



Commercial Under Slab Insulation

Product Selection Guide: Designing for NCC 2019

We are in the business of building

As a leading manufacturer to the Australian building industry, Fletcher Insulation has been at the forefront of insulation technology since the 1930's. With a national distribution footprint, we pride ourselves on providing excellent service to our customers. Our two Australian manufacturing plants in Sydney and Melbourne are supported with research and development, customer service, sales and technical support.

Sustainability is at the heart of what we do. Our strong focus on well-being, comfort and improving quality of life inspires us to design, manufacture and deliver world class insulation solutions for the built environment.

Commercial Under Slab Solutions

Whether you are designing or selecting materials for a commercial or industrial project, you can trust Fletcher Insulation to deliver the best insulation solution for your under slab applications.

The Fletcher Insulation range has been tested to Australian Standards and Australian conditions. Designed to meet the strict requirements of the latest National Construction Code (NCC), our products meet the NCC's deemed-to-satisfy requirements in Australia. Our specialist range of commercial under slab solutions ensure your project is covered, with the full backing of our experienced sales and support team.



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FLETCHER INSULATION BUILDING SOLUTIONS

Under Slab insulation is a fundamental part of the building envelope to comply with the National Construction Code (NCC) section J for commercial buildings.

Fletcher Insulation offers a range of product solutions to meet your requirements for the underside of underground car park soffits and top floor concrete roofs. The insulation is typically installed with the facing down and mechanically fixed using insulation fasteners and all joints are taped.

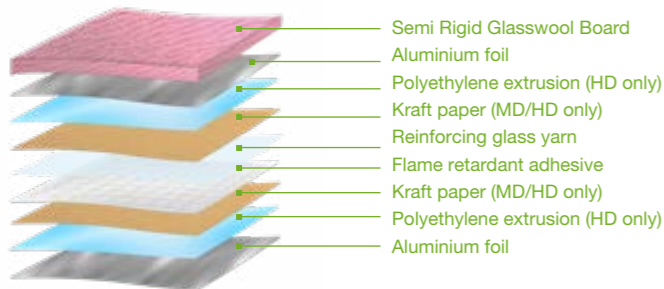
Semi Rigid Insulation Board



Semi rigid insulation board comprises of medium density glasswool insulation and is most suitable in under slab applications where superior thermal performance and acoustic control combined with a smooth flat surface finish is required. Semi Rigid Insulation under slab products are provided with facings that are designed to be specific for individual under slab applications and are explained in more detail below.

Pink® Thermal Slab

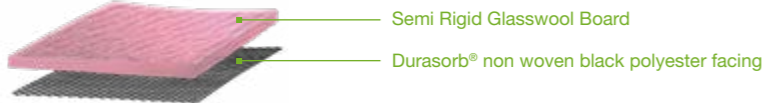
Pink® Thermal slab is ideal for soffit applications where superior thermal and acoustic performance is required whilst maintaining a smooth flat finish for a neater appearance.



- Semi Rigid Glasswool Board
- Aluminium foil
- Polyethylene extrusion (HD only)
- Kraft paper (MD/HD only)
- Reinforcing glass yarn
- Flame retardant adhesive
- Kraft paper (MD/HD only)
- Polyethylene extrusion (HD only)
- Aluminium foil

Pink® NoiseSTOP™ with Durasorb® facing

Pink® NoiseSTOP™ is ideal for applications where superior acoustic performance is required from an under slab product. It is highly recommended for applications behind a perforated or decorative ceiling or wall lining due to the black product surface appearance.



- Semi Rigid Glasswool Board
- Durasorb® non woven black polyester facing

Permastop® Pink® Building Blanket with Sisalation® Facing Foil

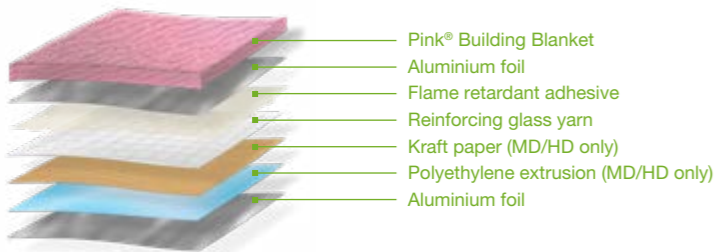


Permastop® Building Blanket comprises of Pink® Building blanket glass wool insulation faced with Sisalation® Facing Foil and is suitable in under slab applications where aesthetics is not critical and where the soffit insulation will be installed behind a ceiling and/or wall lining. Delivering very good thermal performance and acoustic control. The foil facing will provide an effective water and vapour barrier for condensation control in under slab applications.



