EXPOL
Guaranteed Performance

TECHNICAL PRODUCT GUIDE

SOLID INSULATION AND LIGHTWEIGHT POLYSTYRENE CONSTRUCTION SOLUTIONS



Learn about our recycling initiatives
EXPOL earth
It's our Planet!

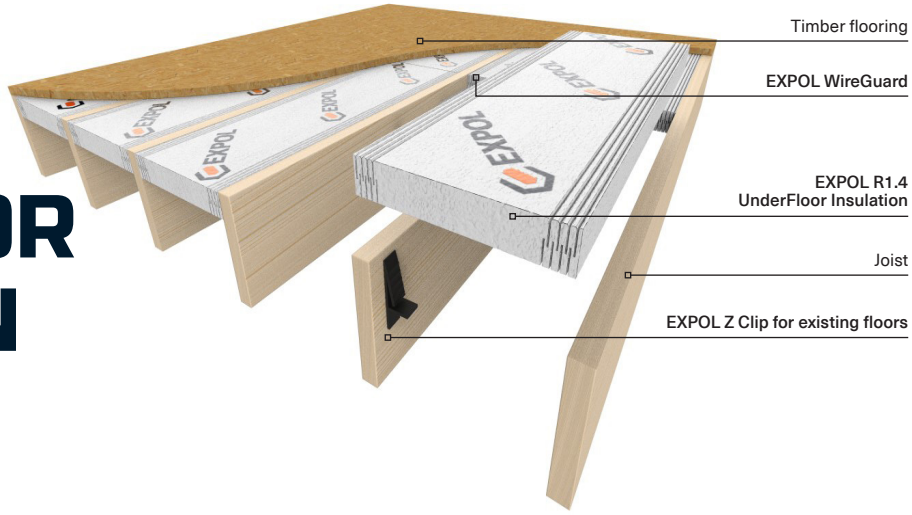
NEW GENERATION
Consciously designed
& engineered

airpop®
engineered air

6
EPS
RECYCLABLE
PRODUCT

Go NZ Business
NEW ZEALAND OWNED & MANUFACTURED

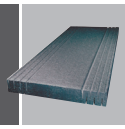
TIMBER UNDERFLOOR INSULATION R1.4 & R1.8



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.

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	470
		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.

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.

EXPOL R1.8 Black UnderFloor Insulation

is a rigid black panel infused with graphite infused with graphite making it up to 30% more efficient than EXPOL R1.4 UnderFloor Insulation.

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

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.



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			ASTM C518-04
	60mm	R 1.40	R 1.80	
	120mm (Double Layer)	R 2.80	R 3.60	
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

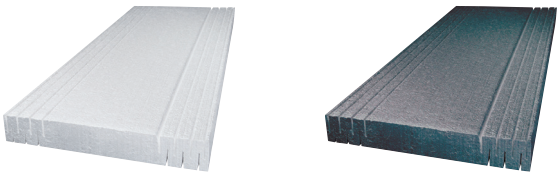
50 YEAR UnderFloor Product Warranty

R1.4 bags are colour coded to joist width



EXPOL R1.4 UnderFloor

EXPOL R1.8 Black UnderFloor



FURTHER INFORMATION

For further detailed information on all products refer page 38 & 39 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 39.

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.

6 EPS RECYCLABLE PRODUCT

Contact EXPOL
T: **0800 86 33 73**

Sales
E: **sales@expol.co.nz**

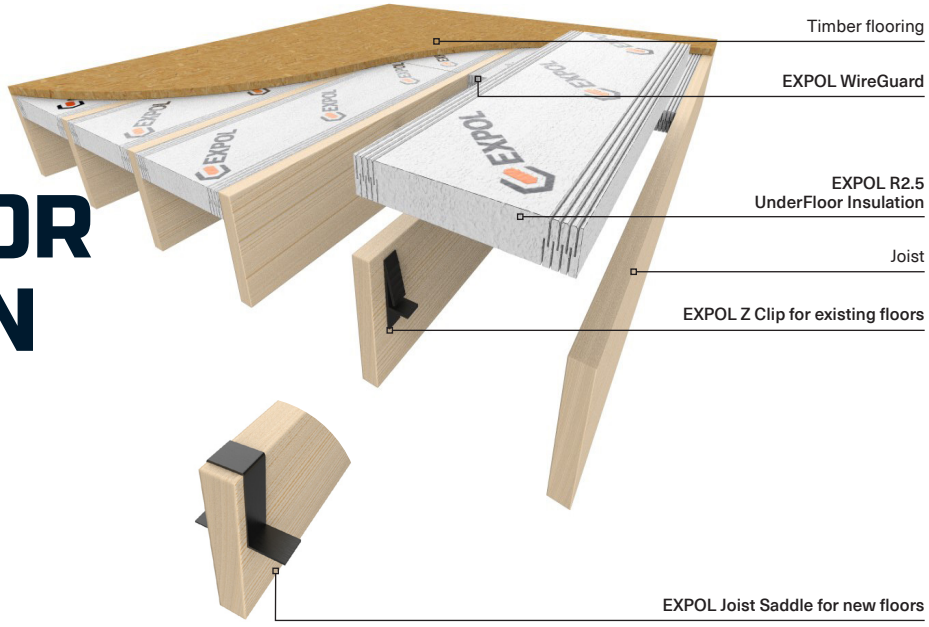
Quotes / Technical
E: **tech@expol.co.nz**

EXPOL Product Training
www.expolexpert.co.nz

EXPOL and the Environment
www.expolearth.co.nz

EXPOL
www.EXPOL.co.nz

TIMBER UNDERFLOOR INSULATION R2.5 & R3.1



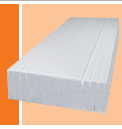
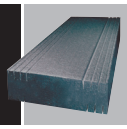
EXPOL's New Generation, high performance insulation range is specifically designed to meet the new insulation standards.

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



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 standards 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 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) Eighth value	 sec sec	 2 3	 2 3	 AS2122.1-1993
Fire behaviour - Spread of Flame Index - Smoke Developed Index	(0-10) (0-10)	0 5	0 5	AS/NZS 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, available on our website www.expol.co.nz/installing-timber-floor-insulation

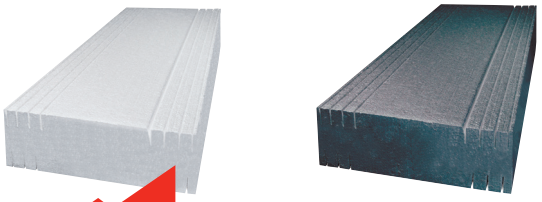
Scan the code to access Installation Guide

R2.5 bags are colour coded to joist the width



EXPOL R2.5 UnderFloor

EXPOL R3.1 Black UnderFloor



50 YEAR UnderFloor Product Warranty

FURTHER INFORMATION

For further detailed information on all products refer page 38 & 39 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 39.

BRANZ APPRAISAL

EXPOL R2.5 UnderFloor has a BRANZ appraisal. See BRANZ certificate number 256.

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.

BRANZ Appraised
Appraisal No.256 [2020]

6 EPS RECYCLABLE PRODUCT

Contact EXPOL
T: 0800 86 33 73

Sales
E: sales@expol.co.nz

Quotes / Technical
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EXPOL Product Training
www.expolexpert.co.nz

EXPOL and the Environment
www.expolearth.co.nz

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