EXPOL

Guaranteed Performance

TECHNICAL PRODUCT GUIDE



EXPOL
Guaranteed Performance

SOLID INSULATION AND LIGHTWEIGHT POLYSTYRENE CONSTRUCTION SOLUTIONS

EXPOL supplies a responsibly manufactured range of polystyrene products that provide solutions for insulation and lightweight construction.

EXPOL has a wide range of solutions made possible by the dynamic nature of Expanded Polystyrene (EPS) and Extruded Polystyrene (XPS) foams. All EXPOL products are tested by a variety of institutions, including BRANZ and OPUS WSP, to ensure quality and reliability.

Our products are so efficient they can save up to 200 times their own resource in thermal energy savings.

EXPOL's six New Zealand-based manufacturing facilities and recycling plants ensure that our customers get fast, reliable service at the lowest price possible.

Our expanded polystyrene recycling plants are among the largest in New Zealand and allow us to manufacture highly sustainable polystyrene products.



AUSTRALIA
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Tasmania

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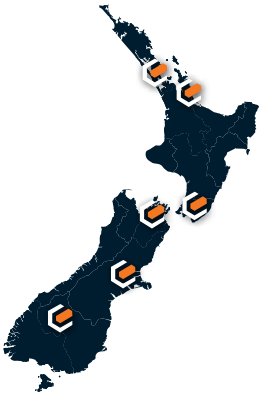
NEW ZEALAND OWNED & MANUFACTURED



NEW ZEALAND
Auckland
Tauranga
Wellington
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Canterbury
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EXPOL products and solutions are featured on:

masterspec miproducts SMARTSPEC PRODUCTSPEC

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IT'S TIME TO SPECIFY EXPOL

INSULATION

EXPOL produces and supplies some of the country's most efficient insulation materials. Products include Expanded Polystyrene (EPS) which has a long established reputation for its exceptionally high insulation qualities. EXPOL Platinum Board (a variation of Expanded Polystyrene which includes Graphite) can achieve an insulation efficiency of 0.032 W/mK while EXPOL-X (XPS) boasts as much as 0.028 W/mK. Most EXPOL products have been tested for thermal performance by a variety of institutions, including BRANZ and OPUS WSP, to ensure all products are manufactured to specification.

RIGID

EXPOL provides insulation solutions that cannot be achieved by other insulation products. Expanded Polystyrene and Extruded Polystyrene (XPS) are both rigid foams that hold their shape, which means their insulation performance does not diminish over time. EXPOL UnderFloor Insulation is one of the only insulation products on the market that is suitable for use with exposed timber floors without the need for lining. This is backed by a BRANZ appraisal and shows the advantages of rigid foam products.

LIGHTWEIGHT

Expanded Polystyrene offers an exceptionally lightweight solution for many applications in construction. This is not surprising when you consider that, as a result of advanced manufacturing technologies, Expanded Polystyrene is effectively 98% air captured within a 2% cellular matrix. The advantages in on-site handling and transportation bring significant economic benefits whilst considerably reducing health and safety risks associated with the lifting of heavier materials. It is therefore an excellent substitute for infill materials and ballast where it also brings load and fill times down in time-critical build projects.

HIGH STRENGTH AND STRUCTURAL STABILITY

In spite of its light weight, the unique matrix structure of Expanded Polystyrene brings the benefits of exceptional compressive strength and block rigidity. This means it is ideal for use in many construction and civil engineering applications, particularly as a structural base infill, for example in road, railway and bridge infrastructure. Strength tests performed on Expanded Polystyrene which was first placed in the ground almost 30 years ago show that it is just as strong today, the tested strength routinely exceeding the original minimum design strength of 100kPa. Expanded Polystyrene bridge foundations, which have been subject to many years of sustained loading, show 'creep' deformation of less than 1.3% - only half as much as had been theoretically predicted. Most importantly, Expanded Polystyrene stability does not deteriorate with age.

RESISTANCE TO WATER INGRESS

After almost 30 years in the ground, samples of Expanded Polystyrene retrieved from locations as little as 200mm above the groundwater level all have less than 1% water content by volume, whilst blocks which are periodically entirely submerged show less than 4% water content. This performance is notably superior to other foamed plastic materials.

PERFORMANCE INSULATION SOLUTIONS THAT MEET AND EXCEED THE NEW INSULATION STANDARDS.

EXPOL's new generation, high performance insulation range is specifically designed to meet the new insulation standards introduced on 01 May, 2023.

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

Whether it's under timberfloor insulation, under concrete floor insulation, wall insulation or skillion roof insulation our new generation range has been designed to meet and exceed the new insulation standards.

NEW GENERATION
Consciously designed & engineered

Our key focus in the development of these products is the environment and we have introduced the following initiatives to achieve this:

- We consciously design and engineer our products to deliver minimum impact on the environment.
- We have introduced construction and residential polystyrene recycling programs.



EXPOL
Guaranteed Performance

CONTENTS

RETAINING WALLS Page 6

MASONRY WALL INSULATION Page 8

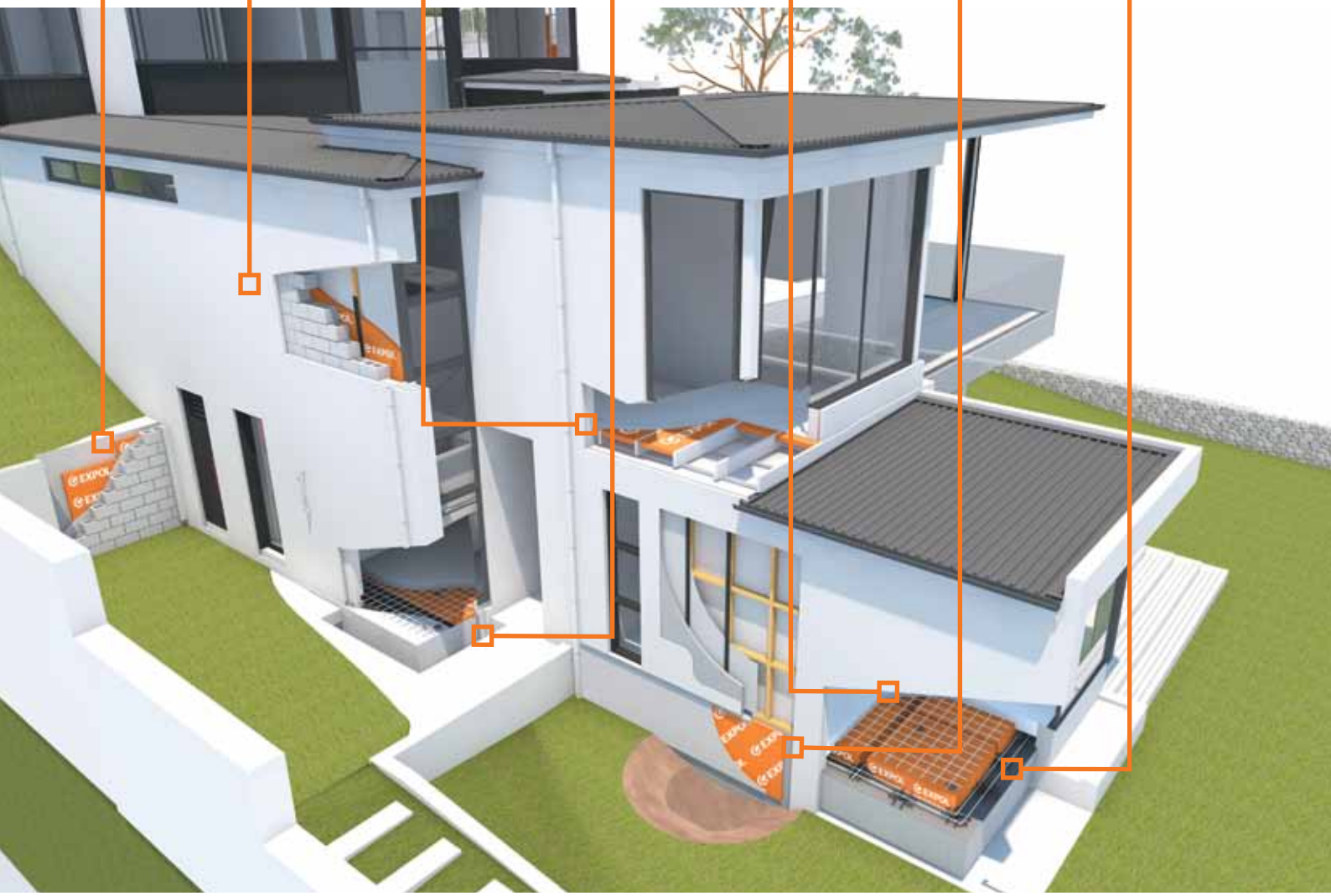
TIMBER UNDERFLOOR INSULATION Page 12

CONCRETE FLOOR INSULATION Page 16

EXPOL MAXRaft INSULATION Page 18

CONCRETE FLOOR EDGE INSULATION Page 20

POD FLOOR SYSTEMS Page 22



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

NEW GENERATION
Consciously designed & engineered

airpop®
engineered air

MAXEdge®
Patented Technology



SKILLION ROOF INSULATION
Page 24

CLADDING INSULATION
Page 26

WALL INSULATION
Page 28

SPECIALISED ENVIRONMENTS
Page 36

GARAGE DOOR INSULATION
Page 38

LIGHTWEIGHT FILL
Page 30

DRAINAGE SOLUTIONS
Page 32



FULL EXPOL PRODUCT LIST
Page 40

Learn about our recycling initiatives
EXPOL earth
It's our Planet!
Page 42

EPS RECYCLABLE PRODUCT

BRANZ Appraised
Appraisal No.256 (2020)
EXPOL R2.5 UnderFloor

BRANZ Tested
Test No. TV17029-02
SLABX200

wsp

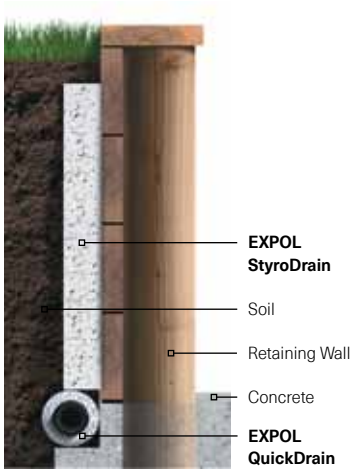
FIRE RETARDANT

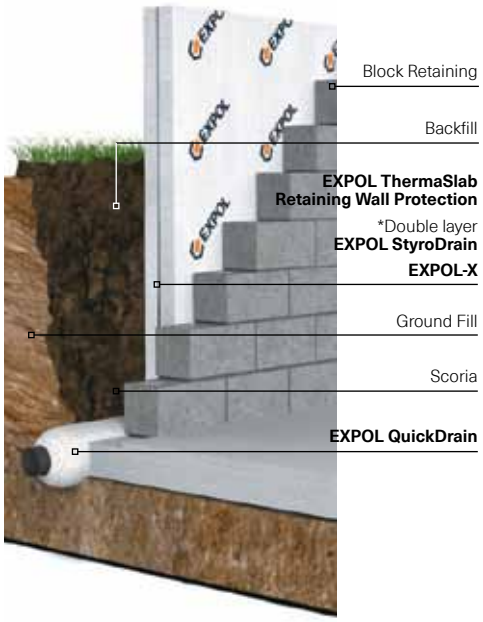
HIGH STRENGTH

MOISTURE RESISTANT

RETAINING WALLS

EXPOL membrane protection, drainage and insulation for concrete, block and wooden structures.