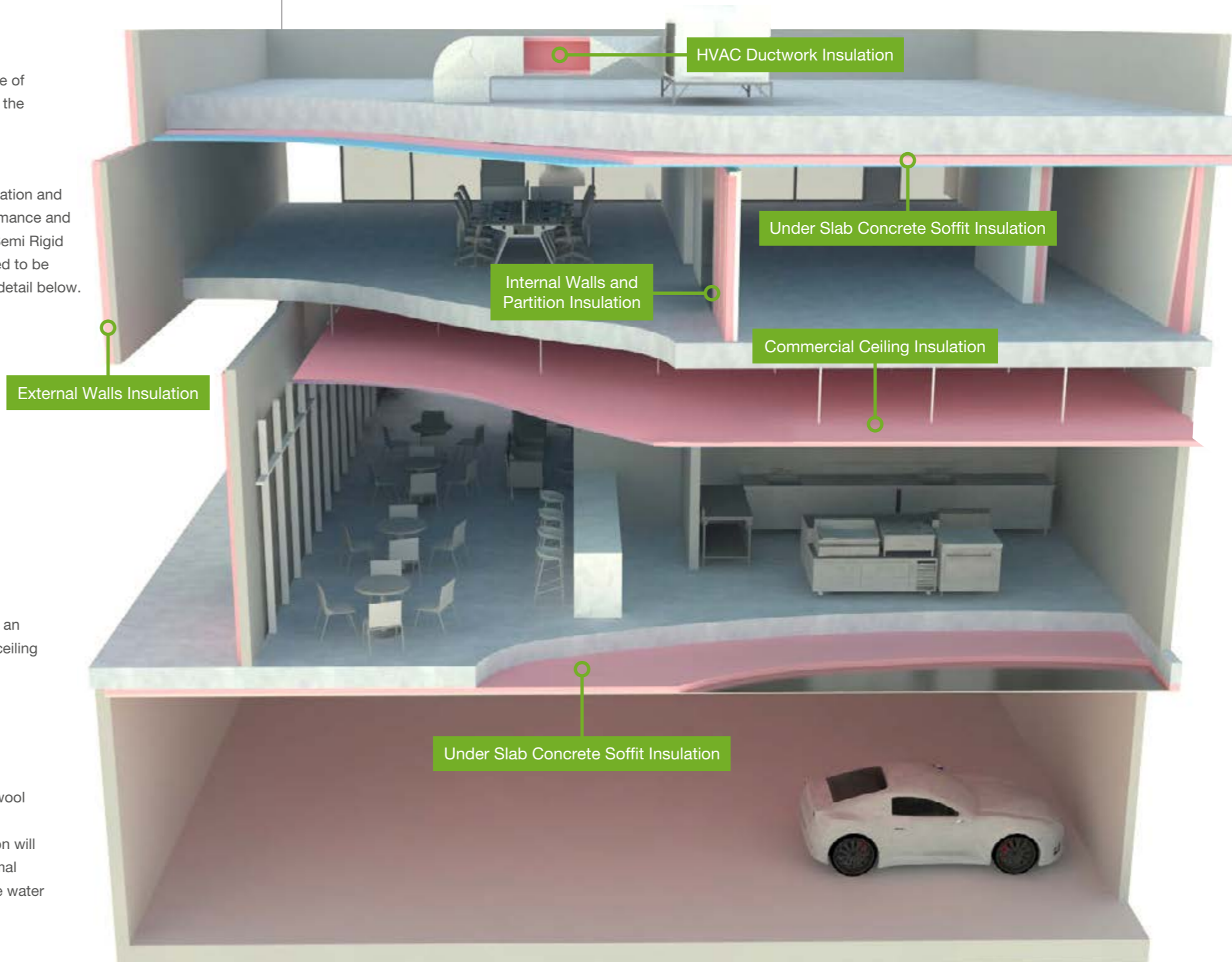
Permastop® Building Blanket

Permastop® Building Blanket delivers excellent thermal and acoustic performance and when installed is most suited behind a ceiling or wall lining.



