

## Sisalation® Vapastop® 883 Facing Foil

### Continuous acoustic membrane (CAM) for internal lining of ductwork

#### Description

Sisalation® Vapastop® 883 Facing Foil is a flexible tough lightweight vapour barrier material consisting of bright aluminium foil extrusion laminated to a strong polyethylene reinforced fabric.

**Face 1:** Polyethylene reinforcing mesh

**Face 2:** Bright aluminium foil

#### Application

Sisalation® Vapastop® 883 Facing Foil is used in the fabrication of air conditioning ductwork as an internal liner where high tear strength and puncture resistance are required in addition to a high degree of flexibility without delamination of the aluminium foil. The aluminium foil has a very low permeance to water vapour and other gases, which makes Sisalation® Vapastop® 883 Facing Foil ideal for air handling ductwork.

Sisalation® Vapastop® 883 Facing Foil is a strong and durable vapour barrier that helps prevent fibre erosion of internally lined HVAC ductwork insulation, which otherwise can lead to fibres entering the airstream of the HVAC system. Sisalation® Vapastop® 883 Facing Foil provides excellent acoustic absorption without the need for perforation when applied to glass wool insulation blanket and boards. The sealed, non-perforated surface of Sisalation® Vapastop® 883 Facing Foil provides a superior alternative to the combined facing option of HDP (perforated foil) and Mylar/Melinax film, however still offering exceptional sound absorption performance.

#### Features and benefits

Continuous Acoustic membrane (CAM) preventing fibre erosion of internally lined ductwork insulation, which otherwise might lead to fibres entering the airstream that can harbour airborne contamination and bacteria.	→	Provides increased indoor air quality with a superior acoustic properties. Can also offer cost savings by removing the need for alternative facing options that combines expensive films with a perforated foil.
Exceptional (NRC) Acoustic Sound Absorption performance minimising impact on excessive noise created by overall HVAC ducting systems.	→	To create more pleasant living, working and leisure environments.
Superior resistance to moisture as a Class 2 Vapour barrier.	→	Provides an excellent secondary skin and an ongoing barrier to vapour.
Meets the NCC fire performance requirements of AS/NZS 1530.3 and complies with UL181.11 Burn Test - Air Duct.	→	Offers specifier and contractor peace of mind that product complies with NCC requirements.

#### Product data

Available as a facing option on both FI32 Semi Rigid Insulation in various thicknesses and sizes. Sisalation® Vapastop® 883 Facing Foil is also available in rolls as facing foil on its own. Please check with your Fletcher Insulation representative for full range and availability.

### Physical properties

Property	Test method/Standard	Test Result HD (453)	Unit
Nominal thickness		0.2	mm
Nominal grammage		75	g/m <sup>2</sup>
Vapour barrier (WVTR)	ASTM E96	Class 2	µg/N.s
Resistance to dry lamination	AS/NZS 4201.1	Pass	
Resistance to wet lamination	AS/NZS 4201.2	Pass	
Shrinkage	AS/NZS 4201.3	Pass (< 0.5%)	
Resistance to water penetration water barrier	AS/NZS 4201.4	Pass	
Edge tear resistance	Machine	183	N
	Lateral	210	N
Safe working air velocity/erosion	Test UL181 part 18	16	m/s

### Early fire hazard properties

FI32 Semi-Rigid Insulation faced with Vapastop® 883 exhibits the following characteristics when tested in accordance with the following standards:

Property	Test method/standard	Result
Early Fire Hazard Indices	AS/NZS 1530.3	
Ignitability Index		0
Spread of Flame		0
Heat Evolved Index		0
Smoke Developed Index		2
UL181.11 Burning Test	AS 4254.2	Complies

### Health and safety

There are no known health or safety risks associated with this product for applications described in this datasheet. Sisalation® Vapastop® 883 Facing Foil contains aluminium foil and can conduct electricity. To avoid electrocution, care should be taken to ensure products do not come into contact with electrical wiring during installation or use. For additional information or to request a Safety Use Information Sheet please visit [www.insulation.com.au](http://www.insulation.com.au) or contact your Fletcher Insulation Representative.

### Acoustic performance

#### Sound absorption

The performance of sound absorption for insulation is described by either the weighted sound absorption coefficient  $a_w$  or the Noise Reduction Coefficient (NRC). In sound absorption applications, the NRC is used as an acoustic performance measure. The higher the NRC, the greater the sound absorption at the representative frequencies. The NRC is the calculated average result of four frequencies: 250 Hz, 500 Hz, 1,000 Hz and 2,000 Hz. Sisalation® Vapastop 883 Facing Foil bonded directly to FI32 Semi-Rigid Insulation achieves the following sound absorption coefficients when tested in accordance with AS ISO 354. The weighted sound absorption coefficient  $a_w$  was determined by AS ISO 11654.

Sound absorption coefficients at frequencies (Hz) of:

FI32 Semi Rigid Faced with:	Nominal thickness mm	100	125	250	500	1000	2000	3150	4000	5000	NRC	$\alpha_w$
Vapastop® 883	38	0.11	0.15	0.55	1.07	1.10	0.71	0.55	0.47	0.37	0.85	0.65 (M)
Vapastop® 883	50	0.13	0.24	0.94	1.16	0.92	0.63	0.47	0.34	0.30	0.90	0.55 (LM)
Vapastop® 883	75	0.33	0.39	1.21	1.06	0.97	0.76	0.57	0.44	0.41	1.00	0.65 (LM)
Vapastop® 883	100	0.54	0.75	1.19	1.06	0.99	0.77	0.57	0.46	0.39	1.00	0.65 (LM)

### Recommended air velocities for duct linings

The recommended maximum design velocities for duct linings has been determined for FI32 Semi Rigid Insulation faced with Sisalation® Vapastop® 883 by testing in accordance with the requirements of UL181–US Standard for Safety for Factory-Made Air Ducts and Connectors (UL, 2013) Clause 18 at velocities of up to 40m/s, with a safety factor of 0.4 applied (in accordance with the above UL181 standard), **results in a safe working velocity of 16m/sec**. In applications where ductwork is operating at higher air flow velocities or where alternate duct linings are applied, it is recommended the insulation be applied behind perforated metal and mechanically fastened to the duct wall. Maximum design velocities are valid for ductliner insulation faced by Fletcher Insulation and installed according to AS 4254.2.

### Technical specification

#### When specifying, please state the following:

Facing material should be Fletcher Insulation Sisalation® Vapastop® 883 Facing Foil bonded directly to FI32 Semi Rigid insulation.

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