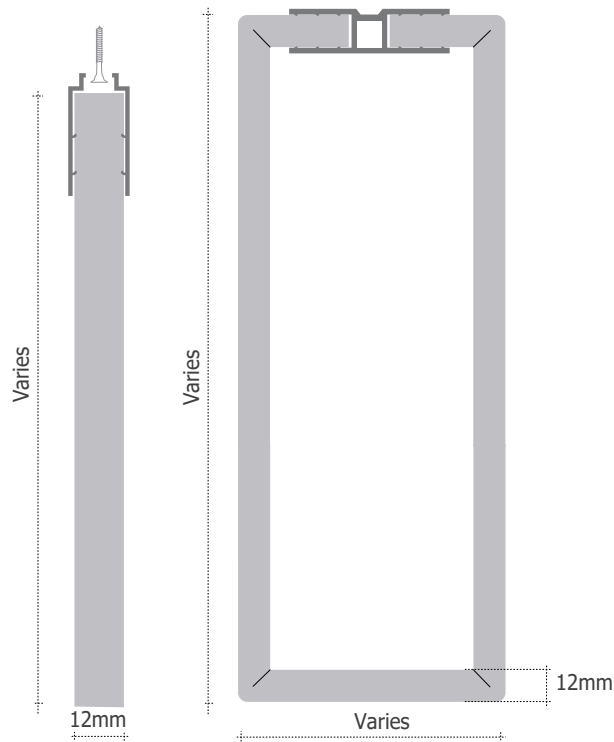
FOCUS

LEAD TIMES APPLY

FOCUS BAFFLE

Acoustic Ceiling






GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Noise Reduction Coefficient	NRC 0.90 (varies with configuration)	
Fire Test - ISO 5660 Parts 1&2	Group 1-S 	Cone Calorimeter
Density	210kg/m ³	
Weight of fabric	12mm: 2.5kg/m ²	
Size	12mm with variable drops available. Folded Baffle made with 12mm product.	

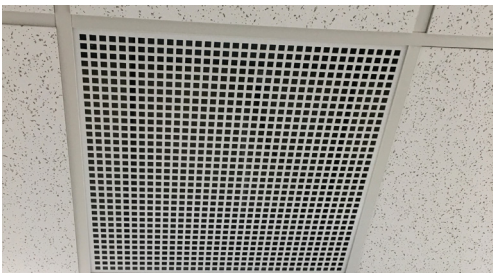
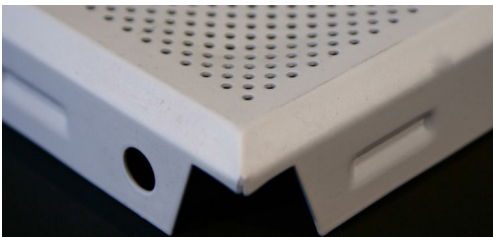


COLOURS



LEAD TIMES APPLY
INDENT ONLY. MOQ
METACOUSTIC
Metal Ceilings

 High Absorption	 Fire Test Group-1S	 Impact Resistant	 Abrasion Tested
 Aluminium			



PRODUCT SUMMARY

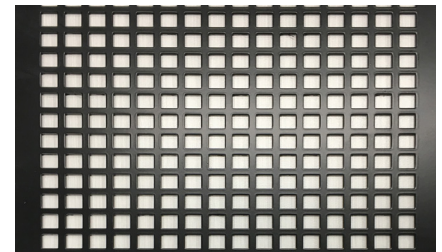
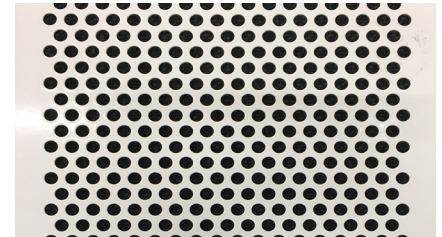
The Metacoustic range offers bespoke metal ceilings. A variety of designs are available (including a perforated metal pan ceiling tile). Metacoustic offers high quality, immense flexibility with high aesthetic appeal. Tiles are made to order and have as an option black Soundtex Acoustic Cloth backing to enhance the sound absorption. Proudly New Zealand made.

Made from high quality aluminium, they are Ideal for use in swimming pools, airports, railway stations, sports halls and other large commercial spaces due to their high durability.

- Metacoustic tiles are made to order (Indent Item) to maximise flexibility of design as well as aesthetic effect. It is possible to have the tiles manufactured in variable sizes to suit architectural requirements. A range of these tiles (square edge only) are made in New Zealand, for shorter lead times.
- The Sound Absorption Coefficient (NRC) is dependent on the size and configuration of the perforations and can be increased with additional insulation in the plenum.
- Perforation can be square or round and punched to variable densities for different aesthetic and acoustic preferences.
- Metacoustic tiles are compatible with 24mm exposed metal suspended ceiling grid systems.
- Metacoustic tiles have adequate integrity to carry approved down lights and service detailing.

**LEAD TIMES APPLY
INDENT ONLY. MOQ**
METACOUSTIC
Metal Ceilings

GENERAL TEST DESCRIPTION	RESULT
Noise Reduction Coefficient	Standard NRC of 0.6 (Changes depending on configuration and size of perforations). Can be increased to NRC of 0.8 with added insulation backing.
Size	Standard sizes: 600x300mm, 600x600mm, 1200x600mm, 2400x1200mm. Available in sheets up to 3000 x 1200mm.
Colour	Powdercoat Colours or Mill finish.
Edge Detail	Fully Concealed, One way exposed, Rebated, Square Edge (made in NZ) (20mm border non-perforated)





Commercial Bay - Warren & Mahoney



Auckland Museum Butterfly Exhibition - WORKSHOP E



Greenwood Roche - Wellington - Custance
David Hamilton - photographer



ZQ Studio - NZ Merino - Gaze Construction



Rowdy Kitchen - Christchurch



Everil Orr - Auckland - Chow Hill



Spark House - Christchurch - Sheppard & Rout



SEISMIC

DESIGN SOLUTIONS

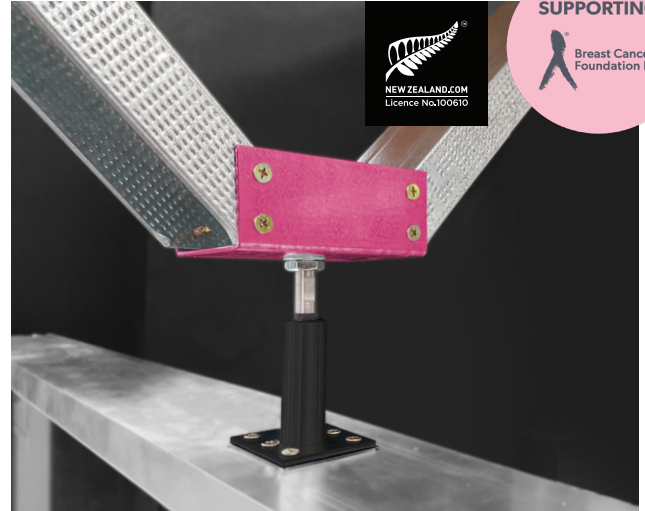
PRODUCT RANGE

VertiBrace	68
StratoBrace	70
Tectonic Headtrack	72
CBI Ceiling	74
15mm and 24mm	
CBI Flooring	76
Steel and HPL	