- Pink® Building Blanket
- Aluminium foil
- Flame retardant adhesive
- Reinforcing glass yarn
- Kraft paper (MD/HD only)
- Polyethylene extrusion (MD/HD only)
- Aluminium foil

UNDER SLAB



Applications

- Metal roof insulation with facing
- Wall insulation with facing
- Under slab/soffit concrete roof insulation with facing

Features

- Thermal control
- Acoustic control
- Fire resistant
- Condensation control

A GUIDE TO CHOOSING THE RIGHT INSULATION

Good thermal comfort, daylight, and acoustics – these factors play an important role in creating a healthy, productive workplace. Selecting the right insulation for the climatic conditions, building design and usage can have a significant impact on the comfort and well-being of occupants. Fletcher Insulation has an extensive range of under slab insulation solutions to suit your project and application.



1: DESIGNING FOR THERMAL PERFORMANCE

The right level of thermal performance can deliver better comfort levels as well as reducing the reliance on air conditioning and mechanical ventilation, which can significantly increase electricity costs for a property. Selecting the right type of insulation can optimise the performance and energy efficiency of a commercial building, resulting in reduced heating and cooling costs.

R Values can be displayed as either a **material value (Rm)** or a **total R-Value (Rt)**. **Material R Value (Rm)** refers to the thermal resistance value that a product specifically delivers for a specified material such as building blanket. Rm is relative to the insulation thickness. **Total R-Value (Rt)** refers to all the elements of the overall system, taking into account air space, all materials used in the assembly fabrication of the building and the insulation material. Most insulation products combine a glasswool blanket with a range of facing materials. To assist in determining the most suitable product combination for your project's application, it is advised firstly that the blanket thickness be established to satisfy the thermal material R value requirements and secondly to determine the facing foil which will offer the best level of condensation control for your project application. Fletcher Insulation product complies with AS/NZS 4859.1. The Product Selector (page 8 to 11) will determine the most suitable product to meet National Construction Code 2019 deemed-to-satisfy requirements.



2: DESIGNING FOR ACOUSTIC CONTROL

Minimising noise is an important consideration when designing buildings. For projects located in high noise areas such as overhead traffic, carparks, under aircraft flight paths or for projects requiring high levels of acoustic control such as performing arts precincts and concert halls, Fletcher Insulation has a range of insulation and facing options with superior noise reduction properties. These solutions are ideal for noise control behind perforated ceilings by minimising sound transfer from the external roof environment.



3: DESIGNING FOR FIRE RESISTANCE

Fletcher Insulation glasswool products are non-combustible according to Combustibility AS1530.1-1994 (R2016). Sisalation® Building Membranes comply and meet the NCC Flammability Index AS1530.2-1993 (R2016). Compliance with Ignitability, Flame Propagation, Heat Release and Smoke Release AS/NZS1530.3-1999 (R2016). Fletcher Insulation has a range products for fire prone areas and designed to comply with Bushfire Attack Level (BAL) requirements of Low-40 in roof applications and Low-FZ in wall applications (in accordance with AS3959). In applications where the insulation is exposed and acts as the ceiling lining, Fletcher Insulation meets NCC compliance to AS ISO 9705 and AS5637.1-2015 Fire tests – Full-scale room test for surface products for Group 1 with Pink® Thermal Slab, Pink® NoiseSTOP™ and Permastop® light duty blanket products.



4: DESIGNING FOR CONDENSATION CONTROL

Sisalation® Building Membrane products have been developed to distinctively address condensation control in buildings and significantly reduce the likelihood of condensation developing in under slab and concrete soffit applications. Condensation control is an important consideration when designing commercial buildings in areas of high humidity. Fletcher Insulation has a range of faced building blankets and building membrane solutions which provide a superior water and vapour barrier for long term durability against condensation.

5: DESIGNING FOR AESTHETICS

The selection of the most suitable facing material on Fletcher Insulation Under Slab products can be a factor to the interior aesthetics of your building design and should be carefully considered if the insulation is visible and acts as the ceiling lining. In ascertaining the facing material finish, the density of insulation can influence how level or flat the final finish of an installed surface appears, especially following the installation of anchoring pins. It is recommended that you refer to your Fletcher Insulation representative prior to determining the most suitable product for your project, if aesthetics is important.