EXPOL ThermaSlab offers protection for waterproof membranes when using gravel or scoria for drainage. EXPOL generally recommends 25mm or 40mm sheet thickness though the product is also available in a range of thicknesses.

EXPOL-X is the ideal solution for insulating retaining walls. Its waterproof qualities provide an excellent exterior insulation solution.

EXPOL StyroDrain offers a lightweight alternative solution to traditional drainage materials for most retaining walls and is specifically designed for situations with limited access.

EXPOL QuickDrain has been designed as a no-scoria drainage solution and can be used in conjunction with StyroDrain.

Table 1.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL ThermaSlab S	2400	1200
	Other sizes on request	
EXPOL-X	2500	600
EXPOL StyroDrain	2400	1200

	Length (mm)	Product Diameter (mm)	Pipe External Diameter (mm)
EXPOL QuickDrain	2500	200	110

THE PRODUCTS

EXPOL ThermaSlab (protection) is standard Expanded Polystyrene and is available in a range of thicknesses to suit your specific requirements. 25mm is common practice for most retaining walls, whereas 40mm is recommended for retaining walls higher than 1.2 metres or where the gravel / scoria is more likely to damage the waterproof membrane. EXPOL ThermaSlab can be recycled.

EXPOL-X (protection & insulation) is extruded polystyrene (XPS) and is available in full sheets only (see Table 1.1). EXPOL-X is highly water resistant and has an extremely high compressive strength.

EXPOL StyroDrain (protection & drainage) is a permeable light-weight drainage material manufactured from 100% recycled Expanded Polystyrene material, offering drainage and protection to the water-proofing membrane used on retaining walls. *A double layer of EXPOL StyroDrain may be required if the retaining wall is higher than 1.8 metres or in special circumstances. StyroDrain comes in easy to handle sheets 90mm thick and can be cut with a sharp knife or our EXPOL EX1300 Hotwire Cutter. EXPOL StyroDrain can be recycled.

EXPOL QuickDrain (drainage) is an engineered drainage solution and provides a scoria-free alternative to traditional scoria drainage solutions, cutting installation time in half.

QuickDrain incorporates a recycled polystyrene aggregate that provides enhanced drainage performance, strength, filtration and longevity. EXPOL QuickDrain polystyrene and HDPE plastic can be recycled.

SYSTEM COMPONENTS

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 1.2

PRODUCT PROPERTIES

Property	Unit	EXPOL ThermaSlab S	EXPOL-X - Exterior	EXPOL StyroDrain	EXPOL QuickDrain	Test Reference
Material		Expanded Polystyrene	XPS	Expanded Polystyrene	Recycled Polysytrene • HDPE Pipe • Polyester Filter	
Density	kg/m3	16	30	11	n/a	
Thickness / Product R-value	m2K/W					ASTM C518-04
	10mm	-	R 0.36	-	L 2500mm	
	20mm	-	-	-	D 200mm	
	25mm	-	-	-		
	30mm	-	R 1.10	-		
	40mm	-	R 1.45	-		
	50mm	-	R 1.80	-		
	75mm	-	R 2.70	n/a		
	100mm	-	R 3.60	-		
Compressive Resistance	KPA at 1%	34	-	-	-	AS 2498.3
Compressive Resistance	KPA at 2%	59	-	-	-	
Compressive Resistance	KPA at 5%	74	-	-	-	
Compressive Resistance	**KPA at 10%**	**84**	**250**	-	-	
Youngs Modulus	(MPA)	3.8	-	-	-	
Cross breaking strength	KPA	165	-	-	-	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	0	-	AS/NZS
- Smoke Developed Index	(0-10)	5	3	5	-	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	1	-	1	-	AS2498.6
Recycled content	%	0	0	100	75	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	520	-	-		AS 2498.5
Permeability	m/s	-	-	4.18×10^{-3}	-	
Long term water absorption by immersion	% v/v	-	0.028	-	-	ASTM C272
Flow rate	l/s/m	-	-	-	0.186	OPUS WSP

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

EXPOL StyroDrain has been tested by WSP/Opus International Consultants Ltd. WSP/OPUS INTERNATIONAL CONSULTANTS Job No. 169402.00.
Refer to www.expol.co.nz/expol-styrodrain
Reference No. 02/402/001 Permeability Tests: EXPOL StyroDrain Test References: Permeability as per "Constant Head Permeability of Aggregate, Based on Soil Laboratory Testing" by E.H.Head, Density by Mass/Volume calculation.

EXPOL QuickDrain has been tested by WSP/Opus International Consultants Ltd

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene EXPOL supplied for retaining wall solutions comply with manufacturing standard AS 1366 Part 3 1992.

6 EPS RECYCLABLE PRODUCT

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

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MASONRY WALL INSULATION

EXPOL provides high performing solid insulation solutions for both interior and exterior masonry walls.

EXPOL Platinum Board is best suited for interior applications, while **EXPOL-X**, with its water-tight qualities, is designed more for exterior applications.

Also see Cladding Pages 26-27 and Retaining Wall solutions Pages 6-7 for more exterior options.

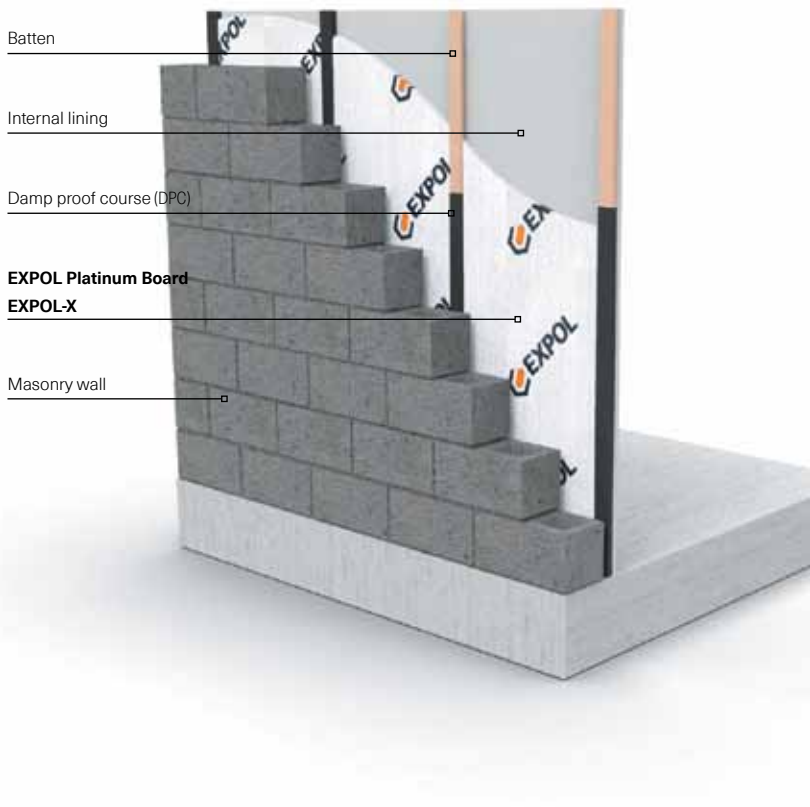

Table 2.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL Platinum Board	2400	1200
	Other sizes on request	
EXPOL-X	2500	600

THE PRODUCTS

EXPOL masonry wall insulation solutions utilise cutting edge innovations in solid insulation boards. Both products achieve substantially higher R-values (for the relative thickness) than other insulating materials.

EXPOL Platinum Board is graphite infused Expanded Polystyrene, supplied in full sheets or cut to suit. EXPOL Platinum Board is a premium product which achieves superior R-values relative to thickness. EXPOL Platinum Board can be recycled.

EXPOL-X is extruded polystyrene (XPS) available in full sheets only (see Table 2.1). EXPOL-X is highly water resistant and has an extremely high compressive strength.

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.



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 2.2

PRODUCT PROPERTIES

Property	Unit		EXPOL Platinum Board - Interior	EXPOL-X - Exterior	Test Reference
Material			Expanded Polystyrene with Graphite	XPS	
Density	kg/m3		18	30	
Thickness / Product R-value		m2K/W			ASTM C518-04
		10mm	-	R 0.36	
		20mm	R 0.63	-	
		25mm	R 0.78	-	
		30mm	R 0.94	R 1.10	
		35mm	R 1.09	-	
		40mm	R 1.25	R 1.45	
		45mm	R 1.41	-	
		50mm	R 1.56	R 1.80	
		55mm	R 1.72	-	
		60mm	R 1.88	-	
		65mm	R 2.03	-	
		70mm	R 2.19	-	
		75mm	R 2.34	R 2.70	
		80mm	R 2.50	-	
		85mm	R 2.66	-	
		90mm	R 2.81	-	
		95mm	R 2.97	-	
		100mm	R 3.13	R 3.60	
		110mm	R 3.44	-	
		120mm	R 3.75	-	
		150mm	R 4.69	-	
		200mm	R 6.25	-	
Compressive Resistance		KPA at 1%	-	-	AS 2498.3
Compressive Resistance		KPA at 2%	-	-	
Compressive Resistance		KPA at 5%	-	-	
Compressive Resistance		**KPA at 10%**	**105**	**250**	
Youngs Modulus		(MPA)	-	-	
Cross breaking strength		KPA	200	-	AS 2498.4
Determination of flame propagation surface ignition					
Medium flame duration (max)		sec	2	-	AS2122.1-1993
Eighth value		sec	3	-	
Fire behaviour - Spread of Flame Index		(0-10)	0	0	AS/NZS
- Smoke Developed Index		(0-10)	5	3	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days		%	1	-	AS2498.6
Recycled content		%	0	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C		mg/m2s	520	-	AS 2498.5
Permeability		m/s	-	-	
Long term water absorption by immersion		% v/v	-	0.028	ASTM C272

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene supplied by EXPOL for masonry wall insulation comply with manufacturing standard AS 1366 Part 3 1992.