VertiBrace®

VERTIBRACE

Partition Restraint



PRODUCT SUMMARY

All buildings are affected by vertical movement. This movement can be caused by wind and seismic events as well as live/dead loads imposed on the floor above. In large or multi-level buildings this movement can be substantial. When not considered, vertical movement can cause irreversible damage to partition walls and may endanger occupants in the event of a natural disaster.

VertiBrace provides lateral bracing for partial height partition walls and removes the need for deflection headtrack. It prevents many of the issues seen during the Christchurch, Kaikoura and Seddon Earthquakes, helping to ensure occupant safety and limit non-structural partition damage.

The VertiBrace utilises a sliding connection that separates the partition wall from the structure above meaning that any vertical deflection doesn't damage the partition system. When installed, the VertiBrace will allow for +/- 25mm deflection, 50mm total. A taller version is available to accommodate 70mm worth of movement (+/- 35mm).

The VertiBrace cylinder is fitted with an acoustic sleeve which prevents noise as the connection slides. An additional benefit is that this greatly reduces footfall vibrations transferring down through partition walls.

VertiBrace can be fitted to timber, aluminium, and steel headtracks and can be retro-fitted to most existing partitions.

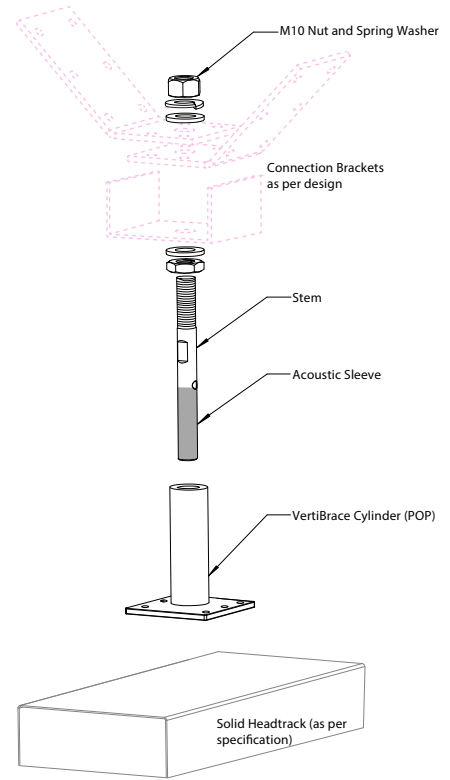
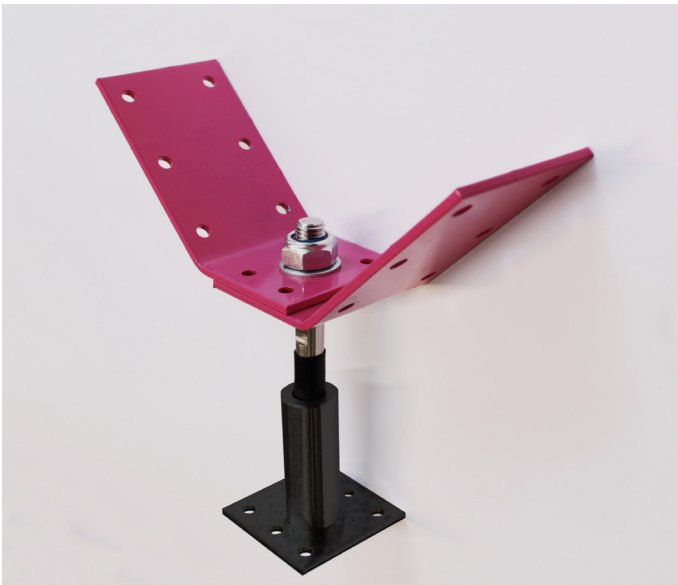
Free Markup Service Available

VERTIBRACE MEETS THE B1 STRUCTURE PROVISIONS IN THE NEW ZEALAND BUILDING CODE.
(when designed and installed in full compliance with the Design and Installation Guide)

VertiBrace®

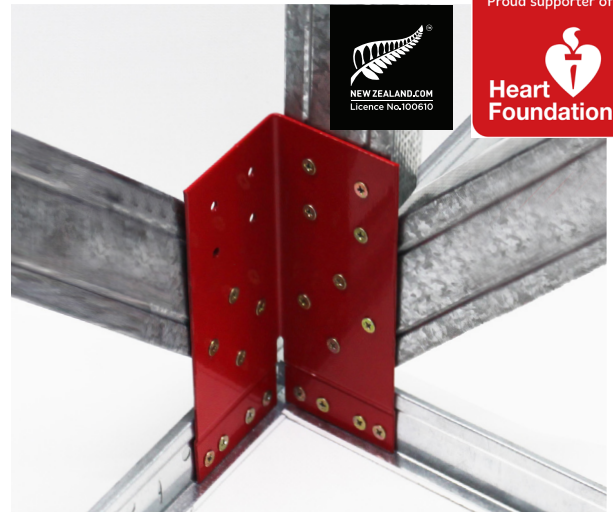
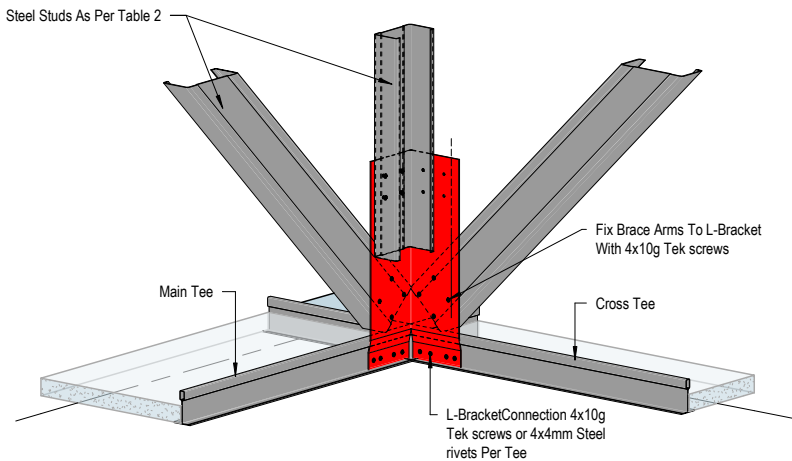
VERTIBRACE

