

# PHONIC

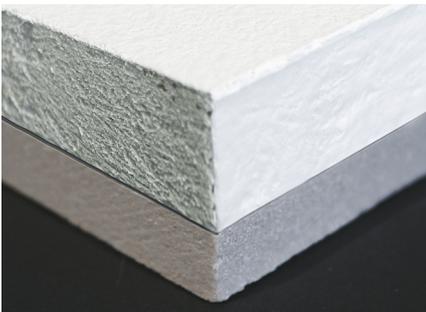
ACOUSTIC CEILING TILES

## 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/m<sup>2</sup>.

- 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.

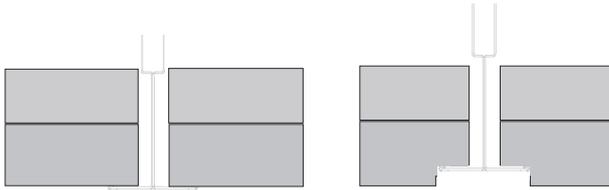
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GENERAL TEST DESCRIPTION	RESULT	TEST METHOD
Absorption (ISO 354)	SAA 0.94	ASTM C432
	$\alpha_w$ 0.90	ISO 11654 -1997
	NRC 0.85	ASTM C423
Attenuation (ASTM E1414-11A)	CAC 42	
	$D_{n,c,w}$ 42	ASTM E413-10
Weight	7.5kg/m <sup>2</sup>	
Density	Glasswool: 100kg/m <sup>3</sup>	Mineral fibre: 250kg/m <sup>3</sup>
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 <sup>2</sup> 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.

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### ATTENUATION

CAC & D<sub>n,c,w</sub> 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<sub>n,c,w</sub> 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<sub>n,c,w</sub> 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<sub>n,c,w</sub> 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<sub>n,c,w</sub> 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.

Absorption Test: E400 Mounting Method.

Please note; these results may differ from earlier datasheets.