TECHNICAL
DATA SHEET

DUCTBOARD®

RIGID DUCTING INSULATION

Description

Ductboard® is a rigid ducting insulation composite manufactured from high-density glasswool with a premium Sisalation® Heavy Duty Facing Foil adhered to one side.

Applications

Ductboard® is designed for use in building services / HVAC applications. Suitable for both new build and refurbishment projects in residential, commercial, public, & light industrial sectors. It is especially suitable for projects where a fibre free material is required for improved air quality.

Ductboard is used to fabricate an all in one rigid ductwork system that does not require sheet metal, providing a more sustainable option with in-built insulation properties for thermal, acoustic and condensation control.

Product Data

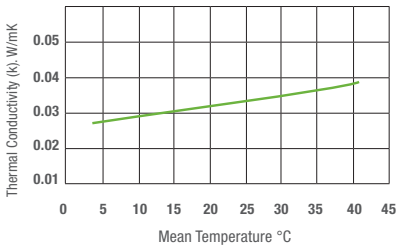
Material Code	Material R-value m^2K/W	Nominal thickness mm	Dimensions	Density kg/m^3	Mass/unit area kg/m^2
949253	R0.8	25	3000mm x 1200mm	96	8.6
949257	R1.0	33	3000mm x 1200mm	96	11.4

Physical Characteristics

Thermal conductivity @ 20˚C

The Material R-value of Ductboard is determined in accordance with AS/NZS 4859.1. The thermal conductivity (k) of Ductboard at 20˚C mean temperature* is 0.032 W/mk. *Mean Temperature = $\frac{T1 + T2}{2}$

Where T1 = temperature of hot side of insulation (˚C)
Where T2 = temperature of cool side of insulation (˚C)



Condensation

The Sisalation® Foil Facing (450) adhered to the glasswool substrate acts as a vapour barrier. This vapour barrier has a permanence of <1.0 ng/N.S. The joints & seams of Ductboard® insulation should be sealed with Vapastop® Tape or a suitable equivalent to maintain the integrity of the vapour barrier.

Operating Recommendations & Limitations

- Maximum recommended air velocity: 12 metres/sec (tested to 25 metres/sec).
- Maximum recommended static pressure: 0.50 kPa.
- Maximum recommended temperature within the duct: 120˚C.

Note: Ductboard® insulation is not suitable for use within poured concrete slabs or in exposed positions unprotected from the weather.

Early fire hazard properties

Standard	Test Method	Result
Methods for fire tests on building materials, components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release.	AS/NZS 1530.3	0,0,0,0-1
Method of test for heat and smoke release rates for materials & products using an oxygen consumption calorimeter.	AS/NZS 3837:1998	Group 1
UL181.9 Burning Test (Factory Made Air Ducts & Air Connectors)	AS 4254:2002	Complies

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Performance

Thermal performance

Ductboard® rigid ducting insulation complies with the requirements of AS/NZS 4859.1:2002 including Amendment 1.

Acoustic performance

Sound attenuation: The table below demonstrates insertion losses (IL) of the Ductboard measured in 4 metre lengths of duct (600 x 600mm cross-sections) constructed of 25mm & 33mm thick Ductboard®. The IL of any length can be obtained by simply multiplying the result by the required length. Tested in accordance to AS 1277 "Acoustic- Measurement Procedures for Ducted Silencers".

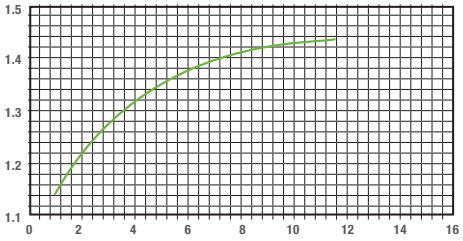
	Insertion loss (dB) at various frequencies (Hz)						
	125	**250**	**500**	**1000**	**2000**	**4000**	**8000**
25mm	6	14	21	48	21	19	20
33mm	17	25	50	72	49	37	34

Sound breakout: The table below demonstrates the Breakout Transmission Loss (TL) characteristics of a duct (600 x 600mm cross-section) constructed of 25mm & 33mm thick Ductboard®.

	Breakout transmission loss (dB) at various frequencies (Hz)						
	125	**250**	**500**	**1000**	**2000**	**4000**	**8000**
25mm	22	15	23	18	22	28	35
33mm	29	33	28	28	43	47	48

Frictional Resistance

The adjacent graph illustrates the friction correction factors of Ductboard® at various air velocities. Values obtained from the ASHRAE chart 'Friction of Air in Straight Ducts of Galvanised Sheet Metal' are multiplied by the appropriate correction factor to obtain the correct surface friction value.



Moisture absorption

Ductboard® insulation absorbs less than 0.2% moisture by volume when exposed to environmental conditions of 50°C and 95% relative humidity for four days.

Alkalinity

When tested in accordance with British Standard 3958, Fletcher Insulation glasswool products receive a rating of pH9 (pH7 is neutral). They will not promote or accelerate the corrosion of steel or galvanised steel provided it is protected from external contamination.

Heath and Safety

Ductboard® insulation is manufactured from FBS-1 Glasswool Bio-Soluble Insulation®. FBS-1 Glasswool Bio-Soluble Insulation® is safe to use and meets the criteria of the Australian Safety and Compensation Council (formerly NOHSC) to be classified as non-hazardous. Fletcher Insulation™ glasswool can be used with confidence in any residential, commercial or industrial application.

Environmental Properties

Fletcher Insulation avoids the use of Ozone Depleting Potential (ODP) substances in the manufacture or composition of its FBS-1 Glasswool Bio-Soluble Insulation® and Sisalation® reflective foil products.

The use of Ductboard® insulation guarantees the use of Zero ODP insulation while also ensuring that no harmful levels of Volatile Organic Compounds (VOC's) are released. This allows the incorporation of environmentally preferable insulation whilst also maintaining indoor air quality.

Technical Specification notes

The insulation material shall be Fletcher Insulation Ductboard® insulation with a Material R-value of R _____ m^2K/W (specify Material R-value) at a nominal thickness of _____ mm (specify nominal thickness).

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