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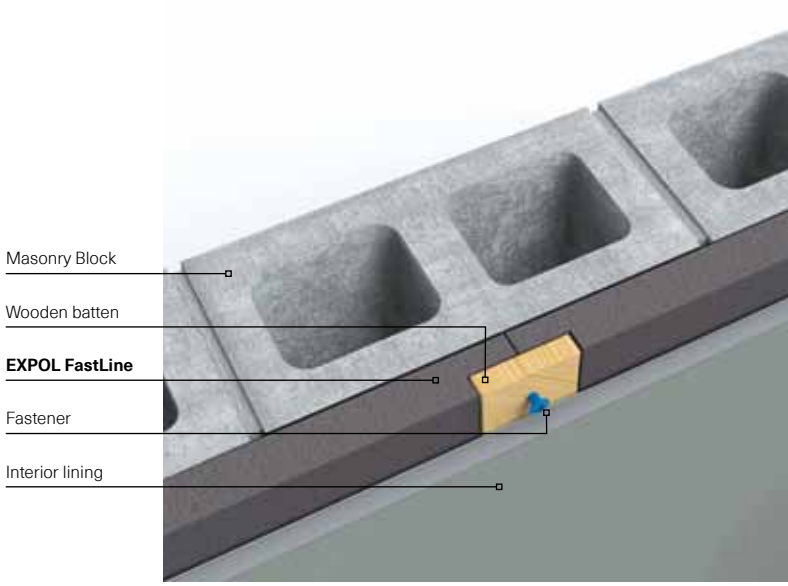
MASONRY WALL INSULATION



EXPOL FastLine (Graphite Infused – Premium Expanded Polystyrene Sheet) is EXPOL's new generation high performance Expanded Polystyrene Board, specifically designed for internal insulation of masonry block and tilt slab walls.

Delivering exception R-values at various thickness, EXPOL is a cost-effective wall insulation solution.

Designed to meet the updated H1 standards **EXPOL FastLine** is a fast and simple wall insulation solution.

EXPOL FastLine's durable nature means it will not degrade over time, keeping its integrity for the life of the structure.

Table 3.1

PRODUCT OPTIONS & SIZES

	(mm)	Length	Width	Thickness
EXPOL FastLine		2400	600	45
		2400	600	60
		2400	600	70
		2400	600	90



FASTline

CONCRETE WALL PANEL INSULATION

THE PRODUCT

EXPOL FastLine is a High Performance Insulation manufactured from graphite infused Expanded Polystyrene and is a premium product which achieves Superior R values relative to thickness. (see table 3.1). EXPOL FastLine is 100% recyclable.

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.



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.

CONCRETE SCREWS

EXPOL recommends the use of concrete screws to secure the polystyrene panels, and battens to the wall. Concrete screws are not supplied by EXPOL.



90 X 18 TIMBER BATTENS

EXPOL FastLine is designed to be used in conjunction with 90 x 18 timber battens. Timber battens are not supplied by EXPOL.



Table 3.2

PRODUCT PROPERTIES

Property	Unit		EXPOL FastLine	Test Reference
Material			Expanded Polystyrene with Graphite	
Density	kg/m3		18	
Thickness / Product R-value		m2K/W		ASTM C518-04
		45mm	R 1.40	
		60mm	R 1.90	
		70mm	R 2.20	
		90mm	R 2.80	
Determination of flame propagation surface ignition				AS2122.1-1993
Medium flame duration (max)		sec	2	
Eighth value		sec	3	
Fire behaviour				
Spread of flame Index		(0 -10)	0	AS/NZS
Smoke Developed Index		(0 -10)	5	1530.3:1999
Rate of water vapour transmission (max) measured parallel to rise at 23°C		MG/M2S	520	AS 2498.5

EXPOL FastLine increases the thermal performance of a building

- Continuous insulation no thermal bridging
- Designed specifically for use with masonry block and tilt slab walls
- A Building Code compliant wall insulation system designed for New Zealand conditions
- Graphite Infused Expanded Polystyrene delivering exceptional insulation values
- Lightweight and easy to handle
- Designed to meet new H1 standards
- Easy to install
- Manufacturing waste is actively recycled into other EXPOL products



FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

SUSTAINABILITY
EXPOL FastLine (Graphite Infused – Premium Expanded Polystyrene Sheet) can be easily recycled.

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene supplied by EXPOL for wall insulation comply with manufacturing standard AS 1366 Part 3 1992.

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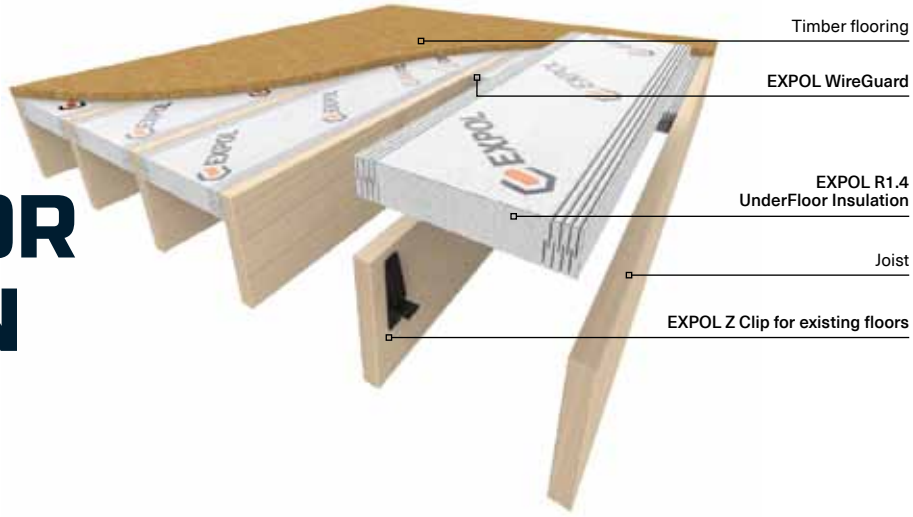
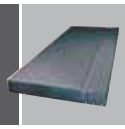
TIMBER UNDERFLOOR INSULATION R1.4 & R1.8



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 4.1

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 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 4.1). 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 4.2

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, available on our website www.expol.co.nz/products

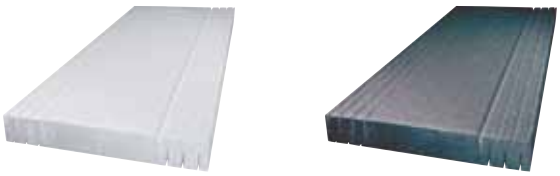
50 YEAR **UnderFloor** Product Warranty

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 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

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
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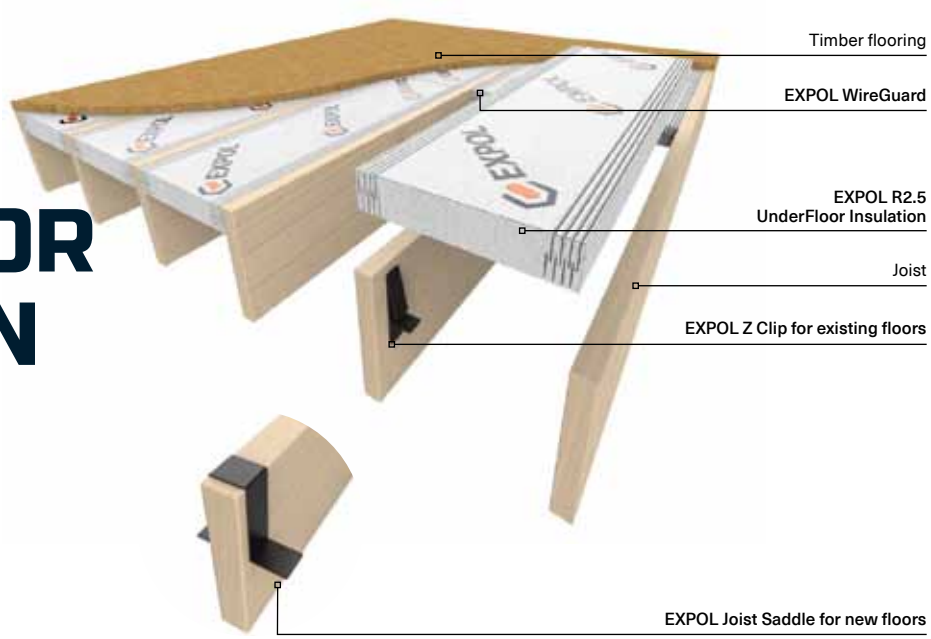
TIMBER UNDERFLOOR INSULATION R2.5 & R3.1



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

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

Table 5.1

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 5.1).

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 5.2

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/products

50 YEAR UnderFloor Product Warranty

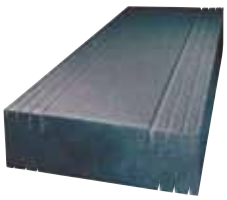
R2.5 bags are colour coded to joist the width



EXPOL R2.5 UnderFloor

EXPOL R3.1 Black UnderFloor





FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

BRANZ APPRAISAL
EXPOL R2.5 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.

BRANZ Appraised
Appraisal No.256 [2020]

6 EPS RECYCLABLE PRODUCT

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

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

EXPOL and the Environment
www.expolearth.co.nz

EXPOL
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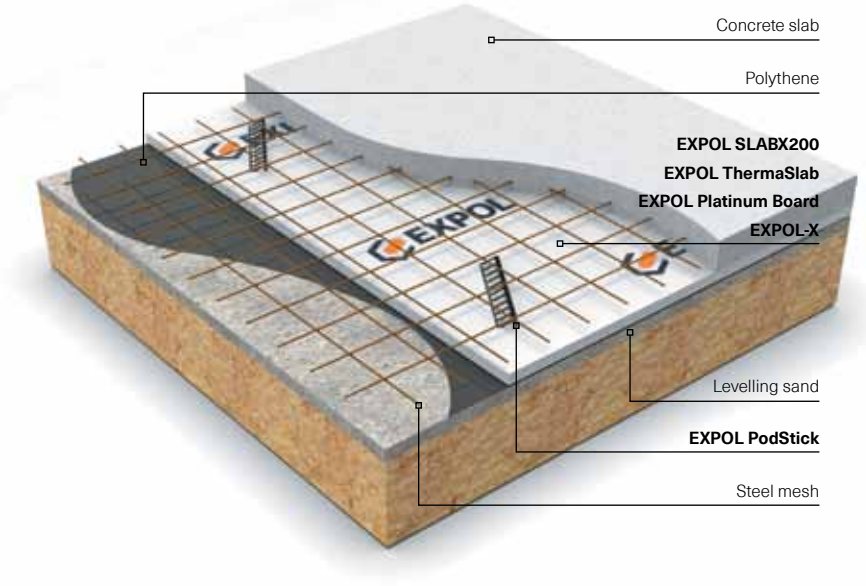
CONCRETE FLOOR INSULATION

EXPOL supplies both **Expanded Polystyrene** and **Extruded Polystyrene** for under-concrete slab insulation. Depending on the application, one product will be more suitable than the other.