Product	Description	Thermal (1)	Acoustic (2)	Fire Resistant (3)	Condensation Control (4) Vapour Classification
<p>Pink® Thermal Slab</p>	<p>Pink® Thermal Slab insulation is engineered for use in commercial soffit applications where thermal properties are pivotal in controlling temperature fluctuations of concrete roofs, floors soffit and walls. It has a smooth flat foil faced finish, resistant to bacteria and micro-organism growth.</p>	★★★★★	★★★★★		Heavy Duty Class 1 Vapour Barrier
<p>Pink® NoiseSTOP™</p>	<p>Pink® NoiseSTOP™ with Durasorb® facing is designed for use in commercial concrete floor, ceiling, wall and applications behind perforated metal requiring thermal performance, acoustic control and where a black aesthetic finish is desired. It is resistant to bacteria and micro-organism growth.</p>	★★★★★	★★★★★	All Under Slab products are compliant with AS/NZS 1530.3-1999 (R2016) Early Fire Hazard Index	Vapour Permeable and Non Water Barrier
<p>Permastop® Building Blanket</p>	<p>Permastop® Building Blanket glasswool insulation faced with Sisalation® acts as a water and vapour barrier to provide thermal and acoustic control for concrete soffit applications.</p> <p>Available as:</p> <ul style="list-style-type: none"> Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil 	★★★★★	★★★★★		All duty classifications: Class 1

Applications

Metal roof insulation with facing
 Wall insulation with facing
 Under slab/soffit concrete roof insulation with facing

Features

Thermal control
 Acoustic control
 Fire resistant
 Condensation control

Star Rating

★★★★★ Superior
 ★★★★ Excellent
 ★★★ Good

DESIGNING FOR THERMAL PERFORMANCE

Product Selector – National Construction Code 2019



Use the following tables to select the right Fletcher Insulation product for your project. The recommended insulation will provide a Deemed-to-Satisfy solution to meet the requirements of Section J of the National Construction Code 2019 for Class 2 to 9 buildings.

Zone 1

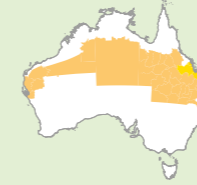


Direction of heatflow	Upwards	
	With In-slab or In-Screed Heating or Cooling System	Without In-Slab or In-Screed Heating or Cooling System
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.93	1.68
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	3.00	1.75
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.83	1.58
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.67	1.42
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R1.5 50mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R1.5 50mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	3.0	1.7
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm

1. R-Value for enclosed subfloor spaces is 0.10 for a Floor Area to Floor Perimeter Ratio of 1.0 m. The R-Value of the structure should be increased by 0.05 for every 0.5 m increase in the Ratio of Floor Area to Floor Perimeter. See specification J1.6 of the 2019 NCC.

Zone 2

Zone 3



Direction of heatflow	Upwards		Downwards	
	With In-slab or In-Screed Heating or Cooling System	Without In-Slab or In-Screed Heating or Cooling System	With In-slab or In-Screed Heating or Cooling System	Without In-Slab or In-Screed Heating or Cooling System
Deemed-To-Satisfy Total R-value R_T	3.25	2.0	3.25	2.0
Minimum material R Value R_m	2.93	1.68	2.83	1.58
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0	3.25	2.0
Minimum material R Value R_m	3.00	1.75	2.95	1.7
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0	3.25	2.0
Minimum material R Value R_m	2.83	1.58	2.78	1.53
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0	3.25	2.0
Minimum material R Value R_m	2.67	1.42	2.5	1.25
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm	R3.0 75mm	R2.5 100mm
Pink® Thermal Slab	R3.0 100mm	R1.5 50mm	R3.0 100mm	R1.5 50mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R1.5 50mm	R3.0 100mm	R1.5 50mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0	3.25	2.0
Minimum material R Value R_m	3.0	1.7	2.90	1.65
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm	R3.0 100mm	R2.3 75mm

Fletcher Insulation has provided this information as a guide only. Product selections should be based on actual construction R-Value calculations, and discussions with your Fletcher Insulation Representative to ensure the product meets the required application.

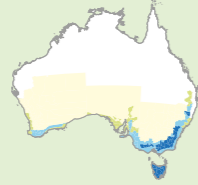
DESIGNING FOR THERMAL PERFORMANCE

Product Selector – National Construction Code 2019



Use the following tables to select the right Fletcher Insulation product for your project. The recommended insulation will provide a Deemed-to-Satisfy solution to meet the requirements of Section J of the National Construction Code 2019 for Class 2 to 9 buildings.