Partition Restraint



StratoBrace®

STRATOBACE Rigid (Ceiling) Restraint



PRODUCT SUMMARY

The StratoBrace is designed to lock into a two way suspended grid system in order to increase its ability to withstand lateral loads. It is a simple system that is easy to install. If perimeter fixing is insufficient for the seismic demand, a ceiling must be restrained to the structure above using another method such as StratoBrace. This product provides a tested, strong and effective method to provide lateral restraint.

- The StratoBrace provides a proprietary bracket to attach a compression strut and two orthogonally opposing angle struts to the ceiling grid.
- Its performance has been extensively tested.
- The StratoBrace bracket uses grade 250 steel 2mm thick, its yield strength is 250MPa.
- Use the T&R Seismic Calculator to design a ceiling that complies with the requirements set out in NZS1170.5 (www.tris.co.nz/index/home/Seismic_Calculator)

Please note: The ceiling grid must not be connected to the perimeter wall or frame (See T&R's Z Rail or seismic wall clip). The gap between the ceiling and the surrounding wall has to be sufficiently large that the ceiling is not damaged by impacts against the wall during an earthquake.

Flexible connections should be used between ceiling-supported equipment and their ducts or pipes that are supported by the structure.

The StratoBrace when designed and installed in full compliance with the Design Guide (T&R Seismic Suspended Ceiling Calculator) will meet the B1 structure provisions in the New Zealand Building Code.

StratoBrace®

STRATOBACE Rigid (Ceiling) Restraint



The StratoBrace comes in two heights. Standard and Long.

- Use StratoBrace Standard for commodity and thin tiles <35mm.
- Use StratoBrace Long for thicker tiles such as Combo and Impact panels.

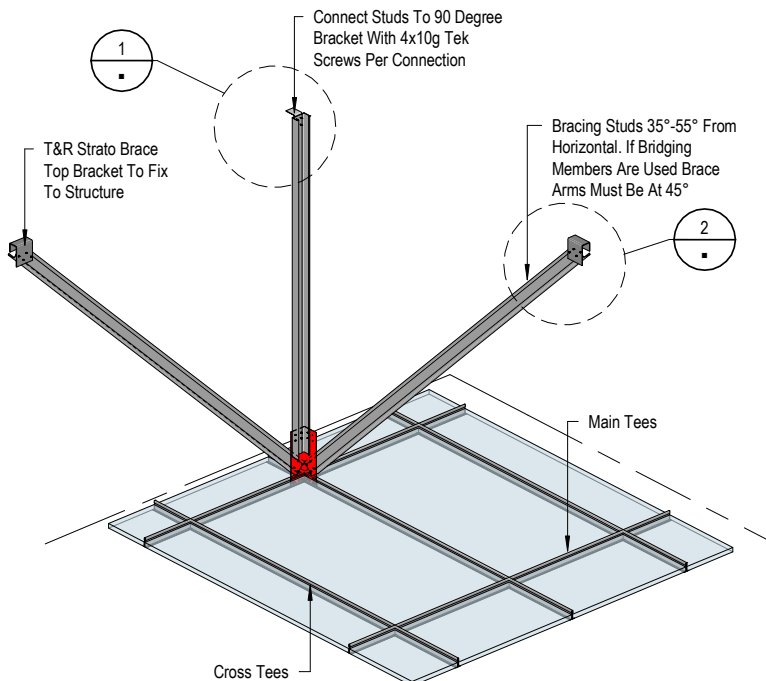
BRACE CAPACITY - 2.45 KN

Table 1 - Connection Specification

Building Structure	Connection Type
Concrete Slab	1 x HILTI HUS3-H10 Screw Anchors • 60mm Embedment & 100mm Edge Distance
Steel Purlins	4 x 12g Tek Screws
Timber Joists & Purlins	4 x 10g HWF T17 Wood Screw • 35mm Embedment min.
Steel Beam	4 x Hilti X-U P8 Steel Nail Fixings

Table 2 - Required Stud Size

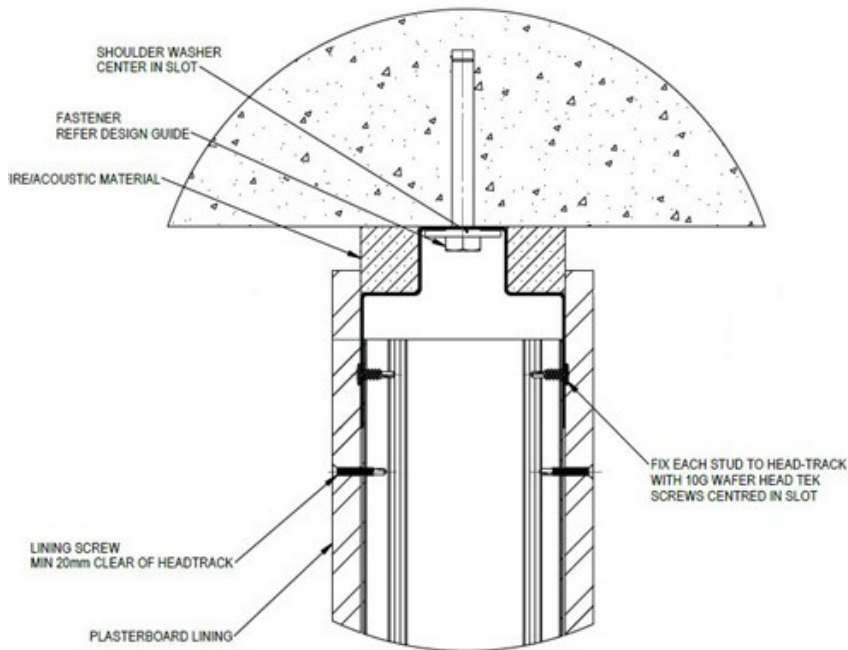
Stud Size	Maximum Plenum Height
64x0.75BMT	1.3m
64x0.75BMT Boxed	1.9m
92x0.75BMT Boxed	2.1m



- When installing bracing under purlins, fix brace members to purlins wherever possible for specified brace layout. Otherwise use bridging.
- Boxed studs must be screwed together top and bottom at 300mm c/c
- Double boxed studs must be screwed together at 300mm c/c
- See Drawing Set for detailed installation information
- Any alteration to design must be approved by a suitably qualified engineer.

