

GLASSWOOL 32kg SEMI-RIGID INSULATION HVAC INTERNAL DUCT LINER

Description

Glasswool 32kg Semi-Rigid Insulation is manufactured from up to 80% recycled glass using a thermoset resin, producing fine non-combustible fibres which form either a Medium Density Board or an Insulation blanket. A foil or tissue facing material is typically applied to one side for increased acoustic performance or when hygiene and mechanical cleaning capabilities are a requirement.

Applications

Glasswool 32kg Semi-Rigid Insulation is suitable for a large range of HVAC and light industrial applications. Most commonly applied as an internal liner for air conditioning sheet metal ductwork. Further suitable applications for Glasswool 32kg Semi-Rigid Insulation include storage tanks, process vessels, appliance cabinets, plant rooms, under soffit, and under slab.

Product limitations of use

- Modifications not permissible, as suitability and/or compliance may be compromised.
- This product is not designed for use as a wall wrap or roof sarking
- Unfaced Glasswool is not a water or vapour barrier, cannot be used where a water or vapour control is required
- This product cannot be used in exposed/lining applications where a group number is required in accordance with AS 5637.1 (NCC V1 Amdt 1 C1.10(4) NCC 2022 V1 S7C4)
- When faced, this product does not meet AS1530.1 and is not suitable where non-combustible material is required.
- The foil facing product should not come into contact with wet concrete, or alkaline materials.

Features and Benefits

Exceptional (NRC) Acoustic Sound Absorption performance	Minimises the impact on excessive noise by reducing sound transmission created by overall HVAC ducting systems, providing a more comfortable and healthy work or living space.
Meets the NCC fire performance requirements of AS/NZS 1530.3	Offers specifier, mechanical engineer and contractor peace of mind that product complies with NCC requirements.
FBS-1 Biosluble product	Safe and comfortable to handle.

Facing options

A number of facing options can be applied to unfaced Glasswool 32kg Semi-Rigid Insulation, making it ideal for a broader range of applications.

Facing Foil Vapastop® 883: Vapastop® 883 Aluminium Foil Facing is a lightweight facing most suitable in applications where a Continuous Acoustic Membrane (CAM) combined with a superior NRC acoustic performance is required. This facing option has a fully sealed membrane barrier minimising the risk of fibres entering the ducts air stream, whilst still delivering excellent acoustic absorption. Vapastop® 883 can sustain mechanical cleaning.

Facing options ...cont

Facing Foil Heavy Duty Perforated (HDP): Heavy Duty Perforated (HDP) Reflective Foil is most suitable in applications where a superior balance of thermal and acoustic performance is required. Unsuitable for use as a vapour barrier or for mechanical cleaning.

Black Matt Facing Glass Tissue: Black Matt Facing (BMF) is an affordable acoustic option in applications where the duct lining may be somewhat visible. It is a light duty tissue made from bonded continuous glass fibres, unsuitable for mechanical cleaning and as a vapour barrier

Product Data

Material R-value m ² k/W	Nominal thickness mm	Sheet dimensions width x length mm	Roll dimensions width x length mm	Density kg/m ³	Mass/unit area kg/m ²
R0.71	25	1200 x 2400	1200 x 15000	32	0.8
		1500 x 2400	1380 x 12000		
		1500 x 3000	1500 x 12000		
R1.2	38	1200 x 2400		32	1.2
		1500 x 2400			
		1500 x 3000			
R1.5	50	1200 x 2400	1200 x 10000	32	1.6
		1500 x 2400	1500 x 8000		
		1410 x 3000	1500 x 1000		
R2.2	75	1200 x 2400	1380 x 8000	32	2.4
		1500 x 2400	1380 x 8000		
		1410 x 3000	1500 x 7500		
R3.0	100	1200 x 2400	1380 x 8000	32	3.2
		1500 x 2400	1500 x 7500		

Note: Not all sizes may be held in stock. Contact your Baron Insulation Representative for further details.

