

FLEXIBLE DUCTLINER™

Insulation Blanket for Mechanical Services

PRODUCT DESCRIPTION AND TYPICAL APPLICATIONS

Insulation Solutions™ *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.

Flexible Ductliner is also suitable for lagging work (eg air conditioning ducting) where a 'stiffer' product than the usual General Purpose Glass Wool is preferred.

PHYSICAL CHARACTERISTICS

Nominal Thickness (mm)	25	50
Nominal Density (kg/m³)	22	22
Roll Dimensions (mm)	20000 x 1200	20000 x 1500
Mass/Unit Area (kg/m²)	0.55	1.1

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 *Insulation Solutions Flexible Ductliner*:

Matt Black - 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).

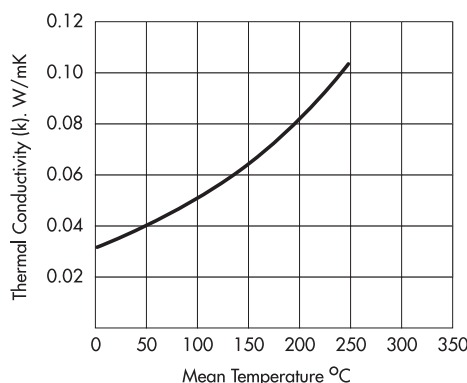
THERMAL CONDUCTIVITY

The thermal conductivity of *Flexible Ductliner* is 0.035 W/mK at mean* temperature of 25°C (at 20°C it is 0.034) when tested in accordance with ASTM C177.

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

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

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



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).

Frequencies (Hz)	125	250	500	1000	2000	NRC
Matt-faced <i>Flexible Ductliner</i> 22kg/m³ 25mm thick	0.09	0.28	0.60	0.77	0.90	0.65
Perforated Foil Faced <i>Flexible Ductliner</i> 22kg/m³ 25mm thick	0.12	0.27	0.63	0.89	1.05	0.70

MOISTURE ABSORPTION

Tested in an atmosphere of 65% relative humidity at 20°C in accordance with British Standard 2972.

The moisture content of *Insulation Solutions* products is less than 0.1% by volume.



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". Matt 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 matt faced *Flexible Ductliner* should be used behind perforated metal mechanically fastened to the duct wall.

EARLY FIRE HAZARD RATING

When tested in accordance with AS1530 Part 3, "Early Fire Hazard Properties of Materials", *Flexible Ductliner* exhibits the following characteristics:

	Plain Faced	Perf.Sisal Faced	Matt
Ignitability Index (0-20)	0	0	0
Spread of Flame Index (0-10)	0	0	0
Heat Evolved Index (0-10)	0	0	0
Smoke Developed Index (0-10)	0-1	2	2

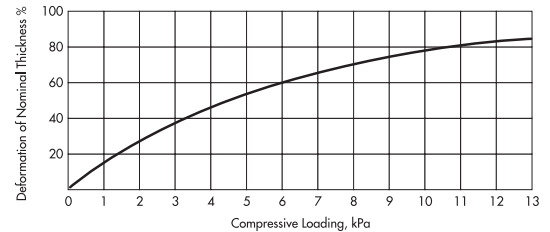
MAXIMUM SERVICE TEMPERATURE

The maximum service temperature for *Flexible Ductliner* is 350°C. However, where a facing is applied to the insulation, the maximum

temperature of the outside surface should be maintained below 70°C.

COMPRESSIVE STRENGTH

Flexible Ductliner has excellent compressive strength and resilience and recovers to its nominal thickness after compression.



SPECIFICATION NOTES

State:

- Product Name - *Insulation Solutions Flexible Ductliner*
- Thickness or thermal and/or acoustic performance required

- Fixing method preferred
- Type or facing required (eg: Perforated *Sisalation* 450)

GENERAL INSTALLATION ADVICE

All forms of insulation can be cut with a sharp knife. Cutting with power tools is not recommended. *Insulation Solutions Flexible Ductliner* for internal application can be bonded directly to duct walls, held in place with metal sections or impaled on spot-welded or adhered pins. Install

insulation in a dry state. If it becomes wet during application, allow to dry completely before installing. Butt edges together firmly at joints to prevent heat leaks. For safe handling of *Glass Wool*, please refer to the *Insulation Solutions* Material Safety Data Sheets.

BIO-SOLUBILITY

The fibre used in this product is FBS-1 Bio-Soluble Glass Wool™ Insulation. This means that it dissolves in bodily fluids and is quickly cleared from the lungs. It complies with the test of short term

biopersistence in Note Q of [NOHSC: 10005 (1999)]. *Glass Wool* is classified as safe to use.



SUSTAINABILITY

Sustainability...measures that satisfy the needs of people today while enhancing the quality of life for future generations. The demands on non-renewable resources for the production of energy are not sustainable without compromising the environment. Insulation, correctly specified and installed, is one of the most critical products in

improving energy efficiency and reducing the levels of greenhouse gas emissions. *Insulation Solutions* is committed to providing environmentally sustainable products and utilises up to 70% recycled waste glass in the production of *Glass Wool* Insulation.

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