TECTONIC HEADTRACK

Full-height Partition Restraint



PRODUCT SUMMARY

The Tectonic Headtrack allows for the top of full-height walls to meet multiple performance criteria. It deals with inter-storey drift and vertical deflection between two structures effectively while not conceding acoustic and fire performance.

Slots in the vertical and horizontal plane of the head track are designed to allow for building deflection and inter-floor movement caused by seismic activity and dead/live loading. Wall junction details have been developed and tested to reduce damage to the wall due to seismic and building drift.

The recessed area of the track allows for the head-track to be fire and acoustically rated off the shelf.

- The Tectonic Headtrack allows for movement along multiple axes. The slots in the top of the headtrack allow for horizontal deflection (relative horizontal movement between storeys in an earthquake) and the vertical slots allow for vertical deflection between storeys due to dead/live loading as well as earthquake deflection). The system has been tested on a Shake Table.
- The Tectonic Headtrack has been fire tested according to AS 1530.4-2014 *Methods for Fire Test on Building Materials*.
- Sound intensity measurement showed that on a STC 52 wall there was no reduction in the overall acoustic performance of the partition.
- The Tectonic Head Track is easily integrated into either timber or steel 92 mm wall framing constructions.
- For full install instructions please refer to installation manual.

Free Markup Service Available

TECTONIC HEADTRACK MEETS THE B1 STRUCTURE PROVISIONS IN THE NEW ZEALAND BUILDING CODE.

(When designed and installed in full compliance with the Design and Installation Guide)

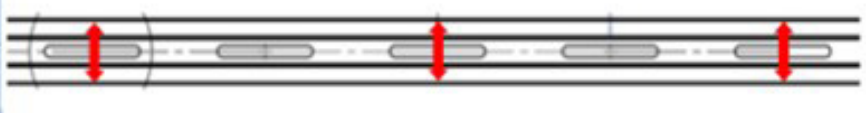
TECTONIC HEADTRACK

Full-height Partition Restraint


During testing, building movement of up to 30mm was tested with no damage to the linings or framing, very minor damage to the stopped joints was observed. This is equivalent to 1% drift for a 3m high wall.

The head-track capacity under horizontal loads (seismic, wind and impact) is shown below. The System capacity and deflection is dependent on the anchor spacing.

Fixing Spacing = 600mm, Stud spacing 600mm:

ULS Capacity	2.75 kN/m	
SLS1 Capacity (5mm deflection)	1.5 kN/m	

Fixing Spacing = 1200mm, Stud spacing 600mm:

ULS Capacity	1.5 kN/m	
SLS1 Capacity (5mm deflection)	1.0 kN/m	

Acoustic: An acoustic assessment was carried out on a wall system with a Tectonic Headtrack to evaluate the performance in a partition system. A high-density passive fire protection strip was fitted to both sides of the track in the specially designed recess. Sound intensity measurement showed that on a STC 52 wall there was no reduction in the overall acoustic performance of the partition. Where a fire rating is not required, a high mass filler strip can also be used, of between 4 – 5 kg m². Test report available on request.

Fire testing: The Tectonic Headtrack is defined as a control joint, therefore, when it is used in a fire rated system, the correct passive fire protecting must be employed. Tectonic Headtrack has been fire tested according to AS 1530.4-2014 Methods for Fire Test on Building Materials. Although the detailing is up to the fire engineer, we recommend two passive fire protection systems: RyanFire Batt 502 and RyanFire Graphite Strap.

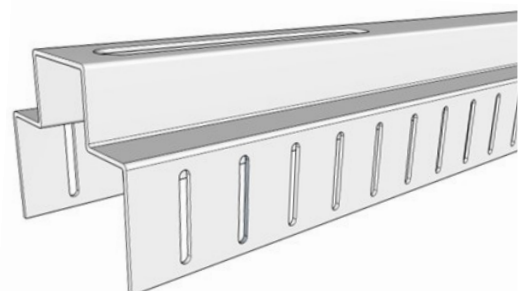
Material properties: The Tectonic Headtrack is manufactured in New Zealand from 250 MPa, hot dipped galvanised mild steel. Standard material properties are presented below.

Standard length 2970 mm

Total depth 91 mm

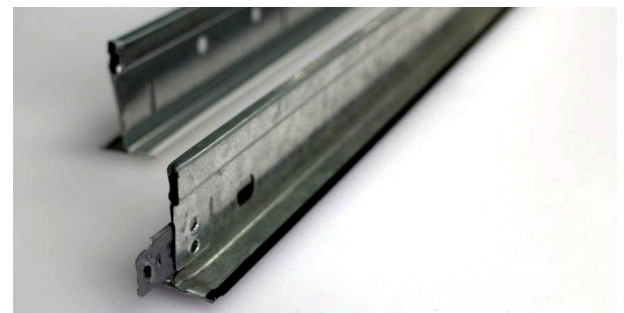
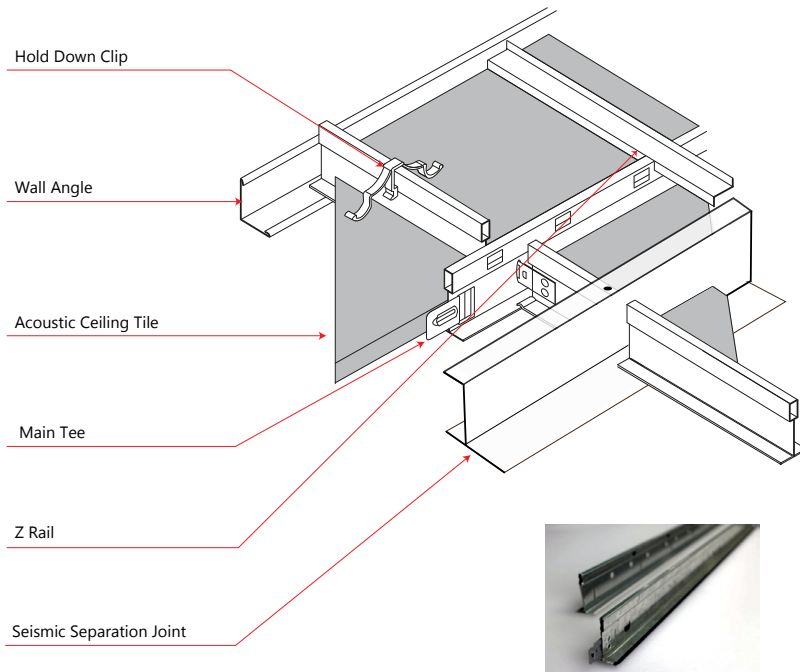
Recess depth 30 mm