THE PRODUCTS

EXPOL SLABX200 is specifically designed for insulating concrete slabs. It delivers an uncompromised compressive strength of 220kPa @ 10% deformation and exceptional Insulation Values. Specifically engineered for residential and commercial projects, its high performance gives engineers and specifiers peace of mind while increasing the thermal performance of a building. EXPOL SLABX200 can be recycled.

EXPOL ThermaSlab VH and H are the most suited products for insulating under a concrete slab. These two densities will suit most concrete residential and commercial floors and will achieve R-values above building regulations. EXPOL ThermaSlab VH & H can be recycled.

EXPOL ThermaSlab S can be used under concrete floors where the kPa loading requirement is reasonably low. EXPOL ThermaSlab S can be recycled.

EXPOL Platinum Board is graphite infused Expanded Polystyrene and would commonly be used under concrete slabs where height is an issue as it will provide the best R-value with the thinnest product. EXPOL Platinum Board can be recycled.

EXPOL-X is extruded polystyrene available in full sheets only (see Table 6.1). EXPOL-X is highly water resistant and has an extremely high compressive strength. See Table 6.2 for specifications.

Table 6.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL SLABX200	2400	1200
	Other sizes on request	
EXPOL ThermaSlab (VH/H/S)	2400	1200
	Other sizes on request	
EXPOL Platinum Board	2400	1200
	Other sizes on request	
EXPOL-X	2500	600

SYSTEM COMPONENTS

EXPOL PODSTICK

Used as an alternative to Mesh / Bar Chairs. Provides more support for steel mesh over polystyrene.

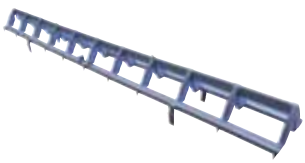


Table 6.2

PRODUCT PROPERTIES

Property	Unit	EXPOL SLABX200	EXPOL ThermaSlab VH	EXPOL ThermaSlab H	EXPOL ThermaSlab S	EXPOL Platinum Board	EXPOL-X - Exterior	Test Reference
Material		Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene with Graphite	XPS	
Density	kg/m3		28	24	16	18	30	
Thickness / Product R-value	m2K/W							ASTM C518-04
	10mm		-	-	-	-	R 0.36	
	20mm		R 0.57	R 0.56	R 0.53	R 0.63	-	
	25mm	-	R 0.71	R 0.69	R 0.66	R 0.78	-	
	30mm	-	R 0.86	R 0.83	R 0.79	R 0.94	R 1.10	
	35mm	-	R 1.00	R 0.97	R 0.92	R 1.09	-	
	40mm	-	R 1.14	R 1.11	R 1.05	R 1.25	R 1.45	
	45mm	-	R 1.29	R 1.25	R 1.18	R 1.41	-	
	50mm	R 1.50	R 1.43	R 1.39	R 1.32	R 1.56	R 1.80	
	55mm	-	R 1.58	R 1.53	R 1.45	R 1.72	-	
	60mm	R 1.80	R 1.71	R 1.67	R 1.58	R 1.88	-	
	65mm	-	R 1.86	R 1.81	R 1.71	R 2.03	-	
	70mm	-	R 2.00	R 1.94	R 1.84	R 2.19	-	
	75mm	R 2.20	R 2.20	R 2.08	R 1.97	R 2.34	R 2.70	
	80mm	-	R 2.29	R 2.22	R 2.11	R 2.50	-	
	85mm	R 2.50	R 2.43	R 2.36	R 2.24	R 2.66	-	
	90mm	R 2.70	R 2.57	R 2.50	R 2.37	R 2.81	-	
	95mm	-	R 2.72	R 2.64	R 2.50	R 2.97	-	
	100mm	R 3.00	R 2.86	R 2.78	R 2.63	R 3.13	R 3.60	
	110mm	R 3.25	R 3.14	R 3.06	R 2.89	R 3.44	-	
	120mm	R 3.60	R 3.43	R 3.33	R 3.16	R 3.75	-	
	150mm	R 4.50	R 4.28	R 4.16	R 3.95	R 4.69	-	
	200mm	R 6.00	R 5.70	R 5.55	R 5.26	R 6.25	-	
Compressive Resistance	KPA at 1%	92	88	64	34	-	-	AS 2498.3
Compressive Resistance	KPA at 2%	145	142	108	59	-	-	
Compressive Resistance	KPA at 5%	184	172	133	74	-	-	
Compressive Resistance	**KPA at 10%**	**220**	**189**	**146**	**84**	**105**	**250**	
Youngs Modulus	(MPA)	-	8	6.2	3.8	-	-	
Cross breaking strength	KPA	-	320	260	165	200	-	AS 2498.4
Determination of flame propagation surface ignition								
Medium flame duration (max)	sec	-	2	2	2	2	-	AS2122.1-1993
Eighth value	sec	-	3	3	3	3	-	
Fire behaviour - Spread of Flame Index	(0-10)	-	0	0	0	0	0	AS/NZS
- Smoke Developed Index	(0-10)	-	5	5	5	5	3	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	-	1	1	1	1	-	AS2498.6
Recycled content	%	-	0	0	0	0	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	-	400	460	520	520	-	AS 2498.5
Permeability	m/s	-	-	-	-	-	-	
Long term water absorption by immersion	% v/v	-	-	-	-	-	0.028	ASTM C272

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene supplied by EXPOL for concrete floors comply with manufacturing standard AS 1366 Part 3 1992.

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
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EXPOL and the Environment
www.expolearth.co.nz

EXPOL
www.EXPOL.co.nz

CONCRETE FLOOR INSULATION

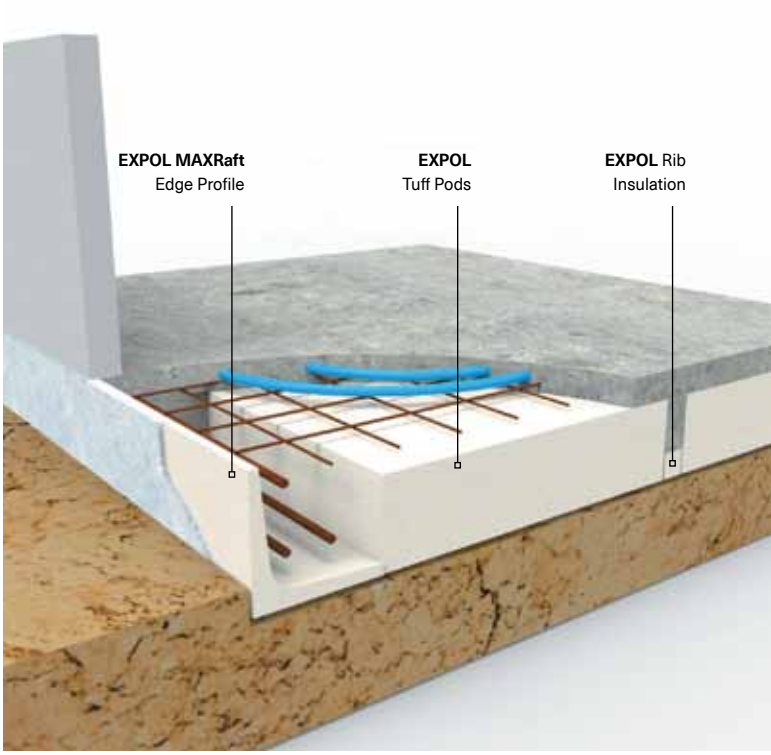
EXPOL MAXRaft

The EXPOL **MAXRaft** comprehensive suite of systems delivers uncompromised performance for residential and commercial projects.

With Waffle Pod foundations becoming a preferred building method, **EXPOL** has multiple solutions to increase the insulation of a standard Waffle Pod Floor design.

We offer EXPOL **MAX85**, EXPOL **MAXRaft** and EXPOL **MAXRaft Plus+** to suit your build.

If your project requires the very best Concrete Slab Insulation, then high performing EXPOL **MAXSlab** will provide the solution. This engineered design encases the entire slab with insulation providing a superior thermal performance.

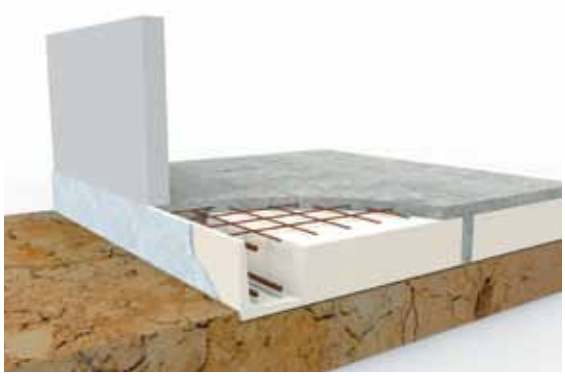


EXPOL MAXRaft Construction R-value Summary

Product	Area-to-perimeter ratio 1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.6	4
1. **MAXSlab 300**	2.77	2.99	3.22	3.38	3.54	3.7	3.86	4.02	4.49	4.81
2. **MAXSlab 350**	2.96	3.25	3.53	3.69	3.85	4.01	4.17	4.33	4.87	5.23
3. **MAXSlab 400**	2.89	3.17	3.45	3.65	3.84	4.04	4.23	4.43	4.92	5.25
4. **MAXSlab 300 Brick Rebate**	2.27	2.48	2.68	2.83	2.99	3.14	3.29	3.44	3.95	4.29
5. **MAXRaft 320**	1.86	1.97	2.07	2.16	2.25	2.33	2.42	2.5	2.74	2.9
6. **MAXRaft 320**	1.68	1.81	1.93	2.01	2.1	2.18	2.27	2.35	2.59	2.74
7. **MAXRaft 320 Brick**	1.62	1.73	1.85	1.93	2.02	2.11	2.2	2.29	2.53	2.69
8. **MAXRaft 400 Brick**	1.56	1.68	1.79	1.87	1.96	2.05	2.14	2.23	2.46	2.62
9. **MAX85 305**	1.46	1.54	1.62	1.7	1.77	1.85	1.92	2	2.21	2.36
10. **MAX85 385**	1.52	1.62	1.72	1.8	1.88	1.96	2.03	2.11	2.33	2.48
11. **MAXRaft Plus+ 320**	2.38	2.54	2.7	2.86	3.02	3.18	3.35	3.51	3.81	4.02
12. **MAXRaft Plus+ 400**	2.44	2.62	2.81	2.97	3.13	3.29	3.46	3.62	3.95	4.17
13. **MAXRaft Plus+ 320 Brick**	2.18	2.38	2.59	2.71	2.83	2.95	3.07	3.19	3.5	3.71
14. **MAXRaft Plus+ 400 Brick**	2.11	2.29	2.47	2.6	2.73	2.86	2.99	3.12	3.57	3.87

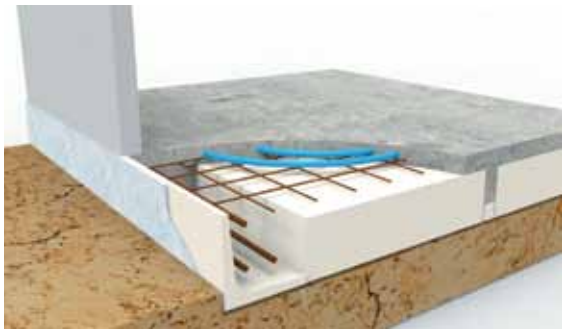
THE PRODUCTS

EXPOL MAX85 is a traditional waffle slab design with a high-density polystyrene edge profile. In most instances **MAX85** will meet the requirements of the NZ Building Code.



