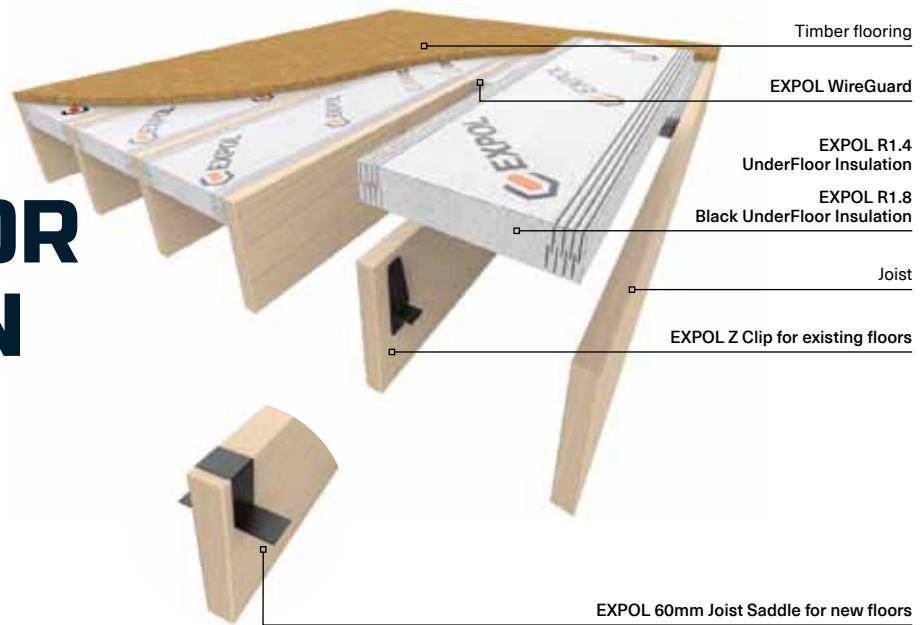


**SOLID INSULATION AND LIGHTWEIGHT
POLYSTYRENE CONSTRUCTION SOLUTIONS**



TIMBER UNDERFLOOR INSULATION R1.4 & R1.8



EXPOL UnderFloor has been used to insulate under timber floors for over 25 years and is an iconic New Zealand solution when it comes to creating a warmer, healthier home.

New Building Code changes from 1 May, 2023 which could affect the circumstances where these traditional insulation products can be used within the Building Code.

For the latest information please visit: www.expol.co.nz/insulation-code-update

For Underfloor Insulation products which have been specifically designed to meet the new insulation regulations see pages 12-13.



Table 3.1

PRODUCT OPTIONS & SIZES

Dimensions (mm)	Thickness	Length	Width
EXPOL R1.4 UnderFloor Insulation	60	1200	360
	60	1200	410
	60	1200	470
	60	1200	560
EXPOL R1.8 Black UnderFloor Insulation	60	1200	360
	60	1200	410
	60	1200	560

THE PRODUCTS

EXPOL R1.4 UnderFloor Insulation

is a rigid white panel manufactured from Expanded Polystyrene material, 1200mm in length, 60mm thick and manufactured in four standard widths 360, 410, 470, 560.

It is the ideal solution for normal New Zealand suburban environments or rural areas which do not have extreme temperatures and has been in the market for 25 years. EXPOL R1.4 contains recycled content and can be recycled.

BRANZ appraised with a 50 year EXPOL product warranty gives you the satisfaction of knowing that you will have a warmer, drier, healthier home in winter.

EXPOL R1.8 Black UnderFloor Insulation

is a rigid black panel infused with graphite making it up to 30% more efficient than other polystyrene panels.

Manufactured from Expanded Polystyrene material, 1200mm in length, 60mm thick in four standard widths 360, 410, 470, 560 (see Table 3.1). EXPOL R1.8 is ideal for extremely cold temperatures and windy environments and can be recycled.

Backed by a 50 year EXPOL product warranty giving you the satisfaction of knowing that you will have a warmer, drier, healthier home in winter.