Gauge 1.2 mm



CBI GRID

15mm and 24mm Two Way Exposed Grid System



PRODUCT SUMMARY

- Heavy duty configuration with a 38mm web height to both Main and Cross Tees.
- Main Tees punched at 100mm centres with first punch at 50mm.
- Convenient punch out to both Web and Bulb for ease of suspension.
- Seismically tested and proven to meet current NZ Standards.
- Compatible with seismic separation joint and Cetram T Bar lighting.
- High quality Italian design and manufacture.
- Site specific ceilings will be designed to both ultimate and serviceability limit state to meet current NZ Code.
- We are able to facilitate PS1 and PS4 if required.

Install main tees so that they are parallel (up/down the incline) with the slope of a raked ceiling. Do not install the main tees perpendicular to the incline as this may lead to grid failure.

CBI GRID

15mm and 24mm Two Way Exposed Grid System

MAIN TEES

The Main Tee is manufactured from hot dipped galvanised steel in a double web, balanced tee design, in 3700mm lengths. It is finished with a pre-painted steel cap. The Main Tee is conveniently punched at 100mm centres and includes suspension points in both the bulb and web. Main tees extend from wall to wall and are the primary ceiling support. End splices allow for greater lengths. Slots along the runner side allow cross tee to connect.

CROSS TEES

The Cross Tees are manufactured in the same configuration in 1200mm and 600mm lengths. Lay on edge detail for neatness of installation coupled with resistance to twist. They connect between main tees using interlocking tabs. The high tensile clips ensure a positive locking system for quick installation.

WALL ANGLE

L-shaped pieces that fasten to the wall and support the ends of the main runners and cross tees.

Z RAIL

A seismic support that suspends the edge of the grid without relying on the perimeter.

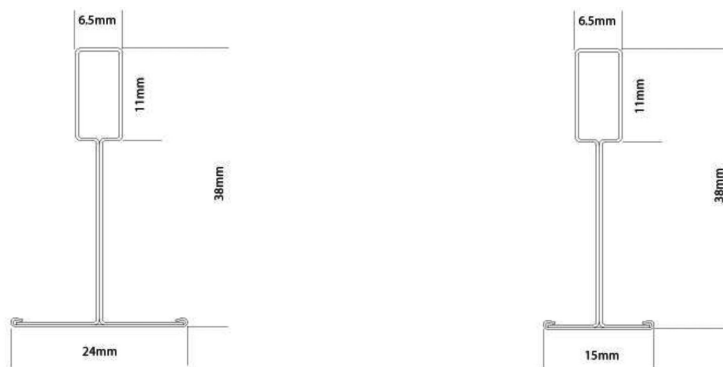
BORDER

Cut panels around the perimeter of the room. They should be greater than half of a tile to maintain balance and add visual appeal.

CLIPS

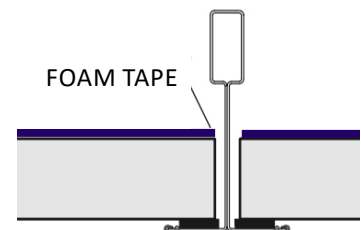
Hold down clips are available as required.

Profile



Air Flow resistance option:

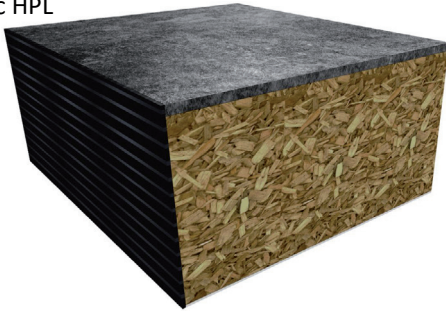
Seated foam tape on the inside of the 24mm grid face.



CBI ACCESS FLOORING

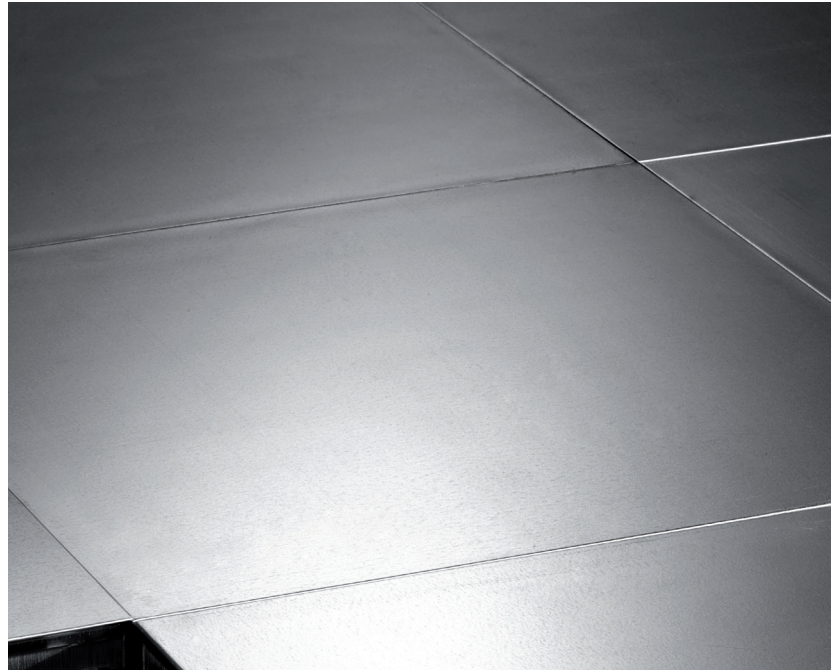
Antistatic HPL

38mm



Fully Steel Encapsulated

31mm



PRODUCT SUMMARY

Seismically, access floors are a very safe alternative to running heavy equipment in the ceiling plenum. They are a great solution for projects where technical flexibility and frequent modifications of electrical, telephone and/or computer wiring is required.