Zone 4 Zone 5 Zone 6 Zone 7



Direction of heatflow	Downwards	
	With In-slab or In-Screed Heating or Cooling System	Without In-Slab or In-Screed Heating or Cooling System
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.83	1.58
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	3.00	1.70
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.78	1.53
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.5	1.25
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R2.5 100mm	R1.3 55mm
Pink® Thermal Slab	R3.0 100mm	R1.5 50mm
Pink® NoiseSTOP™ with Durasorb®	R2.5 100mm	R1.5 50mm
Deemed-To-Satisfy Total R-value R_T	3.25	2.0
Minimum material R Value R_m	2.90	1.65
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	R3.0 130mm	R1.8 75mm
Pink® Thermal Slab	R3.0 100mm	R2.0 66mm
Pink® NoiseSTOP™ with Durasorb®	R3.0 100mm	R2.3 75mm

1. R-Value for enclosed subfloor spaces is 0.10 for a Floor Area to Floor Perimeter Ratio of 1.0 m. The R-Value of the structure should be increased by 0.05 for every 0.5 m increase in the Ratio of Floor Area to Floor Perimeter. See specification J1.6 of the 2019 NCC.

- Step 1:** Identify your climate zone in accordance with the NCC.
- Step 2:** Identify your floor structure, heat flow direction and heating/cooling conditions.
- Step 3:** Identify the minimum required material R-value for Deemed-to-Satisfy compliance. Account for thermal bridging in accordance with AS/NZS 4859.2.
- Step 4:** Select the appropriate Fletcher Insulation product based on the minimum required material R-value.

Zone 8



Direction of heatflow	Downwards	
	With In-slab or In-Screed Heating or Cooling System	Without In-Slab or In-Screed Heating or Cooling System
Deemed-To-Satisfy Total R-value R_T	4.75	3.5
Minimum material R Value R_m	4.33	3.08
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	n/a	R3.2 130mm
Pink® Thermal Slab	n/a	n/a
Pink® NoiseSTOP™ with Durasorb®	n/a	n/a
Deemed-To-Satisfy Total R-value R_T	4.75	3.5
Minimum material R Value R_m	4.45	3.2
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	n/a	R3.2 130mm
Pink® Thermal Slab	n/a	n/a
Pink® NoiseSTOP™ with Durasorb®	n/a	n/a
Deemed-To-Satisfy Total R-value R_T	4.75	3.5
Minimum material R Value R_m	4.28	3.03
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	n/a	R3.2 130mm
Pink® Thermal Slab	n/a	n/a
Pink® NoiseSTOP™ with Durasorb®	n/a	n/a
Deemed-To-Satisfy Total R-value R_T	4.75	3.5
Minimum material R Value R_m	4.00	2.75
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	n/a	R3.0 130mm
Pink® Thermal Slab	n/a	R3.0 130mm
Pink® NoiseSTOP™ with Durasorb®	n/a	R3.0 100mm
Deemed-To-Satisfy Total R-value R_T	4.75	3.5
Minimum material R Value R_m	4.40	3.15
Permastop® Building Blanket Sisalation® Light Duty (LD) 436 Facing Foil Sisalation® Medium Duty (MD) 430 Facing Foil Sisalation® Heavy Duty (HD) 450 Facing Foil	n/a	R3.2 130mm
Pink® Thermal Slab	n/a	n/a
Pink® NoiseSTOP™ with Durasorb®	n/a	n/a

Fletcher Insulation has provided this information as a guide only. Product selections should be based on actual construction R-Value calculations, and discussions with your Fletcher Insulation Representative to ensure the product meets the required application.

DESIGNING FOR THERMAL PERFORMANCE

Material R-Value by insulation type



Fletcher Insulation have a range of high thermal performance insulation products which meet or exceed the minimum R-value recommended by the NCC. Once an insulation type is selected (page 8 to 11), higher thermal performance (R-value) can be achieved by increasing the insulation thickness or combining multiple sheet thicknesses.