DO NOT STORE IN DIRECT SUNLIGHT! Product could be damaged and warranty will be void.

SYSTEM COMPONENTS

WIREGUARD

EXPOL WireGuard is a waxed paper strip used to separate exposed electrical cables from EXPOL insulation. Expanded Polystyrene in some cases reacts with the plasticiser and degrades the elastic properties of some electrical cables over a prolonged period.



FIXINGS

There are two types of fixings specific to existing floors and new floors. They are made from non-corrosive nylon and are used to fix the EXPOL panels in place.

- **Existing Floors:** EXPOL Z Clips for R1.4 & R1.8 (60mm) are designed as a push fit - no nails bracket to squeeze between the panel and the joist.
- **New Floors:** EXPOL Joist Saddles for R1.4 & R1.8 (short length) are designed to slip over the joist to support and secure the 60mm panel.



STYRO-FIX CONSTRUCTION ADHESIVE

Styro-Fix is an advanced single component polyurethane-based construction adhesive.

This powerful adhesive is developed especially for the construction industry and will bond most types of construction materials including timber (damp and dry), concrete, plasterboard, polystyrene and many other porous and non-porous substrates.

It bonds expanded polystyrene to most surfaces, delivers strong adhesion and rapid cure, it is gun-able and non-drip.



Table 3.2

PRODUCT PROPERTIES

Property	Unit	EXPOL R1.4 UnderFloor Insulation	EXPOL R1.8 Black UnderFloor Insulation	Test Reference
Material		Expanded Polystyrene	Expanded Polystyrene	
Density	kg/m3	12	18	
Thickness / Product R-value	m2K/W 60mm 120mm (Double Layer)	R 1.40 R 2.80	R 1.80 R 3.60	ASTM C518-04
Compressive strength at 10% deformation (min)	KPA	70	105	AS 2498.3
Cross breaking strength	KPA	135	200	AS 2498.4
Determination of flame propagation surface ignition				
Medium flame duration (max)	sec	2	2	AS2122.1-1993
Eighth value	sec	3	3	
Fire behaviour - Spread of Flame Index (0-10)		0	0	AS/NZS
- Smoke Developed Index (0-10)		5	5	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	1	1	AS2498.6
Recycled content	%	30	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	630	520	AS 2498.5
Long term water absorption by immersion	% v/v	-	-	ASTM C272

INSTALLATION

For detailed installation instructions, please refer to EXPOL's technical literature or BRANZ appraisal, both available on our website www.expol.co.nz/installing-timber-floor-insulation

Scan the code to access Installation Guide



FURTHER INFORMATION

For further detailed information on all products refer page 36 & 37 or contact EXPOL 0800 86 33 73. For Expanded Polystyrene Densities and Colour Coding refer page 37.

SPECIFIERS, ARCHITECTS AND PLANNERS

For all specifying information, relevant product testing and other detailed information please refer to MasterSpec documents on www.masterspec.co.nz or contact EXPOL for an electronic copy.

BRANZ APPRAISAL

EXPOL R1.4 UnderFloor has a BRANZ appraisal. See BRANZ certificate number 256.

INSULATION STANDARD

All EXPOL timber floor insulation solutions comply with the Australian and New Zealand Standard AS/NZS 4859.

MANUFACTURING STANDARD

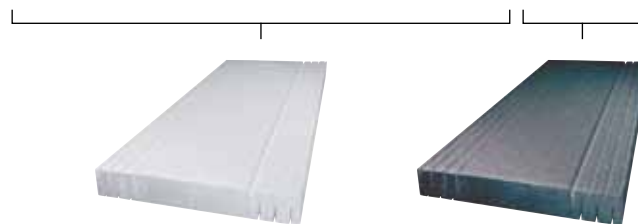
All panels have a yellow stripe down one edge to confirm compliance with manufacturing standard AS 1366 Part 3 1992 for SL grade.