- Suitable for offices, banks, control stations and open plan office areas.
- The accessible inter-space created by the Access Floor allows for unobstructed alignment of all electrical, hydraulic ducts, computer cabling and telephone wiring.
- T&R standard stock component is a high density wood fibre core panel; with an external covering of Antistatic HPL or Steel Encapsulated panel. Other finishes are available on indent.
- Modular substructure systems support medium weight loads.

TECHNICAL SPECIFICATIONS

PHYSICAL DATA SUMMARY		ANTISTATIC HPL	FULLY STEEL ENCAPSULATED
High Density	720Kg/m ²		
Fire Reaction	Class A1		
Thickness		38mm	31mm
Fire Reaction UNI EN 13501-1		Bfl-s1	Bfl-s1
Fire Resistance UNI EN 13501-2		REI 30	REI 30
Center of Panel - Deflection 2.5mm		4.2 KN	5.3 KN
Center of Panel - Ultimate load		12.0 KN	13.4 KN
Loading Class		6	6

STRUCTURE

WEIGHT

0.270 kg/pcs

TECHNICAL DATA

Aspects of performance value (UNI 13964 - 2005)

FIRE REACTION

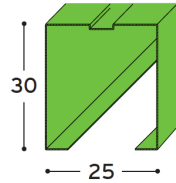
(Under structure) Class A1 DM 10/03/05 DEC. 2000/147/CE

MECHANICAL RESISTANCE

(Under structure) 548.80 N/m² Normal break load

DURABILITY

Protection against corrosion



PEDESTAL

Size

90mm

3.3 pcs/m²



PVC WASHER

Size

90mm

33 pcs/m²

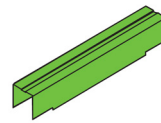


STRINGER

Size

L560mm

6 pcs/m²

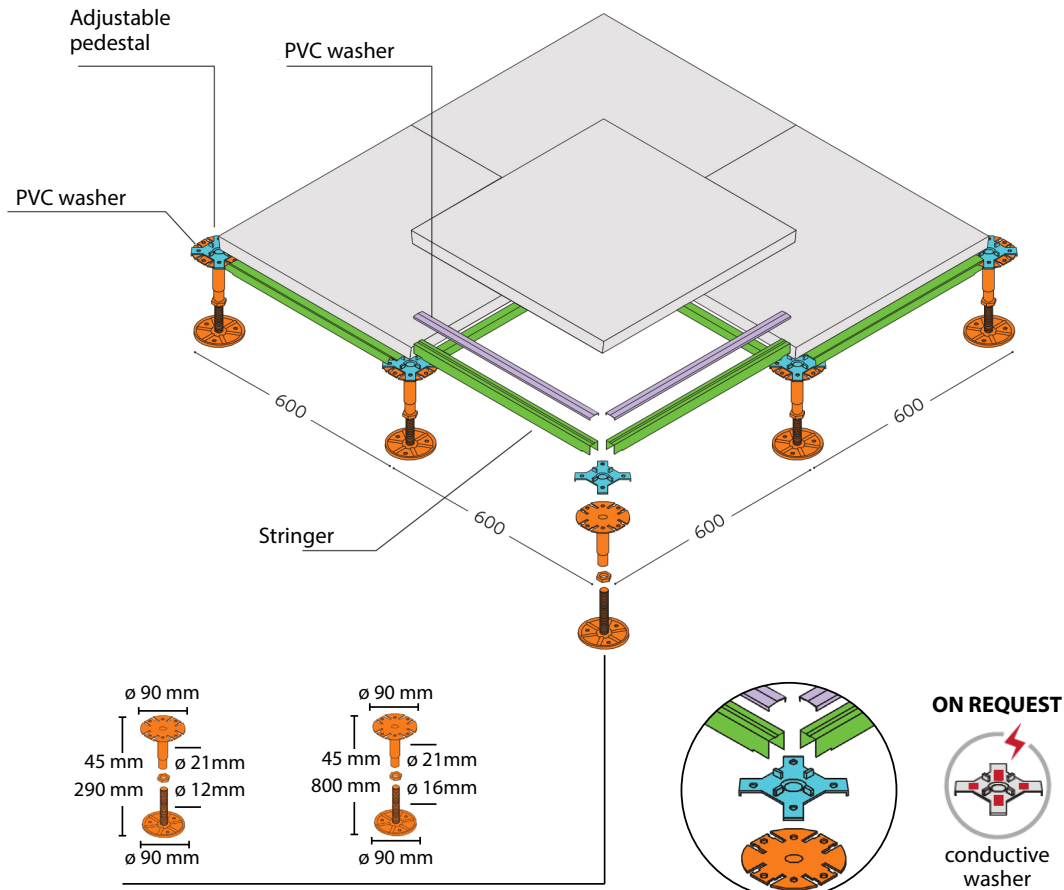
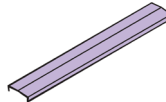


PVC WASHER

Size

L560mm

6 pcs/m²





GRIDLUX

LIGHTING

PRODUCT RANGE

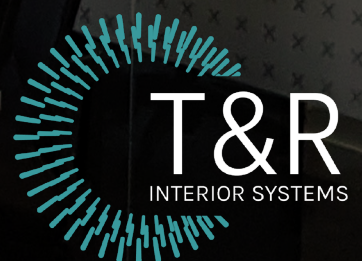
Gridlux

80

Chrome and Opal

Gridlux +

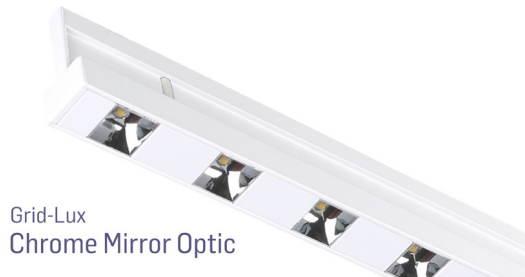
84



GRIDLUX

GRIDLUX LED MODULE

Chrome Mirror Optic 1200/600



Grid-Lux
Chrome Mirror Optic



PRODUCT SUMMARY

Gridlux LED Module offers a new and exciting way to incorporate lighting into a suspended ceiling grid. It is designed in the shape of a standard cross tee bar to allow selected cross tees in the grid to be substituted with Grid-Lux. It can be fully integrated at the project design stage, alongside T&R's standard CBI Grid - a fully tested and proven system for New Zealand's unique seismic conditions. In retrofit scenarios, Grid-Lux can be placed into any heavyweight 38mm seismic ceiling grid. It creates a stylish and innovative lighting solution suitable for offices, schools and commercial interiors.