Physical Properties

Property	Test Method/Standard	Result	Unit
Nominal density	ASTM C167	32	kg/m ³
Thermal conductivity @23°C	AS/NZS 4859.1	Complies	W/Mk
Maximum service temperature	ASTM C411/C447	Glasswool: 300 Facing Materials: 70	°C
Fungi resistance of insulation materials	ASTM C1338-14	Pass (no growth)	
Moisture absorption	When exposed to environmental conditions of 50°C and 95% relative humidity for four days		<0.2% by volume

Recommended Air Velocities for Duct Linings

The recommended maximum design velocities for duct linings has been determined for Glasswool 32kg Semi-Rigid Insulation faced with 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.

For more information
call (03) 8773 9300

email sales@baroninsulation.com.au or
web www.baroninsulation.com.au



Fire Hazard Properties

Glasswool 32kg Semi-Rigid Insulation exhibits the following characteristics when tested in accordance with the following standards:

Property	Test Method/ Standard	Test Results			
		Unfaced	Sisalation® Vapastop® 883 Facing Foil	Sisalation® HDP Facing Foil	Black Matt Facing (BMF) Glass Tissue
Combustibility	AS/NZS 1530.1	Non-combustible	Not applicable on faced HVAC products		
Early Fire Hazard Indices	AS/NZS 1530.3				
Ignitability Index		0	0	0	0
Spread of Flame Index		0	0	0	0
Heat Evolved Index		0	0	0	0
Smoke Developed Index		1	2	3	2
Burn Test	UL181.11	–	32kg Semi Rigid Insulation has undergone testing to provide an indication of how it will perform individually when tested to UL 181 Burn Test, this testing is indicative only. AS 4254.1 and AS 4254.2 requires specific testing on the final assembled duct system for compliance		–

Compliance

When correctly specified and installed, the product complies with below NCC clauses and relevant standards:

NCC2019

- When correctly specified and installed, the product complies or assists to comply with below NCC clauses and relevant standards.
- Complies with AS/NZS 4859.1 as referenced in NCC 2019, Volume 1 Clause J1.2(a) and NCC 2019, Volume 2 Clause 3.12.1
- When tested to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices as required by
- NCC 2019 Volume 1, clause C1.10 clause 5 for air handling duct-work and Clause 7 for insulation materials.

NCC2022

- Complies with AS/NZS 4859.1 as referenced in NCC 2022 Volume 1 J4D3(1) and NCC2022 Volume 2 Housing Provisions Clause 13.2.2(1).
- When tested to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices as required by
- NCC Volume 1, Specification 7 'Fire Hazard Properties S7C5 for Air Handling duct-work and Table S7C7 for insulation materials.

Acoustic Performance

Sound Absorption

The performance of sound absorption for insulation is described by either the α_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. 32kg Semi-Rigid Insulation achieves the following sound absorption coefficients when tested in accordance with AS ISO 354:

Product	Nominal thickness mm	Sound Absorption Coefficients at frequencies (Hz) of:									NRC	αw
		100	125	250	500	1000	2000	3150	4000	5000		
Sisalation® HD Perf	25	0.05	0.06	0.22	0.63	0.87	1.00	0.92	0.88	0.83	0.70	0.55 (MH)
Unfaced/Plain	25	0.08	0.08	0.24	0.55	0.82	0.93	0.97	0.97	0.98	0.65	0.55 (MH)
Black Matt Facing (BMF)	25	0.06	0.06	0.25	0.61	0.83	0.95	0.99	1.03	1.03	0.65	0.55 (MH)

Vapastop® 883	38	0.09	0.19	0.77	1.02	1.09	0.78	0.57	0.51	0.41	0.90	0.70 (LM)
Sisalation® HD Perf	38	0.08	0.16	0.57	0.89	1.08	1.02	0.98	0.99	0.94	0.90	0.85
Unfaced/Plain	38	0.04	0.12	0.43	0.90	1.06	0.99	0.93	0.92	0.92	0.85	0.70 (MH)
Black Matt Facing (BMF)	38	0.08	0.15	0.59	0.85	1.02	1.02	1.07	1.09	1.02	0.85	0.85 (H)