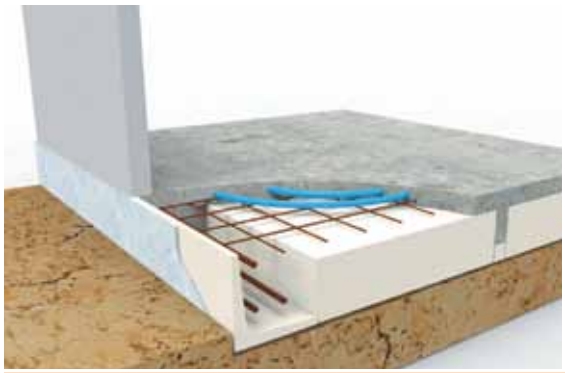
Heights	305mm / 385mm Bespoke options available

EXPOL MAXRaft is usually a thicker concrete slab than **MAX85** to incorporate a high-density polystyrene insulation beneath the concrete ribs. This provides superior insulation benefits that easily meets the requirements of the NZ Building Code.



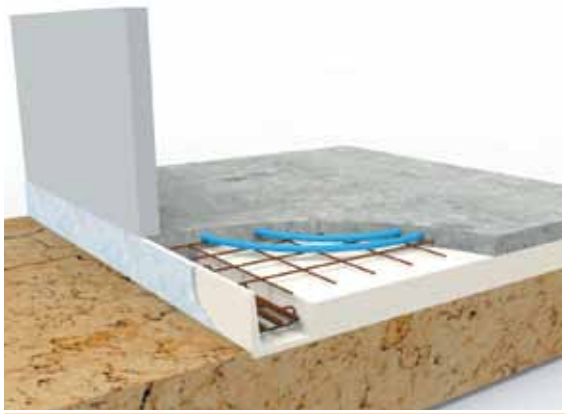
Slab Heights	320mm / 340mm / 400mm / 420mm Bespoke heights available

EXPOL MAXRaft Plus adds even more insulation than the standard **MAXRaft** design. Solid PODS made from recycled polystyrene substantially increase the thermal performance of the concrete slab This solution is required when underfloor heating is used, or high insulation values are required on soft ground.



Slab Heights	320mm / 340mm / 400mm / 420mm Bespoke heights available

EXPOL MAXSlab is the highest performing solution on good ground. The entire slab is encased in high performance polystyrene insulation providing the most effective solution for a concrete slab design.



Heights	300mm / 320mm / 350mm / 400mm Bespoke options available

FURTHER INFORMATION

More information can be found online: www.expol.co.nz

All **EXPOL MAXRaft** slabs are specifically engineered for your site.

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
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EXPOL and the Environment
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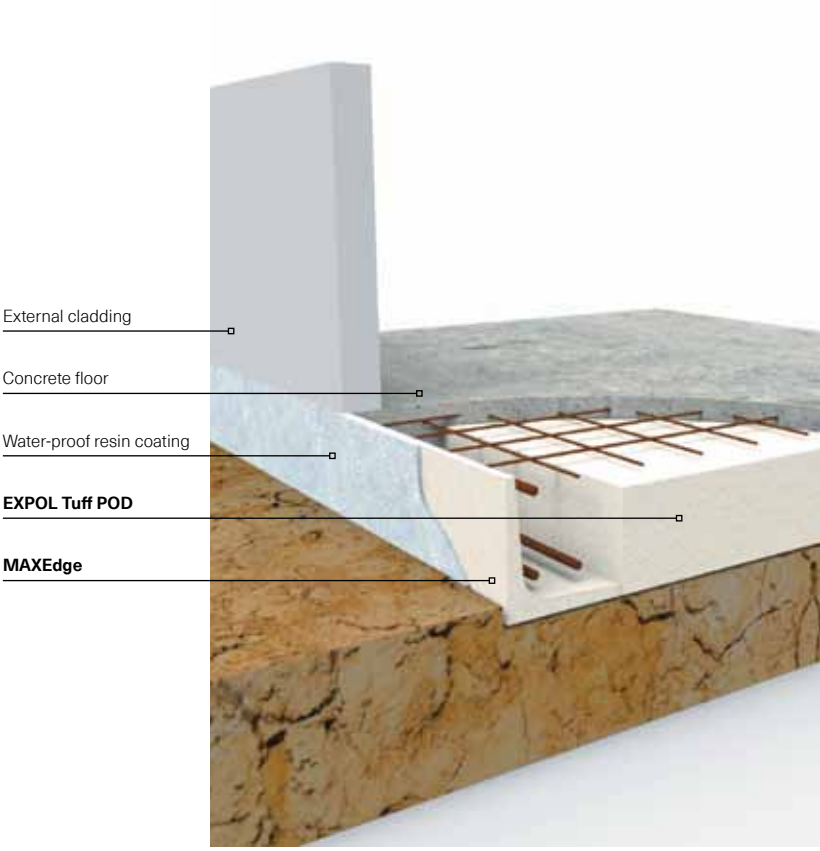
EXPOL
www.EXPOL.co.nz

CONCRETE FLOOR EDGE INSULATION

EXPOL's range of concrete floor (slab) edge insulation products provide thermal insulation and strength where it counts. Up to 10% of heat loss from a building is through the concrete slab. A building with slab edge insulation provides a warm, dry and healthy indoor environment for occupants, and reduces heating and cooling costs.

MAXEdge (for in-situ application) and EXPOL ThermaSlab Edge (for retro fit application) won't degrade over time, meaning thermal insulation performance is maintained for the life of the building. EXPOL concrete floor edge insulation is suitable for both residential and commercial building projects.





THERMASLAB EDGE

SLAB EDGE INSULATION

MAXEdge®

Patented Technology

SYSTEM COMPONENTS

EXPOL Patch Kit

A 4 Litre pail of our water-based, water-proof resin coating suitable for patching joins.



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.

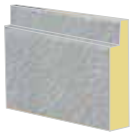


THERMASLAB EDGE

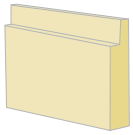
SLAB EDGE INSULATION

EXPOL DESIGNED HIGH PERFORMANCE SLAB EDGE INSULATION SYSTEM

PRE-COATED - With a water-proof resin coating that does not require painting, saving time and money.



CLEAN INSULATION - **ThermaSlab Edge** is also available as clean insulation, requiring plastering after the concrete pour.



BENEFITS:

- Increases the thermal performance of a building
- A simple, cost-effective slab edge insulation system
- Designed to meet new H1 standards
- No painting required, saving time and money
- Exceptional insulation values
- High water resistance
- Lightweight and easy to handle

ThermaSlab Edge Technical Specifications

Property	Unit	EXPOL ThermaSlab Edge	Test Reference
Material		**Uncoated** - Extruded Polystyrene. **Coated** - Extruded Polystyrene with a water-based, waterproof resin coating.	
Density	kg/m3	30	
Product R-value		R1.0	ASTM C518-04

PRODUCT OPTIONS & SIZES

Sheet Size (mm)

	Length	Height	Thickness
EXPOL ThermaSlab Edge	2500	300	30
	2500	400	30

MAXEdge®

Patented Technology

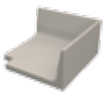
NEW ZEALAND's LEADING HIGH PERFORMANCE SLAB EDGE INSULATION SYSTEM

Pre-made L Shape Perimeter Slab Insulation

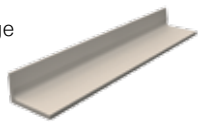
PRE-COATED - With a water-proof resin coating that does not require painting, saving time and money.

CLEAN INSULATION - **MAXEdge** is also available as clean insulation, requiring plastering after the concrete pour.

Pre-made corners 600 x 600mm



MAXEdge length 2.4m



BENEFITS:

- MAXEdge is a simple solution for your concrete slab perimeter that exceeds H1 requirements
- Fast and Easy: Pre-made L-shaped perimeter insulation that fits inside the formwork
- Standard heights: 305, 320, 340, 385, 400 & 420mm to suit any raft slab, bespoke heights are available
- MAXEdge perimeter insulation comes in lengths of 2.4m
- MAXEdge perimeter insulation is also available in pre-made corners of 600 x 600mm
- Suitable with any frame size

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.

For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

6 EPS RECYCLABLE PRODUCT

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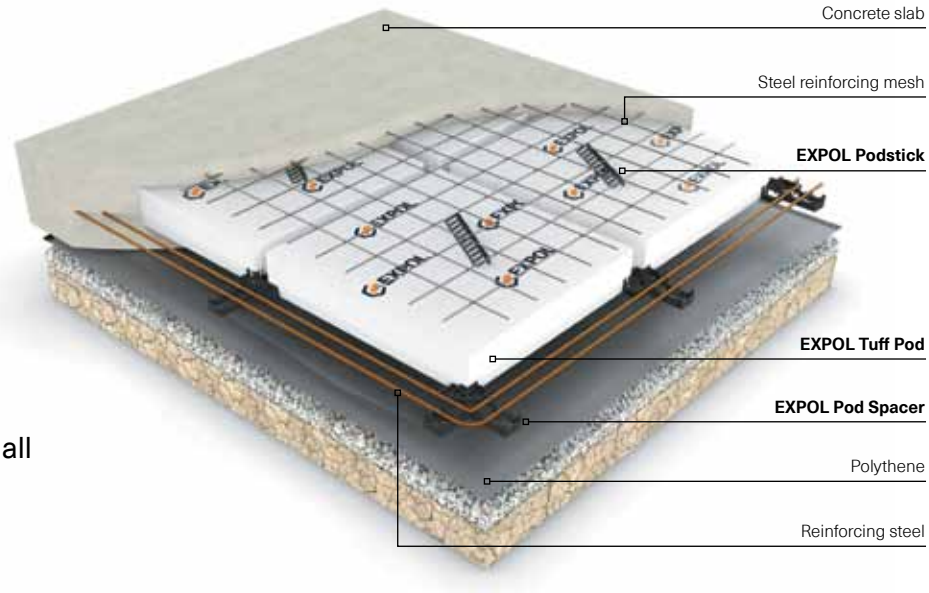
POD FLOOR SYSTEMS



EXPOL manufactures a variety of polystyrene **Tuff Pods** which contain recycled material and are suitable for all raft / floating floor slab systems throughout New Zealand.