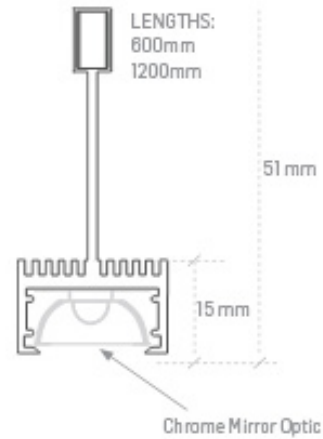
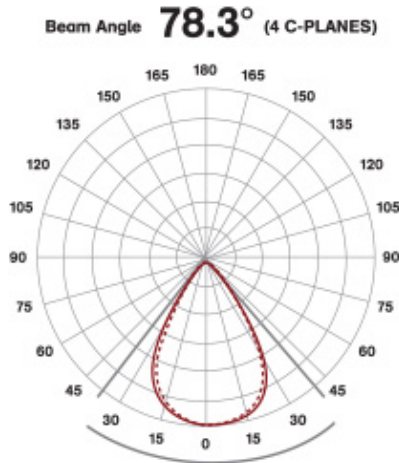
The Chrome Mirror Optic Gridlux is a subtle and elegant choice - ideal for office interiors, where task lighting is required without any glare.

- Low Glare while providing 400 lumens on the workstation (dependant on configuration).
- Integrating Gridlux enables a much higher performing acoustic ceiling, by eliminating the need to replace tiles to provide space for traditional lighting solutions. This provides a much higher area of potential absorption across the ceiling surface.
- Gridlux has been engineered to take seismic load, (complies with BC 1170.5) and is therefore ideal to be integrated as part of a seismically designed suspended ceiling.
- 5-year replacement warranty.
- Easy installation.
- Long-life energy-saving LED technology (L90,B50 90,000hrs).
- Complete system installed with flex and plug; can be used with Building Management System.
- Anodised and powder-coated aluminium extrusion, steel mounting clips.

Please Note: Gridlux is installed as part of the ceiling, and should be tendered as part of the ceiling contract. Installation will need to be coordinated with the electrical contractor for suitable power points in the plenum.

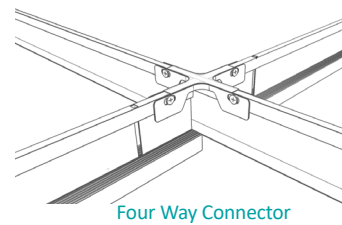
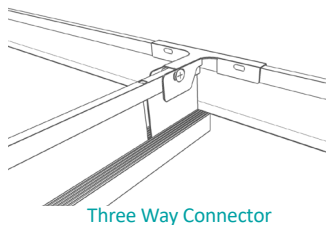
GRIDLUX LED MODULE

Chrome Mirror Optic 1200/600



Gridlux is designed to be configured for any space, variable ceiling heights and work planes. Light levels are accommodated through the system driver outputs.

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Power Consumption	25W (600mm) & 45W (1200mm)	
Input Voltage	240V	
Light Output	1743/3486lm	
Luminaire Efficiency	102.9lm/W	at 700mA
Size	1200mm, 600mm	
Colour	White, Black and others available on indent.	
Weight	1200mm: 0.72kgs (additional weight over cross tee is 0.32kgs) 600mm: 0.31kgs (additional weight over cross tee is 0.13kgs)	



• Tridonic Driver Details

Available with Tridonic drivers to suit a range of lighting control systems.

For a non- dimmable setup: Each individual 1200mm light, or pair of 600mm lights, is supplied with a Tridonic driver and a 2.5m long 3 core flex & (3-pin) pre fitted plug.

For a dimmable or DALI setup: Each individual 1200mm light, or pair of 600mm lights, is supplied with a Tridonic DALI driver and a 2.5m long 5 core flex & (5-pin) pre fitted plug. Wiring between each plug socket will be 5 core wiring and is the responsibility of the on-site electrician and/or electrical engineer.



Required (5-pin) plug socket.

Core flex & (5-pin) pre fitted plug

GRIDLUX

GRIDLUX LED MODULE

Opal Optic 1200/600



Grid-Lux
Opal Optic



PRODUCT SUMMARY

Gridlux LED Module offers a new and exciting way to incorporate lighting into a suspended ceiling grid. It is designed in the shape of a standard cross tee bar to allow selected cross tees in the grid to be substituted with Gridlux. It can be fully integrated at the project design stage, alongside T&R's standard CBI Grid - a fully tested and proven system for New Zealand's unique seismic conditions. In retrofit scenarios, Gridlux can be placed into any heavyweight 38mm seismic ceiling grid. It creates a stylish and innovative lighting solution suitable for offices, schools and commercial interiors.

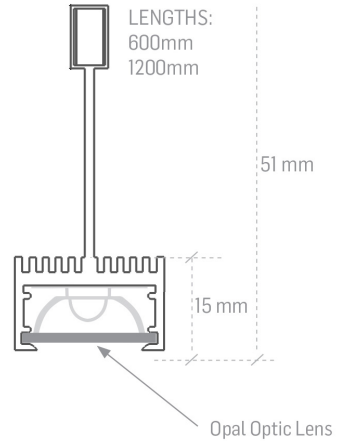
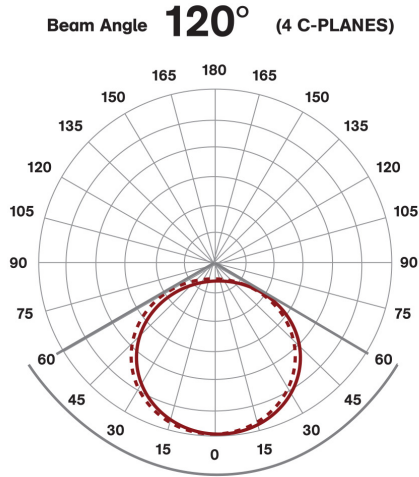
The Opal Optic offers glare free and uniform distribution of light - ideal for general illumination in a wide variety of spaces.

- Low Glare (UGR 19) while providing 400 lumens on the workstation (dependant on configuration).
- Integrating Gridlux enables a much higher performing acoustic ceiling, by eliminating the need to replace tiles to provide space for traditional lighting solutions. This provides a much higher area of potential absorption across the ceiling surface.
- Gridlux has been engineered to take seismic load, (complies with BC 1170.5) and is therefore ideal to be integrated as part of a seismically designed suspended ceiling.
- 5-year replacement warranty.
- Easy installation.
- Long-life energy-saving LED technology (L90,B50 90,000hrs).
- Complete system installed with flex and plug; can be used with Building Management System.
- Anodised and powder-coated aluminium extrusion, steel mounting clips.