Unfaced/Plain	50	0.07	0.19	0.68	1.09	1.16	1.02	1.01	1.00	0.97	1.00	1.00
Vapastop® 883	50	0.15	0.30	0.90	1.06	1.03	0.77	0.60	0.52	0.37	0.95	0.70 (LM)
Sisalation® HD Perf	50	0.07	0.19	0.68	1.07	1.05	1.01	0.91	0.96	0.86	0.95	1.00
Black Matt Facing (BMF)	50	0.12	0.18	0.69	1.00	1.10	1.03	1.05	1.04	1.05	0.95	0.95

Product	Nominal thickness mm	Sound Absorption Coefficients at frequencies (Hz) of:									NRC	α_{ww}
		100	125	250	500	1000	2000	3150	4000	5000		
Unfaced/Plain	75	0.16	0.29	1.08	1.23	1.03	0.99	1.00	0.99	0.97	1.10	1.00
Black Matt Facing (BMF)	75	0.22	0.45	1.19	1.07	1.04	1.04	1.06	1.06	1.04	1.10	1.00
Sisalation® HD Perf	75	0.22	0.52	1.16	1.07	0.99	1.01	0.99	0.97	0.90	1.05	1.00
Vapastop® 883	75	0.28	0.59	1.17	0.97	0.94	0.83	0.64	0.54	0.41	1.00	0.75 (LM)
Sisalation® HD	75	0.28	0.45	1.25	0.92	0.49	0.23	0.16	0.12	0.10	0.70	0.25 (LM)
Unfaced/Plain	100	0.39	0.50	1.26	1.21	1.08	1.03	0.99	0.97	0.94	1.15	1.00
Black Matt Facing (BMF)	100	0.41	0.73	1.26	1.13	1.09	1.03	1.00	1.06	1.03	1.15	1.00
Sisalation® HD Perf	100	0.45	0.82	1.19	1.14	1.06	1.06	1.01	1.01	0.96	1.10	1.00
Vapastop® 883	100	0.44	0.85	1.15	1.03	0.91	0.78	0.56	0.47	0.36	0.95	0.65 (LM)

Flow Resistivity

Acoustic performance of Glasswool 32kg Semi-Rigid products used in sound absorption applications can be measured by their resistance to air flow, this is recognised as flow resistivity.

Tested in accordance with ASTM Standard C522-03 Standard Test method for Airflow Resistance of Acoustic Materials.

The following table rates the flow resistivity of Glasswool 32kg Semi-Rigid products:

Product	Thickness	RAYLS/m
Glasswool 32kg Semi-Rigid R1.5	50mm	21,040
Glasswool 32kg Semi-Rigid R2.3	75mm	20,220
Glasswool 32kg Semi-Rigid R3.0	100mm	17,100

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Health and Safety

Glasswool 32kg Semi-Rigid Glasswool is manufactured from FBS-1 Glasswool Bio-Soluble Insulation®. Refer to Baron Insulation SUIIS for more information.

Environmental Properties

Glasswool 32kg Semi-Rigid Glasswool is manufactured from up to 80% recycled glass which would otherwise go into landfill and be unsuitable for alternative manufacturing processes.

Baron 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 Glasswool 32kg Semi-Rigid Glasswool guarantees the use of Zero ODP insulation while also ensuring that no harmful levels of Volatile Organic Compounds (VOCs) are released. This allows the incorporation of environmentally preferable insulation whilst also maintaining indoor air quality.

Maintenance and conditions of use

- Product should be kept dry, not to be exposed to weather in any condition including prior, during and after installation.
- For installation please refer to AS4254.2 for installation requirements for air handling ductwork.
- Use of pressure cleaners or mineral based cleaners must not be used on the facing product.
- Where insulation can be inspected, where appropriate ensure any tears in the facing are repaired with appropriate tape as highlighted in the AS4254.2 for installation requirement for air handling ductwork.
- Foil facing should not be in contact with any corrosive environments, water or alkaline materials such as wet concrete etc.

Technical Specification

When specifying, state the following:

The insulation material shall be Baron Insulation Glasswool 32kg Semi-Rigid Insulation with a

nominal thickness of _____ mm faced with _____
(specify nominal thickness) (insert facing type)

and with a Material R-value of R _____ m² K/W (specify Material R-value).

The following performance attributes must be specified:

Product must be FBS-1 Biosoluble. Product must recover to the requirements of AS/NZS 4859.1.

Where sound performance is required for the project, Sound Absorption level shall be _____.

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