

FI 22 Flexible Ductliner™ Insulation Blanket for Mechanical Services

Product Description and Typical Applications

Flexible Ductliner™ has an ideal combination of properties for use with automated sheet metal cutting and duct making machinery. It has the high resiliency of a board, while retaining enough flexibility to be used in roll form. When used in this form a continuous length of Flexible Ductliner has the benefits of (a) reducing wastage through being able to be cut to varying lengths and, (b) enabling insulation of L-shaped sections by folding through 90° without cutting.

Physical Characteristics

Material R-value	0.7	1.0	1.5
Thickness (mm)	25	38	50
Roll Dimensions (mm)*	15m x 1200	15m x 1200	15m x 1200
Density (kg/m ³)	22	22	22
Mass/Unit Area (kg/m ²)	0.6	0.8	1.1

*Standard vapour barrier foil laminate facing : Sisalation® Facing Foil Heavy Duty (450).

Available Facings

Facing on Ductliners of all types is primarily used to prevent surface fibre erosion and should be specified where air velocities exceed 6 metres/sec. The following types are available on Flexible Ductliner:

Black Tissue - used for the purpose stated above with the added advantage of “blacking out” the insulation surface behind grilles, diffusers and openings.

Perforated Foil - (eg Sisalation® 450) Recommended for use above 10 metres/sec air velocity (see below).

Vapastop - to provide an acoustic facing incorporating a vapour barrier.

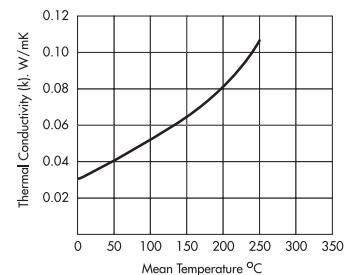
Thermal Conductivity

The R-value of Flexible Ductliner is determined in accordance with AS/NZS 4859.1. The thermal conductivity of Flexible Ductliner at a mean temperature* 23°C is 0.035 (at 20°C it is 0.034) W/mK when tested in accordance with ASTM C177. Values of thermal conductivity may be obtained from the following graph.

*Mean Temperature = $\frac{T_1 + T_2}{2}$

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

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



Maximum Service Temperature

The maximum service temperature for Flexible Ductliner is 340°C. However, where a facing is applied to the insulation, the maximum temperature of the outside surface should be maintained below 70°C.

Green Star Compliant

Fletcher Insulation is committed to providing environmentally sustainable products. Fletcher Insulation products have Zero Ozone Depleting Potential in both manufacture and composition, complying with the GreenStar Insulant ODP Emissions credit requirement. Air quality is maintained with total Volatile Organic Compound (VOC) emissions below quantifiable levels.

AS/NZS 4859.1:
2002 - Including
Amendment 1
Materials for the
Thermal Insulation of
Buildings

FI 22 Flexible Ductliner
comply with the Energy
Efficiency provisions of
the BCA for all types
of thermal insulation to
be certified by a NATA
accredited organisation.



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AS1530.3 Early Fire Hazard Properties of Materials

FI 22 Flexible Ductliner exhibit the following characteristics when tested in accordance with AS1530 Part 3.

	Plain	Black Matt Tissue Faced	Sisalation® Heavy Duty Faced
Ignitability Index	0	0	0
Spread of Flame Index	0	0	0
Heat Evolved Index	0	0	0
Smoke Developed Index	0-1	2	2

Moisture Absorption

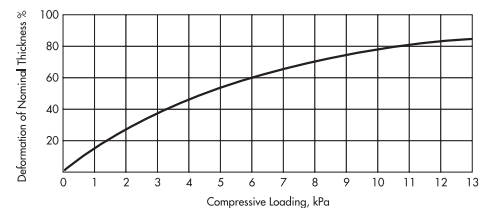
Tested in an atmosphere of 65% relative humidity at 20°C in accordance with British Standard 2972. The moisture content of Flexible Ductliner is less than 0.1% by volume.

Alkalinity

Flexible Ductliner will not support the corrosion of steel. When test in accordance with British Standard 3958 Flexible Ductliner products are slightly alkaline, pH9 (neutral is pH7).

Compressive Strength

Flexible Ductliner has excellent compressive strength and resilience and recovers to its nominal thickness after compression. Deformation under compression loading is shown on the graph.



Acoustic Performance

Flexible Ductliner has the following sound absorption co-efficients when tested in accordance with AS1045 by the Reverberation Room Method (Mounting No.4 - laid flat on floor).

Nominal thickness (mm)	Facing	Sound absorption coefficients (reverberation) at frequencies (Hz) of:					
		125	250	500	1000	2000	NRC
25	Black Tissue	0.09	0.28	0.60	0.77	0.90	0.65
25	Perf. Sisalation®	0.12	0.27	0.63	0.89	1.05	0.70

Recommended Velocities in Air Conditioning Ducts

Flexible Ductliner has been tested for fibre erosion in accordance with Underwriters Laboratories Standard UL181 - 1972, Section 15 'Standard for Safety - Air Ducts'. Black Tissue and perforated foil faced Flexible Ductliner has been subjected to velocities of 25 metres/sec, and with a safety factor of 0.4 applied (in accordance with the above standard), gives a safe working velocity of 10 metres/sec. For higher velocity air flows, plain or Black Tissue faced Flexible Ductliner should be used behind perforated metal mechanically fastened to the duct wall.

Specification Notes

State the following:

- Product name - Fletcher Insulation FI 22 Flexible Ductliner
- Thickness, thermal and acoustic performance
- Fixing method preferred (eg. Fletcher Insulation Insul Clips)
- Type of facing if required (eg Fletcher Insulation Perforated Sisalation® 450P).

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The production of environmentally sustainable FBS-1 Glasswool Bio-Soluble Insulation utilizes approximately 70% recycled waste glass.



Low Allergen content with the ability to moderate temperature changes.



Fletcher Insulation glasswool products are manufactured from FBS-1 Bio-Soluble Glass Wool™. FBS-1 Bio-Soluble Glass Wool™ is not classified as hazardous according to the criteria of the Australian Safety and Compensation Council (formerly NOHSC), Approved Criteria for Classifying Hazardous Substances (NOHSC: 1008) 3rd Edition. Fletcher Insulation glasswool is classified as safe to use, refer to our MSDS.



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