Please Note: Gridlux is installed as part of the ceiling, and should be tendered as part of the ceiling contract. Installation will need to be coordinated with the electrical contractor for suitable power points in the plenum.

GRIDLUX LED MODULE

Opal Optic 1200/600



Gridlux is designed to be configured for any space, variable ceiling heights and work planes. Light levels are accommodated through the system driver outputs.

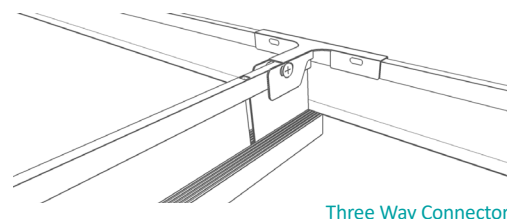
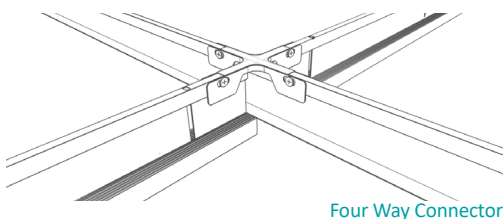
VARIABLE LUMINAIRE OUTPUT 4000k

MA	LUMENS 600MM	WATTAGE 600MM	LUMENS 1200MM	WATTAGE 1200MM	CRI
350	939	8	1879	15.5	85
500	1275	11	2550	22	85
600	1492	13.4	2985	26.8	85
700	1707	15.8	3414	31.5	85
800	1919	18	3838	36	85
900	2122	20.5	4244	41	85
1050	2409	24	4819	48	85

L90, B50 90,000 hours UGR 19 Compliant

IES Files available on request

GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Size	1200mm, 600mm	
Colour	White, Black and others available on indent.	
Weight	1200mm: 0.72kgs (additional weight over cross tee is 0.32kgs) 600mm: 0.31kgs (additional weight over cross tee is 0.13kgs)	
Installation		



GRIDLUX

GRIDLUX +



PRODUCT SUMMARY

Gridlux + is a light extrusion in 1200 and 600 module lengths which clip to the face of a suspended ceiling grid tee bar (main and cross tees). It can be fully integrated or retrofitted into any type of suspended ceiling as long as the tee web is 24mm.

Gridlux + offers full flexibility of design as it can be clipped to any part of the grid.

It creates a decorative and innovative lighting solutions suitable for offices, schools, and commercial interiors.

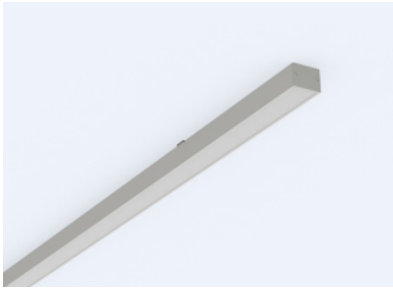
- Energy-saving LED technology.
- Complete system installed with flex and plug; can be used with Building Management System.
- Anodised and powder-coated aluminium extrusion body, steel mounting clips.
- Easy Installation to sit below existing ceiling grid. Easy to retrofit.
- This is a perfect acoustic solution; removing light panels in a ceiling results in more absorption across the ceiling surface.
- No lighting designs are available with this product.

GRIDLUX +

PRODUCT

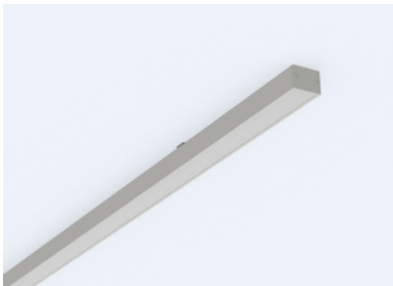
DESCRIPTION

600mm Milky Diffuser



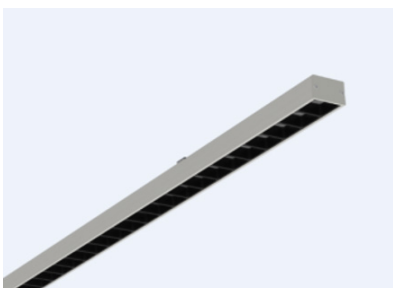
30W
2550lms
Ra80 3000K 4000K & 6000K in one fitting. Colour Selected by Dip Switch.
600mm length
Up to 85lms per W
Lumileds LED Chips
76 Degree Beam Angle
2 x 24mm Tee Grid Clips included
AC220-240V PF>0.9
Flicker Free
CE LVD:60598 EMC RoHS CCC
With 600mA CC driver + 1M AU plug

1200mm Milky Diffuser



45W
3000lms
Ra80 3000K 4000K & 6000K in one fitting. Colour Selected by Dip Switch.
1200mm length
Up to 85lms per W
Lumileds LED Chips
76 Degree Beam Angle
2 x 24mm T Grid Clips included
AC220-240V PF>0.9
Flicker Free
With 1100mA CC driver +1M AU plug

1200mm Black Louvre Arosa



45W
2500lms
Ra80 3000K 4000K & 6000K in one fitting. Colour Selected by Dip Switch.
1200mm length
Up to 70lms per W
Lumileds LED Chips
73 Degree Beam Angle
2 x 24mm T Grid Clips included
AC220-240 PF>0.9
Flicker Free
With 900 mA CC driver



Holland Beckett Law - Rotorua - Darryl Church Architects



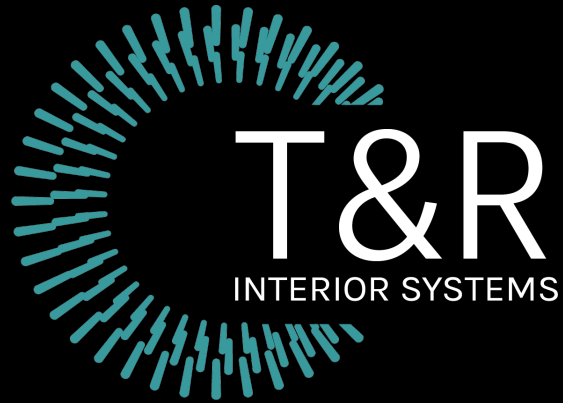
Palace Burger - Mount Maunganui



ANZ Newmarket - Auckland - ASC Architects



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