	Material Thickness (mm)							
	38	50	55	60	66	75	100	130
Permastop® Building Blanket								
Sisalation® 436 Facing Foil Light Duty (LD)	n/a	n/a	R1.3	R1.4	n/a	R1.8	R2.3 R2.5	R3.0 R3.2 R3.6
Sisalation® 430 Facing Foil Medium Duty (MD)	n/a	n/a	R1.3	R1.4	n/a	R1.8	R2.3 R2.5	R3.0 R3.2 R3.6
Sisalation® 450 Facing Foil Heavy Duty (HD)	n/a	n/a	R1.3	R1.4	n/a	R1.8	R2.3 R2.5	R3.0 R3.2 R3.6
Pink® Thermal Slab	n/a	R1.5	n/a	n/a	R2.0	R2.3	R3.0	n/a
Pink® NoiseSTOP™ with Durasorb® Facing	R1.2	R1.5	n/a	n/a	n/a	R2.3	R3.0	n/a

DESIGNING FOR FIRE MANAGEMENT



Fletcher Insulation Permastop® bulk insulation blanket products are deemed non-combustible in accordance with AS1530.1-1994 (R2016), allowing you to take comfort in designing buildings that are more safe and secure by removing any additional fuel load in roof spaces.

Group numbers for under slab, wall and ceiling linings

According to the National Construction Code Volume 1, internal wall and ceiling linings within class 2 to 9 buildings must comply with specific fire hazard properties. The Group Number classification governs if and where the material can be used depending on the building class and application.

In applications where the insulation becomes the ceiling or wall lining and is exposed, Fletcher Insulation offer a range of insulation solutions that achieve either a Group 1 or Group 2 classification according to AS 5637.1:2015. For detailed results by insulation type, please refer to the Technical Information on pages 14 and 15.

For other applications, Fletcher insulation offer products compliance with AS1530.2-1994 (R2016) for facing foils and AS/NZS 1530.3 1999 (R2016) for combined bulk Glasswool insulation with a building membrane product range.

Additionally, Permastop® offers further safeguard from embers in accordance with the BAL guidelines when building in bush fire prone areas.

Please seek a review from a fire engineer for any recommendations prior to installation to ensure suitability to your individual project.

DESIGNING FOR ACOUSTIC CONTROL

Noise reduction coefficients



Minimising noise is an important consideration when designing buildings. For projects requiring high levels of acoustic control such as concert halls, studios and auditoriums, Fletcher Insulation has a range of specialty facings to provide higher levels of acoustic control.

The performance of sound absorption for insulation is described by 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.



Sound Absorption

Pink® Thermal Slab, Pink® NoiseSTOP™ and Permastop® Building Blanket achieves the following sound absorption coefficients when tested in accordance with AS ISO 11654-1997.

The Noise Reduction Coefficient (NRC) is calculated according to ASTM C423-90A and the average result of four frequencies: 250Hz, 500Hz, 1000Hz and 2000Hz.




	Nominal Thickness	Practical Sound Absorption Coefficients α_p at Frequencies (Hz) of:						NRC
		mm	125	250	500	1000	2000	
Pink® NoiseSTOP™ with Durasorb® facing	38	0.15	0.55	1.00	1.00	1.00	0.95	0.95
Pink® Thermal Slab	50	0.35	1.00	0.90	0.45	0.20	0.15	0.70
Pink® NoiseSTOP™ with Durasorb® facing	50	0.25	0.80	1.00	1.00	1.00	1.00	1.10
Permastop® Building Blanket (LD) R1.3	55	0.25	0.80	1.00	0.55	0.25	0.15	0.70
Pink® Thermal Slab	66	0.45	1.00	0.90	0.50	0.25	0.10	0.70
Pink® Thermal Slab	75	0.50	1.00	0.90	0.50	0.25	0.10	0.70
Pink® NoiseSTOP™ with Durasorb® facing	75	0.35	1.00	1.00	1.00	1.00	0.95	1.10
Permastop® Building Blanket (LD) R1.8	75	0.35	1.00	0.95	0.45	0.25	0.10	0.70
Pink® Thermal Slab	100	0.85	1.00	0.85	0.50	0.25	0.10	0.70
Permastop® Building Blanket (LD) R2.3	100	0.50	1.00	0.90	0.50	0.30	0.10	0.75
Pink® NoiseSTOP™ with Durasorb® facing	100	0.75	1.00	1.00	1.00	1.00	1.00	1.05
Permastop® Building Blanket (LD) R3.0	130	0.50	1.00	0.85	0.45	0.30	0.15	0.75
Permastop® Building Blanket (LD) R3.2	130	0.6	1.0	0.75	0.45	0.25	0.10	0.65
Permastop® Building Blanket (LD) R3.6	130	0.7	1.0	0.95	0.65	0.25	0.15	0.80