EXPOL Tuff Pods are a component used to create 100mm concrete ribs throughout the floor, providing additional strength and superior insulating qualities.

Table 7.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)	Thickness (mm)
EXPOL Tuff Pods Moulded	1100	1100	220
	1100	1100	300
Solid Pods made from Recycled Material - Non Structural	1200	1200	200
	1200	1200	300
	1800	1200	200

THE PRODUCTS

EXPOL Tuff Pods are manufactured from standard Expanded Polystyrene material. Tuff pods are shape moulded and incorporate a waffle design.

To suit the many different pod floor systems, EXPOL supplies a variety of sizes to suit the specific design and contains recycled content. EXPOL Tuff Pod off cuts can be recycled.

SYSTEM COMPONENTS

EXPOL supplies spacers to align the Tuff Pods, and PODSTICKS for mesh support.
EXPOL's range of available components is listed below:

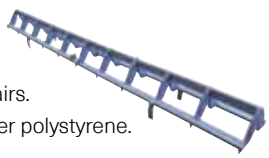
EXPOL 100mm Spacer
Only suitable for 220mm PODS for internal ribs.



EXPOL 300mm Spacer
Only suitable for 220mm PODS for slab edge beam and thickenings.



EXPOL PODSTICK
Used as an alternative to Mesh / Bar Chairs.
Provides more support for steel mesh over polystyrene.



UNIMAX Spacer
The spacer sits on the ground between the pods and is suitable for use with any size Tuff Pod. The spacer cleverly clips together to form any size spacing required. EXPOL Unimax spacers can be used in conjunction with any other spacer type.



EXPOL Centre Spacer
Used internally and externally throughout the Pod floor.



EXPOL Clip on Spacer
This spacer clips onto the centre spacer for edge beams and internal thickenings.



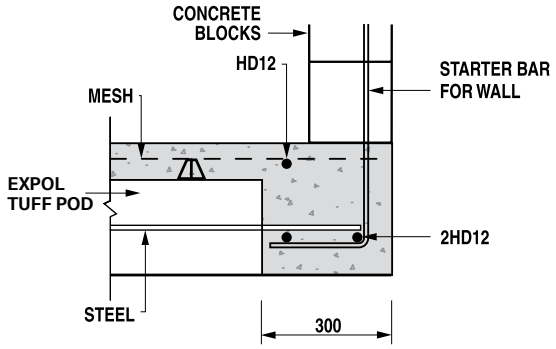


Fig 7.4 **Brick Veneer**

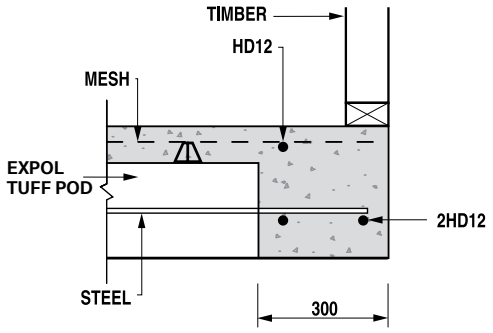
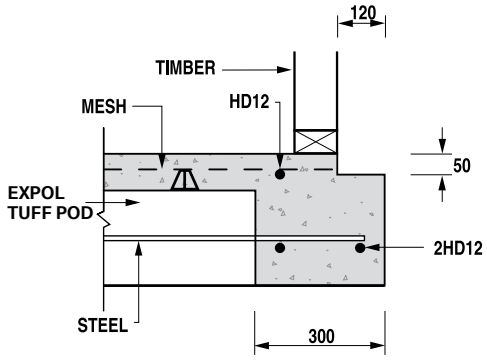


Fig 7.5 **300mm Rib**



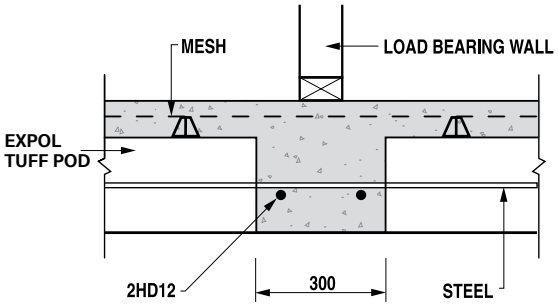
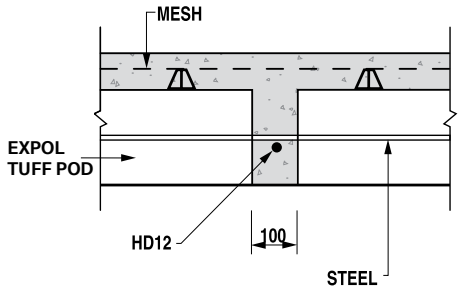


Fig 7.6 **100mm Rib**



FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD

All products and grades of Expanded Polystyrene supplied by EXPOL for pod floors comply with manufacturing standard AS 1366 Part 3 1992.

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SKILLION ROOF INSULATION

EXPOL provides solid insulation solutions to solve the difficulties in achieving high R-values in narrow roof spaces. EXPOL skillion roof solutions are panels cut to suit a variety of purlin / rafter spacings.

EXPOL Platinum Board is a premium product with superior insulating qualities, whereas **EXPOL ThermaSlab** is a cost-effective alternative for areas that are not restricted by space.



Table 8.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL ThermaSlab (S/M/H)	1200	555
	1200	855
	1200	1155
EXPOL Platinum Board	1200	555
	1200	855
	1200	1155

All sizes above are examples of some standard situations
NOTE: Other widths available

THE PRODUCTS

EXPOL ThermaSlab is standard Expanded Polystyrene available in a variety of grades to suit the application, supplied in full sheets or cut to suit purlin / rafter spacings (see Table 8.1). EXPOL ThermaSlab can be recycled.

EXPOL Platinum Board is graphite infused Expanded Polystyrene, supplied in full sheets or cut to suit purlin / rafter spacings (see Table 8.1). EXPOL Platinum Board is a premium product which achieves superior R-values relative to thickness. EXPOL Platinum Board can be recycled.

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.



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 8.2

PRODUCT PROPERTIES

Property	Unit	EXPOL ThermaSlab S	EXPOL ThermaSlab M	EXPOL ThermaSlab H	EXPOL Platinum Board	Test Reference
Material		Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene with Graphite	
Density	kg/m3	16	20	24	18	
Thickness / Product R-value	m2K/W					ASTM C518-04
	10mm	-	-	-	-	
	20mm	R 0.53	R 0.54	R 0.56	R 0.63	
	25mm	R 0.66	R 0.68	R 0.69	R 0.78	
	30mm	R 0.79	R 0.81	R 0.83	R 0.94	
	35mm	R 0.92	R 0.95	R 0.97	R 1.09	
	40mm	R 1.05	R 1.08	R 1.11	R 1.25	
	45mm	R 1.18	R 1.22	R 1.25	R 1.41	
	50mm	R 1.32	R 1.35	R 1.39	R 1.56	
	55mm	R 1.45	R 1.49	R 1.53	R 1.72	
	60mm	R 1.58	R 1.62	R 1.67	R 1.88	
	65mm	R 1.71	R 1.76	R 1.81	R 2.03	
	70mm	R 1.84	R 1.89	R 1.94	R 2.19	
	75mm	R 1.97	R 2.03	R 2.08	R 2.34	
	80mm	R 2.11	R 2.16	R 2.22	R 2.50	
	85mm	R 2.24	R 2.30	R 2.36	R 2.66	
	90mm	R 2.37	R 2.43	R 2.50	R 2.81	
	95mm	R 2.50	R 2.57	R 2.64	R 2.97	
	100mm	R 2.63	R 2.70	R 2.78	R 3.13	
	110mm	R 2.89	R 2.97	R 3.06	R 3.44	
	120mm	R 3.16	R 3.24	R 3.33	R 3.75	
	150mm	R 3.95	-	R 4.16	R 4.69	
	200mm	R 5.26	-	R 5.55	R 6.25	
Compressive Resistance	KPA at 1%	34	49	64	-	AS 2498.3
Compressive Resistance	KPA at 2%	59	96	108	-	
Compressive Resistance	KPA at 5%	74	111	133	-	
Compressive Resistance	**KPA at 10%**	**84**	**126**	**146**	**105**	
Youngs Modulus	(MPA)	3.8	4.1	6.2	-	
Cross breaking strength	KPA	165	200	260	200	AS 2498.4
Determination of flame propagation surface ignition						
Medium flame duration (max)	sec	2	2	2	2	AS2122.1-1993
Eighth value	sec	3	3	3	3	
Fire behaviour - Spread of Flame Index	(0-10)	0	0	0	0	AS/NZS
- Smoke Developed Index	(0-10)	5	5	5	5	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	1	1	1	1	AS2498.6
Recycled content	%	0	0	0	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	520	520	460	520	AS 2498.5
Permeability	m/s	-	-	-	-	
Long term water absorption by immersion	% v/v	-	-	-	-	ASTM C272

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene supplied by EXPOL for skillion roof insulation comply with manufacturing standard AS 1366 Part 3 1992.

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CLADDING INSULATION

EXPOL supplies both **Expanded Polystyrene** and **XPS** sheets for Exterior Insulation and Finish Systems (EIFS) cladding systems.
EXPOL's Expanded Polystyrene sheets have been tested and satisfy all the requirements necessary to be listed as a preferred provider for all EIFS systems.