R1.4 bags are colour coded to joist width



EXPOL R1.4 UnderFloor

EXPOL R1.8 Black UnderFloor



For **miproducts**
Details www.miproducts.co.nz

For **masterspec**
Details www.masterspec.co.nz



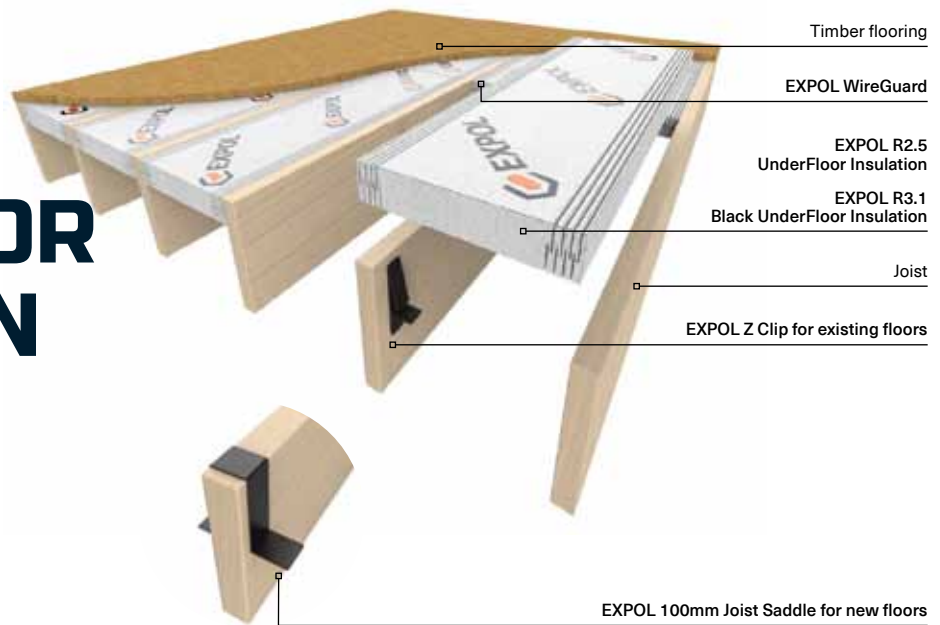
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EXPOL
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TIMBER UNDERFLOOR INSULATION R2.5 & R3.1



EXPOL's New Generation, high performance insulation range is specifically designed to meet the new insulation regulations.

Our goal is to reduce our carbon footprint and deliver dry, warmer, healthier and environmentally friendly spaces.

New Building Code changes from 1 May, 2023 - more information on the new Building Code Regulations, and **EXPOL's New Generation** products see our detailed guide at: www.expol.co.nz/insulation-code-update

Table 4.1

PRODUCT OPTIONS & SIZES

Dimensions (mm)		Thickness	Length	Width
EXPOL R2.5 UnderFloor Insulation		100	1200	360
		100	1200	410
		100	1200	470
		100	1200	560
EXPOL R3.1 Black UnderFloor Insulation		100	1200	360
		100	1200	410
		100	1200	470
		100	1200	560

THE PRODUCTS



EXPOL R2.5 UnderFloor Insulation is EXPOL's New Generation Underfloor R2.5 panel consciously designed and engineered to meet the new insulation regulations that will be introduced on 01 May, 2023.

Made from Expanded Polystyrene that contains recycled content it is 1200mm in length, 100mm thick and manufactured in four standard widths 360, 410, 470, 560 (see Table 4.1).

It is the ideal solution for normal New Zealand suburban environments or rural areas which do not have extreme temperatures. EXPOL R2.5 contains recycled content and can be recycled.

BRANZ appraised with a 50 year EXPOL product warranty gives you the satisfaction of knowing that you will have a warmer, drier, healthier home in winter.



EXPOL R3.1 Black UnderFloor Insulation is the ultimate underfloor insulation. A rigid panel infused with graphite makes it up to 24% more efficient than EXPOL R2.5.

EXPOL R3.1 is ideal for extremely cold temperatures and windy environments and can be recycled. Manufactured from Expanded Polystyrene material, 1200mm in length, 100mm thick in four standard widths 360, 410, 470, 560.

