

TECHNICAL DATA SHEET

FI96 HDEI HIGH DENSITY EQUIPMENT INSULATION

Product description and typical applications

FI96 HDEI (High Density Equipment Insulation) is a dense rigid glasswool sheet intended for applications requiring excellent compressive strength and high sound transmission loss. FI96 HDEI is typically used for the acoustic treatment of plant rooms and industrial equipment operating at temperatures up to 340°C.

Physical characteristics

Material R-value m ² K/W	Nominal thickness mm	Dimensions	Density kg/m ³	Mass/unit area kg/m ²
R0.8	25	3000mm x 1200mm	96	2.4
R1.5	50	3000mm x 1200mm	96	4.8

Thermal performance

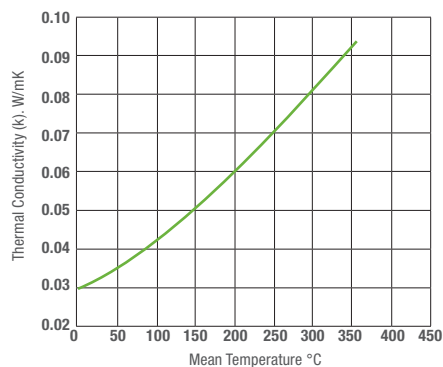
FI96 HDEI complies with the requirements of AS/NZS 4859.1:2002 including Amendment 1.

Thermal conductivity

The thermal conductivity of FI 96 HDEI at a mean temperature* of 23°C is 0.033 W/mK (at 20°C it is 0.032 W/mK) when tested in accordance with ASTM C177. Values of thermal conductivity may be obtained from the adjacent graph.

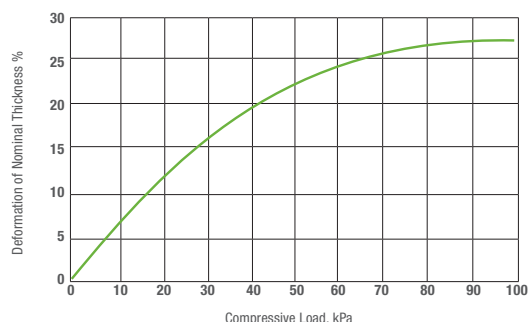
$$\text{*Mean Temperature} = \frac{T1 + T2}{2}$$

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



Compressive strength

FI96 HDEI has excellent compressive strength and resilience to allow for full recovery following compression. Deformation under compression loading is demonstrated in the adjacent graph.



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Suitability for stainless steel

Under certain conditions, the presence of soluble chlorides may cause stress corrosion and the cracking of some stainless steels. FI96 HDEI has been tested to ASTM C795, 'Standard Specification for Wicking-Type Thermal Insulation for use over Austenitic Stainless Steel'. FI 96 HDEI satisfies the BSA requirements and is thus considered suitable for use in these applications.

Early fire hazard properties

FI96 HDEI achieves the following results when tested in accordance with AS1530.3-1999:

Ignitability Index	0
Spread of Flame Index	0
Heat Evolved Index	0
Smoke Developed Index	0-1

Acoustic performance

FI96 HDEI achieves the following sound absorption coefficients when tested in accordance with AS1045 'Reverberation Room Method' (mounting N4 laid flat on floor):

	Sound absorption coefficients (reverberation) at frequencies (Hz) of:					
	125	250	500	1000	2000	NRC
25mm	0.16	0.27	0.67	0.88	1.02	0.70
50mm	0.19	0.86	1.08	1.17	1.06	1.05.

Maximum service temperature

FI96 HDEI is manufactured for use at a maximum service temperature of 340°C. Where a facing material such as Sisalation® HD reflective laminate is applied to the insulation, the maximum service temperature shall not exceed 70°C.

Moisture absorption

FI96 HDEI 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 studs provided they are protected from external contamination.

Safe to use

FI96 HDEI 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.

Green Star compliant

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 FI96 HDEI 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.

Specification notes

The insulation material shall be Fletcher Insulation FI96 HDEI with a Material R-value of R _____ m²K/W (specify Material R-value) at a nominal thickness of _____ mm (specify nominal thickness).

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