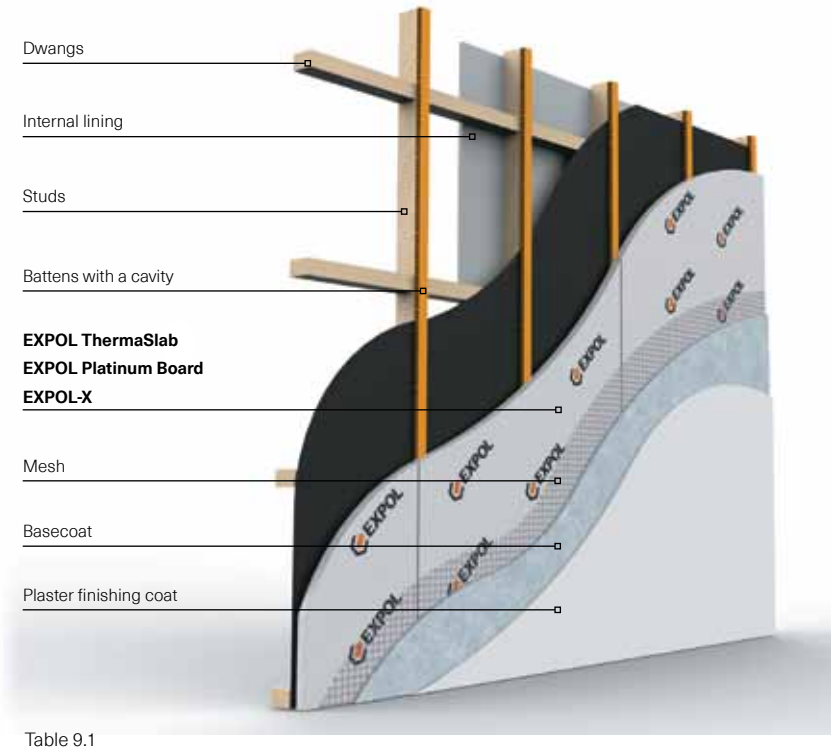
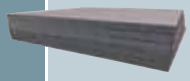
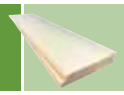


Table 9.1

PRODUCT OPTIONS & SIZES

		Length (mm)	Width (mm)
EXPOL ThermaSlab (S/H)		2400	1200
		2450	1200
		2700	1200
		3600	1200
		4800	1200
		Special sizes on request	
EXPOL Platinum Board		2400	1200
		2450	1200
		2700	1200
		3600	1200
		4800	1200
		Special sizes on request	
EXPOL-X		2500	600

THE PRODUCTS

EXPOL offers a wide range of products to compliment exterior cladding solutions.

EXPOL ThermaSlab sheets have been tested and approved for the use in EIFS systems. EXPOL ThermaSlab for cladding solutions has been kiln dried and stabilised to ensure minimal shrinkage. EXPOL ThermaSlab can be recycled.

EXPOL Platinum Board is graphite infused Expanded Polystyrene, supplied in full sheets (see Table 9.1). EXPOL Platinum Board is a premium product which achieves superior R-values relative to thickness. EXPOL Platinum Board can be recycled.

EXPOL-X is extruded polystyrene and is available in different thicknesses (see Table 9.1). EXPOL-X is highly water resistant and has an extremely high insulation value.

SYSTEM COMPONENTS

BATTENS

EXPOL supplies a range of polystyrene batten sizes to suit all cladding systems.

WASHERS



EXPOL supplies 40mm plastic washers designed to increase the surface area of nail fixings.

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 9.2

PRODUCT PROPERTIES

Property	Unit		EXPOL ThermaSlab S	EXPOL ThermaSlab H	EXPOL Platinum Board	EXPOL-X - Exterior	Test Reference
Material			Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene with Graphite	XPS	
Density	kg/m3		16	24	18	30	
Thickness / Product R-value		m2K/W					ASTM C518-04
		10mm	-	-	-	R 0.36	
		20mm	R 0.53	R 0.56	R 0.63	-	
		25mm	R 0.66	R 0.69	R 0.78	-	
		30mm	R 0.79	R 0.83	R 0.94	R 1.10	
		35mm	R 0.92	R 0.97	R 1.09	-	
		40mm	R 1.05	R 1.11	R 1.25	R 1.45	
		45mm	R 1.18	R 1.25	R 1.41	-	
		50mm	R 1.32	R 1.39	R 1.56	R 1.80	
		55mm	R 1.45	R 1.53	R 1.72	-	
		60mm	R 1.58	R 1.67	R 1.88	-	
		65mm	R 1.71	R 1.81	R 2.03	-	
		70mm	R 1.84	R 1.94	R 2.19	-	
		75mm	R 1.97	R 2.08	R 2.34	R 2.70	
		80mm	R 2.11	R 2.22	R 2.50	-	
		85mm	R 2.24	R 2.36	R 2.66	-	
		90mm	R 2.37	R 2.50	R 2.81	-	
		95mm	R 2.50	R 2.64	R 2.97	-	
		100mm	R 2.63	R 2.78	R 3.13	R 3.60	
		110mm	R 2.89	R 3.06	R 3.44	-	
		120mm	R 3.16	R 3.33	R 3.75	-	
		150mm	R 3.95	R 4.16	R 4.69	-	
		200mm	R 5.26	R 5.55	R 6.25	-	
Compressive Resistance		KPA at 1%	34	64	-	-	AS 2498.3
Compressive Resistance		KPA at 2%	59	108	-	-	
Compressive Resistance		KPA at 5%	74	133	-	-	
Compressive Resistance		**KPA at 10%**	**84**	**146**	**105**	**250**	
Youngs Modulus		(MPA)	3.8	6.2	-	-	
Cross breaking strength		KPA	165	260	200	-	AS 2498.4
Determination of flame propagation surface ignition							
Medium flame duration (max)		sec	2	2	2	-	AS2122.1-1993
Eighth value		sec	3	3	3	-	
Fire behaviour - Spread of Flame Index		(0-10)	0	0	0	0	AS/NZS
- Smoke Developed Index		(0-10)	5	5	5	3	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days		%	1	1	1	-	AS2498.6
Recycled content		%	0	0	0	0	
Rate of water vapour transmission (max) measured parallel to rise at 23°C		mg/m2s	520	460	520	-	AS 2498.5
Permeability		m/s	-	-	-	-	
Long term water absorption by immersion		% v/v	-	-	-	0.028	ASTM C272

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

PRODUCER STATEMENTS
EXPOL can provide a producer statement for all cladding insulation material on request.

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene supplied by EXPOL for cladding insulation comply with manufacturing standard AS 1366 Part 3 1992.

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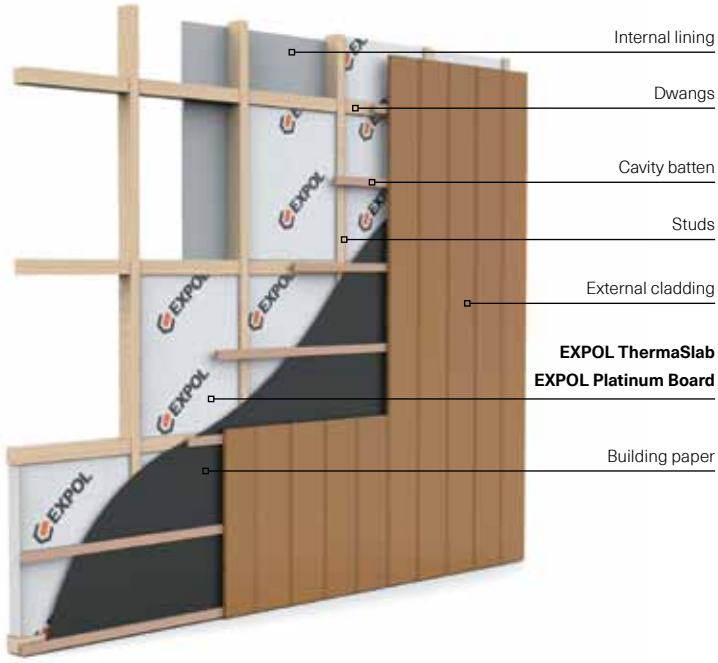
WALL INSULATION

EXPOL provides high performance fire retardant solid insulation solutions for insulating timber and steel framed buildings.

EXPOL ThermaSlab is the economical choice to achieve Building Code requirements while **EXPOL Platinum Board** is a premium product offering high insulation values.

Both products can be cut to a standard width as specified by the customer.



THE PRODUCTS

EXPOL offers a range of products to suit your requirements when installing wall insulation. Products are cut to standard widths and EXPOL can cut special sizes on request (see Table 10.1).

All EXPOL wall insulation products are resistant to moisture often found in wall cavities. The products are rigid polystyrene so will not slump or sag over time.

EXPOL ThermaSlab SL panels are manufactured from Expanded Polystyrene material and are available in various thicknesses - (see Table 10.1). EXPOL ThermaSlab SL can be recycled.

EXPOL Platinum Board is graphite infused Expanded Polystyrene and is a premium product which achieves superior R-values relative to thickness. EXPOL Platinum Board can be recycled.

Table 10.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL ThermaSlab SL	1200	355
	1200	555
	Special sizes on request	
EXPOL Platinum Board	1200	355
	1200	555
	Special sizes on request	

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.



Table 10.2

PRODUCT PROPERTIES

Property	Unit	EXPOL ThermaSlab SL	EXPOL Platinum Board	Test Reference
Material		Expanded Polystyrene	Expanded Polystyrene with Graphite	
Density	kg/m3	12	18	
Thickness / Product R-value	m2K/W			ASTM C518-04
	10mm	-	-	
	20mm	-	R 0.63	
	25mm	-	R 0.78	
	30mm	-	R 0.94	
	35mm	-	R 1.09	
	40mm	-	R 1.25	
	45mm	-	R 1.41	
	50mm	-	R 1.56	
	55mm	-	R 1.72	
	60mm	R 1.46	R 1.88	
	65mm	R 1.59	R 2.03	
	70mm	R 1.71	R 2.19	
	75mm	R 1.83	R 2.34	
	80mm	R 1.95	R 2.50	
	85mm	R 2.07	R 2.66	
	90mm	R 2.20	R 2.81	
	95mm	R 2.32	R 2.97	
	100mm	R 2.44	R 3.13	
	110mm	R 2.68	R 3.44	
	120mm	R 2.93	R 3.75	
	150mm	-	R 4.69	
	200mm	-	R 6.25	
Compressive Resistance	KPA at 1%	-	-	AS 2498.3
Compressive Resistance	KPA at 2%	-	-	
Compressive Resistance	KPA at 5%	-	-	
Compressive Resistance	**KPA at 10%**	**70**	**105**	
Youngs Modulus	(MPA)	-	-	
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
Permeability	m/s	-	-	
Long term water absorption by immersion	% v/v	-	-	ASTM C272

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
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More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD
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LIGHTWEIGHT FILL

Expanded Polystyrene Foam is used extensively for lightweight fill in problematic situations such as expansive soils and soft substrates.

EXPOL GeoFoam is supplied in a range of densities and sizes to suit the engineering design.

Choosing the correct density of **EXPOL GeoFoam** will depend on the compressive loads applied during its service life. All blocks can be cut to suit different project specifications, including angles and 2 dimensional profiles.



Table 11.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)	Thickness (mm)
EXPOL GeoFoam (S/M/H/VH)	Standard Sizes		
	2450	1220	630
	4900	1220	630

Any size can be cut from these blocks

THE PRODUCT

EXPOL GeoFoam is manufactured from standard Expanded Polystyrene foam and is available in a variety of grades to suit different construction conditions (see Table 11.2). Typical densities range from 12kg/m3 to 32kg/m3. EXPOL GeoFoam will absorb small volumes of water, however this will not have a significant effect on its mechanical properties or performance. EXPOL GeoFoam can be recycled.

