

R-RATED DUCTLINER™

Energy Efficient Air Conditioning Insulation

PRODUCT DESCRIPTION AND TYPICAL APPLICATIONS

Insulation Solutions™ have developed a new Energy Saving *Ductliner* to comply with the extra Thermal Performance requirements of AS4508 in relation to Air Conditioning Ducting.

AS4508 is a largely prescriptive standard which sets out to minimise design effort, maximise energy conservation and maximise long-term economic benefit as a result. AS4508 calls up a minimum of R0.9 for

bulk insulation used on heating and refrigerative cooling duct and R1.5 on reverse cycle air conditioning duct. *Insulation Solutions R-Rated Ductliner* meets these criteria, with the added benefit of providing improved Sound Absorption in low to mid-range frequencies.

PHYSICAL CHARACTERISTICS

	R0.9 Ductliner	R1.5 Ductliner
Thermal Performance (R-Value) (m²K/W)	0.9	1.5
Nominal Thickness (mm)	30	50
Standard Dimensions* (mm)	2400 x 1200 / 2400 x 1500	2400 x 1200 / 2400 x 1500
Nominal Density (kg/m³)	32	32
Mass/Unit Area (kg/m²)	0.8	1.6

Facings Available - *Sisalation™ 450 Perforated, Black Tissue, Vapastop™ 883.*
 *Other sizes are available subject to minimum order quantities.

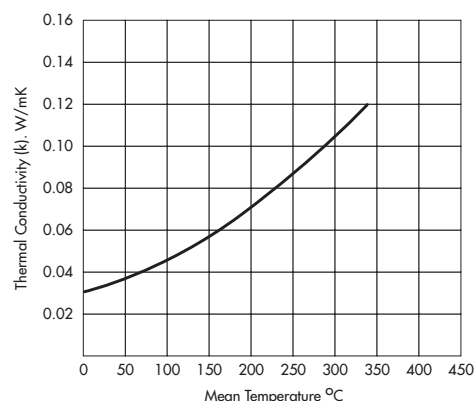
THERMAL CONDUCTIVITY

The thermal conductivity of *Insulation Solutions R-Rated Ductliner* at a mean temperature* of 25°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 graph opposite:

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

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

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



EARLY FIRE HAZARD RATING

When tested in accordance with AS1530 Part 3 "Early Fire Hazard Properties of Materials Test", *Insulation Solutions R-Rated Ductliner* exhibits the following characteristics. Tests were conducted by AWTA.

	Plain	Matt Faced	Sisalation 450 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	3

All materials used as facing on duct linings also need to be fire resistant.

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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.

ALKALINITY

When tested in accordance with British Standard 3958 *Insulation Solutions* Glass Wool products are slightly alkaline.

pH9 (neutral is pH7).

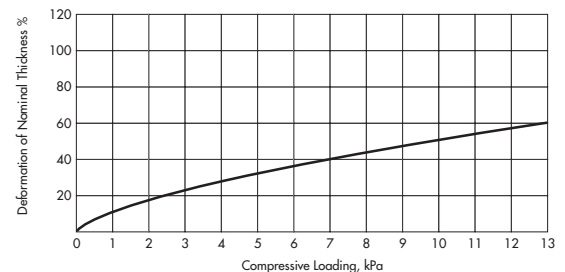
MAXIMUM SERVICE TEMPERATURE

The maximum service temperature for *R-Rated Ductliners* baseboard is 340°C. Where facings are applied, the temperature tolerance of the facing adhesive limits the surface temperature to 70°C.

The appropriate insulation thickness can be used to limit surface temperature to 70°C.

COMPRESSIVE STRENGTH

R-Rated Ductliner has excellent compressive strength and recovers to its nominal thickness even after prolonged compression. Deformation under compressive loading is shown on the graph.



SOUND ABSORPTION

R-Rated Ductliner faced with Perforated *Sisalation* 450, has the following sound absorption coefficients when tested in accordance with AS1045-1988 by the Reverberation Room Method.

Tests were carried out with no air space behind the samples, and results are based on test reports from RMIT Department of Applied Physics.

Nominal thickness (mm)	Sound absorption coefficients (reverberation) at frequencies (Hz) of:					
	125	250	500	1000	2000	NRC
30	0.09	0.34	0.90	1.10	1.03	0.85
50	0.26	0.66	1.09	1.09	1.05	0.95

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.

DATA SHEET



FREECALL 1800 626 624

WEBSITE: www.eurekainsulation.com.au