TECHNICAL INFORMATION: BUILDING BLANKETS

Product	Permastop® Building Blanket			
Facing	Sisalation® Light Duty (LD) 436 Facing Foil	Sisalation® Medium Duty (MD) 430 Facing Foil	Sisalation® Heavy Duty (HD) 450 Facing Foil	
				
Applications				
MATERIAL PROPERTIES				
Foil overlap length (mm)	150	150	150	
Alkalinity of glasswool (pH)	9	9	9	
Green Star compliant				
No Ozone Depleting Potential (ODP) substances in the manufacture or composition	Complies	Complies	Complies	
No harmful levels of Volatile Organic Compounds (VOCs)	Complies	Complies	Complies	
THERMAL PROPERTIES				
Max. Operating Temp. (°C)	70°C	70°C	70°C	
Thermal performance (AS/NZS 4859.1:2018)	Complies	Complies	Complies	
Material R-Value (m²K/W)	Permastop® Building Blanket			
	Thickness (mm)	Sisalation® Light Duty (LD) 436 Facing Foil	Sisalation® Medium Duty (MD) 430 Facing Foil	Sisalation® Heavy Duty (HD) 450 Facing Foil
	55	R1.3	R1.3	R1.3
	60	R1.4	R1.4	R1.4
	75	R1.8	R1.8	R1.8
	100	R2.3 R2.5	R2.3 R2.5	R2.3 R2.5
130	R3.0 R3.2 R3.6	R3.0 R3.2 R3.6	R3.0 R3.2 R3.6	
ACOUSTIC PERFORMANCE – Refer to page 13				
CONDENSATION CONTROL				
Building membrane	Water and Vapour Barrier	Water and Vapour Barrier	Water and Vapour Barrier	
FIRE HAZARD PROPERTIES				
Combustibility AS1530.1-1994 (R2016) of glasswool component	Non-combustible	Non-combustible	Non-combustible	
NCC 2019 C1.9 Non-combustible building elements (e) (vi) for foil facing component	Complies	Complies	Complies	
Ignitability, Flame Propagation, Heat Release and Smoke Release AS1530.3 1999 (R2016)				
Ignitability Index	0			
Spread of Flame Index	0			
Heat Evolved Index	0			
Smoke Developed Index	0-2			
Full Scale Room Test AS ISO 9705-2003 (R2016)	Group 1	Group 2	Group 2	

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TECHNICAL INFORMATION: SEMI RIGID INSULATION BOARD

Product	Pink® Thermal Slab	Pink® NoiseSTOP™	
Facing	Sisalation® Heavy Duty (HD) 450 Facing Foil	Durasorb® Facing	
			
Applications			
MATERIAL PROPERTIES			
Foil overlap length (mm)	n/a	n/a	
Alkalinity of glasswool (pH)	9	9	
Green Star compliant			
No Ozone Depleting Potential (ODP) substances in the manufacture or composition	Complies	Complies	
No harmful levels of Volatile Organic Compounds (VOCs)	Complies	Complies	
THERMAL PROPERTIES			
Max. Operating Temp. (°C)	70°C	70°C	
Thermal performance (AS/NZS 4859.1:2018)	Complies	Complies	
Material R-Value (m²K/W)	Pink® Thermal Slab		Pink® NoiseSTOP™
	Thickness (mm)	Sisalation® Heavy Duty (HD) 450 Facing Foil	Durasorb® Facing
	38	-	R1.2
	50	R1.5	R1.3
	66	R2.0	-
	70	-	R1.8
	75	R2.3	R2.3
100	R3.0	R3.0	
ACOUSTIC PERFORMANCE – Refer to page 13			
CONDENSATION CONTROL			
Building membrane type	Water and Vapour Barrier	Non-water Barrier and Vapour Permeable	
FIRE HAZARD PROPERTIES			
Combustibility AS1530.1-1994 (R2016) of glasswool component	Non-combustible	Non-combustible	
NCC 2019 C1.9 Non-combustible building elements for (e) (vi) foil facing component	Complies	Not applicable	
Ignitability, Flame Propagation, Heat Release and Smoke Release AS/NZS 1530.3 (2016)	Sisalation® Heavy Duty		
Ignitability Index	0		
Spread of Flame Index	0		
Heat Evolved Index	0		
Smoke Developed Index	0-2		
Full Scale Room Test AS ISO 9705-2003 (R2016)	Group 1	Group 1	



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