Backed by a 50 year EXPOL product warranty giving you the satisfaction of knowing that you will have a warmer, drier, healthier home in winter.

DO NOT STORE IN DIRECT SUNLIGHT! Product could be damaged and warranty will be void.

SYSTEM COMPONENTS

WIREGUARD

EXPOL WireGuard is a waxed paper strip used to separate exposed electrical cables from EXPOL insulation. Expanded Polystyrene in some cases reacts with the plasticiser and degrades the elastic properties of some electrical cables over a prolonged period.



FIXINGS

There are two types of fixings specific to existing floors and new floors. They are made from non-corrosive nylon and are used to fix the EXPOL panels in place.

- Existing Floors: EXPOL Z Clips for R2.5 & R3.1 (100mm) are designed as a push fit - no nails bracket to squeeze between the panel and the joist.



- New Floors: EXPOL Joist Saddles for R2.5 & R3.1 (extended length) are designed to slip over the joist to support and secure the 100mm panel.



STYRO-FIX CONSTRUCTION ADHESIVE

Styro-Fix is an advanced single component polyurethane-based construction adhesive.

This powerful adhesive is developed especially for the construction industry and will bond most types of construction materials including timber (damp and dry), concrete, plasterboard, polystyrene and many other porous and non-porous substrates.

It bonds expanded polystyrene to most surfaces, delivers strong adhesion and rapid cure, it is gun-able and non-drip.



Table 4.2

PRODUCT PROPERTIES

Property	Unit	EXPOL R2.5 UnderFloor Insulation	EXPOL R3.1 Black UnderFloor Insulation	Test Reference
Material		Expanded Polystyrene	Expanded Polystyrene	
Density	kg/m3	12	18	
Thickness / Product R-value	m2K/W 100mm	R 2.50	R 3.10	ASTM C518-04
Compressive strength at 10% deformation (min)	KPA	70	105	AS 2498.3
Cross breaking strength	KPA	135	200	AS 2498.4
Determination of flame propagation surface ignition				
Medium flame duration (max)	sec	2	2	AS2122.1-1993
Eighth value	sec	3	3	
Fire behaviour - Spread of Flame Index (0-10)		0	0	AS/NZS 1530.3:1999
- Smoke Developed Index (0-10)		5	5	
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	1	1	AS2498.6
Recycled content	%	30	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	630	520	AS 2498.5
Long term water absorption by immersion	% v/v	-	-	ASTM C272

INSTALLATION

For detailed installation instructions, please refer to EXPOL's technical literature, available on our website www.expol.co.nz/installing-timber-floor-insulation

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FURTHER INFORMATION

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For Expanded Polystyrene Densities and Colour Coding refer page 37.

SPECIFIERS, ARCHITECTS AND PLANNERS

For all specifying information, relevant product testing and other detailed information please refer to MasterSpec documents on www.masterspec.co.nz or contact EXPOL for an electronic copy.

INSULATION STANDARD

All EXPOL timber floor insulation solutions comply with the Australian and New Zealand Standard AS/NZS 4859.

MANUFACTURING STANDARD

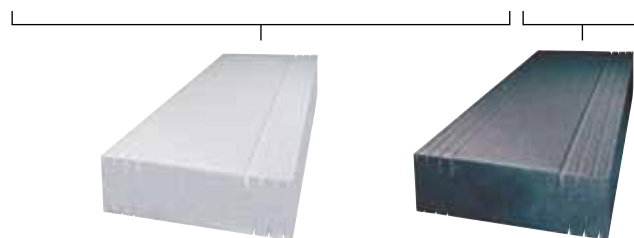
All panels have a yellow stripe down one edge to confirm compliance with manufacturing standard AS 1366 Part 3 1992 for SL grade.

R2.5 bags are colour coded to joist the width



EXPOL R2.5 UnderFloor

EXPOL R3.1 Black UnderFloor



For **miproducts**
Details www.miproducts.co.nz

For **masterspec**
Details www.masterspec.co.nz



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