SYSTEM COMPONENTS

BLOCK-LOCK PLATES

Block-Lock plates are used to eliminate lateral movement between layers of GeoFoam blocks in situations where more than one layer is used. The interlocking plate design ensures each layer remains securely positioned, providing long-term structural stability across multi-layer installations.



EXPOL GEOFOAM ADVANTAGES

- Lightweight
- High compressive strength
- Cost effective
- Durable
- Weighs 1% of conventional fill
- Eliminates lateral pressure and vertical movement
- All clean waste can be recovered for recycling

APPLICATIONS

- Construction
- Road embankments
- Bridge abutments
- Causeways
- Retaining wall fill
- Replacement of poor soils
- Landscaping
- Geotechnical fill
- Frost heave protection
- Sites with limited access

CHEMICAL RESISTANCE

Expanded Polystyrene block is resistant to soaps and inorganic substances such as dilute acids, alkalis and salt solutions. It is attacked by organic solvent, including hydrocarbon fuels and lubricants.

For further information visit www.expol.co.nz/lightweight-fill
Download our **EXPOL GeoFoam Technical Manual**



Table 11.2

PRODUCT PROPERTIES

Property	Unit		RECYCLED	EXPOL GeoFoam S	EXPOL GeoFoam M	EXPOL GeoFoam H	EXPOL GeoFoam VH	Test Reference
Material			Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	
Density	kg/m3		14	16	20	24	28	
Compressive Resistance		KPA at 1%	17	34	49	64	88	
Compressive Resistance		KPA at 2%	34	59	96	108	142	
Compressive Resistance		KPA at 5%	48	74	111	133	172	
Compressive Resistance		**KPA at 10%**	**57**	**84**	**126**	**146**	**189**	AS 2498.3.1993
Youngs Modulus		(MPA)	2.2	3.8	4.1	6.2	8	
Cross breaking strength		KPA	90	165	200	260	320	AS 2498.4
Determination of flame propagation surface ignition								
Medium flame duration (max)		sec	2	2	2	2	2	AS2122.1-1993
Eighth value		sec	3	3	3	3	3	
Fire behaviour - Spread of Flame Index		(0-10)	0	0	0	0	0	AS/NZS
- Smoke Developed Index		(0-10)	5	5	5	5	5	1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days		%	1	1	1	1	1	AS2498.6
Rate of water vapour transmission (max) measured parallel to rise at 23°C		mg/m2s	750	520	520	460	400	AS 2498.5







EXPOL GeoFoam as lightweight fill under a concrete floor

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

PRODUCER STATEMENT

EXPOL can provide a producer statement for all EXPOL GeoFoam material on request.

MANUFACTURING STANDARD

All products and grades of Expanded Polystyrene supplied by EXPOL for lightweight fill comply with manufacturing standard AS 1366 Part 3 1992.

FURTHER TECHNICAL RESEARCH

For further information refer our **EXPOL GeoFoam Technical Manual** or visit www.expol.co.nz

6 EPS RECYCLABLE PRODUCT

Contact EXPOL
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EXPOL Product Training
www.expolexpert.co.nz

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www.EXPOL.co.nz

DRAINAGE SOLUTIONS

EXPOL StyroDrain (protection & drainage) is a permeable lightweight drainage material manufactured from 100% recycled Expanded Polystyrene material, offering drainage, and protection to the water-proofing membrane used on retaining walls.

A double layer of EXPOL StyroDrain may be required if the retaining wall is higher than 1.8 metres or in special circumstances. StyroDrain comes in easy-to-handle sheets 90mm thick and can be cut with a sharp knife, or EXPOL EX1300 Hotwire Cutter.

Also see Page 6 for more exterior options.

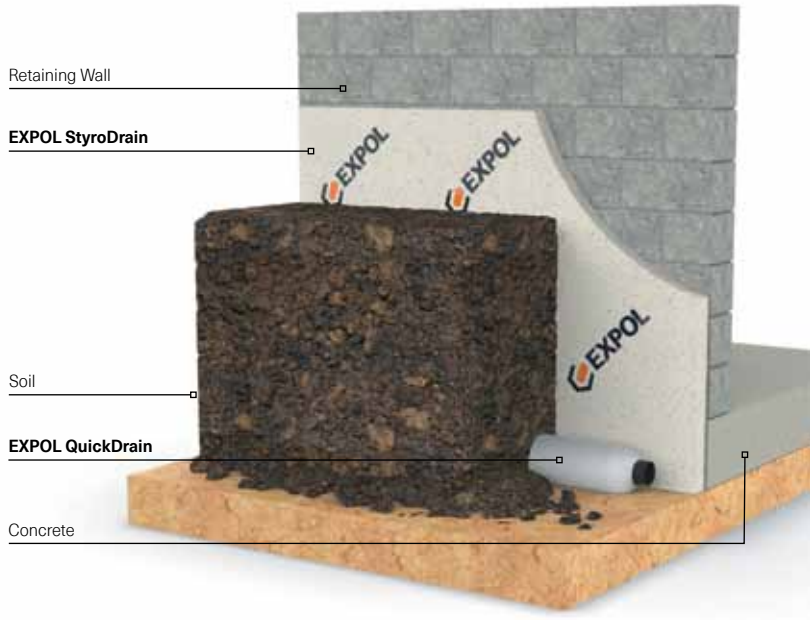




Table 12.1

PRODUCT OPTIONS & SIZES

	Length (mm)	Width (mm)
EXPOL StyroDrain	2400	1200

THE PRODUCT

EXPOL StyroDrain is an engineered drainage solution providing a scoria-free alternative to traditional scoria drainage solutions, cutting installation time in half.

StyroDrain is 100% recycled polystyrene aggregate that provides protection, enhanced drainage performance, strength, filtration and longevity. EXPOL StyroDrain can be recycled.

SYSTEM COMPONENTS

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 12.2

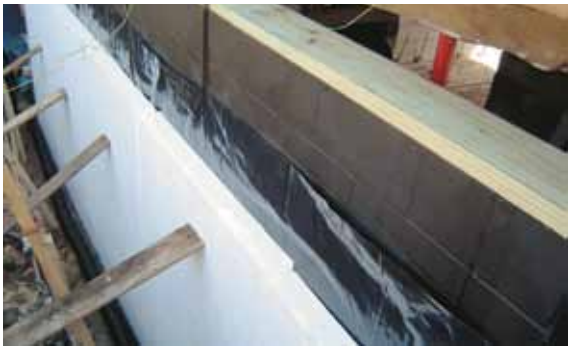
PRODUCT PROPERTIES

Property	Unit	EXPOL StyroDrain	Test Reference
Material		Expanded Polystyrene	
Density	kg/m3	11	
Thickness / Product R-value	m2K/W 90mm	 n/a	ASTM C518-04
Compressive Resistance Compressive Resistance Compressive Resistance Compressive Resistance	KPA at 1% KPA at 2% KPA at 5% KPA at 10%	- - - -	AS 2498.3
Youngs Modulus	(MPA)	-	
Cross breaking strength	KPA	-	AS 2498.4
Determination of flame propagation surface ignition Medium flame duration (max) Eighth value	 sec sec	 2 3	 AS2122.1-1993
Fire behaviour - Spread of Flame Index - Smoke Developed Index	(0-10) (0-10)	0 5	AS/NZS 1530.3:1999
Dimensional stability of length, width & thickness (max) at 70 deg C for 7 days	%	1	AS2498.6
Recycled content	%	100	
Rate of water vapour transmission (max) measured parallel to rise at 23°C	mg/m2s	-	AS 2498.5
Permeability	m/s	4.18×10^{-3}	
Long term water absorption by immersion	% v/v	-	ASTM C272



EXPOL **StyroDrain** is made from 100% Recycled Polystyrene





EXPOL **StyroDrain** in use

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

EXPOL StyroDrain has been tested by WSP/Opus International Consultants Ltd. WSP/OPUS INTERNATIONAL CONSULTANTS Job No. 169402.00.
Refer to www.expol.co.nz/styrodrain
Reference No. 02/402/001 Permeability Tests: EXPOL StyroDrain Test References: Permeability as per "Constant Head Permeability of Aggregate, Based on Soil Laboratory Testing" by E.H.Head, Density by Mass/Volume calculation.

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene EXPOL supplied for retaining wall solutions comply with manufacturing standard AS 1366 Part 3 1992.

6
EPS
RECYCLABLE PRODUCT

Contact EXPOL
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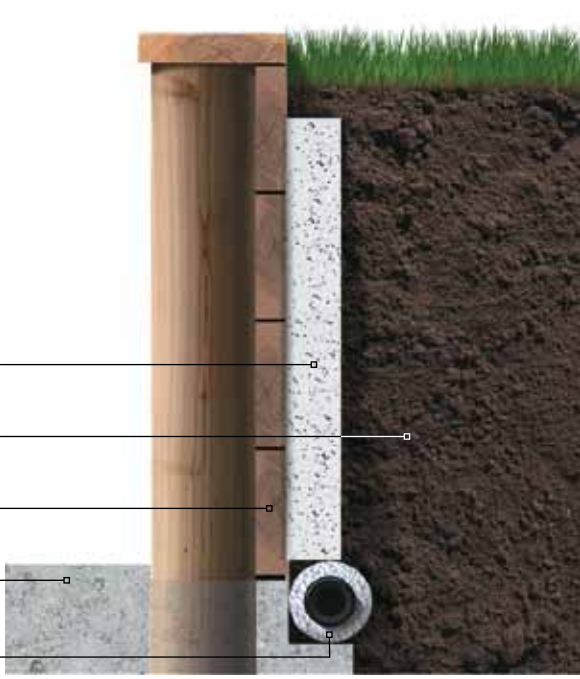
DRAINAGE SOLUTIONS

EXPOL QuickDrain is a manufactured high performance drainage solution that incorporates recycled polystyrene.

It is ideal for the removal of excess water from retaining walls and water logged areas.





THE PRODUCT

QuickDrain's engineered drainage solution provides a scoria-free alternative to traditional scoria drainage solutions, cutting installation time in half.

The **QuickDrain** solution incorporates a recycled polystyrene aggregate that provides enhanced drainage performance, strength, filtration and longevity.

QuickDrain is faster and easier to install than traditional drainage solutions and is used in retaining walls, water logged back yards and perimeter drainage around commercial and residential buildings and houses. It is designed to be used where it is not exposed to high loads. EXPOL **QuickDrain** polystyrene and HDPE plastic can be recycled.

Table 13.1

PRODUCT SIZE

	Length (mm)	Product Diameter (mm)	Pipe External Diameter (mm)
EXPOL QuickDrain	2500	200	110

SYSTEM COMPONENTS

EXPOL supplies joiners to connect one length of **QuickDrain** to another. EXPOL's range of available components is listed below:

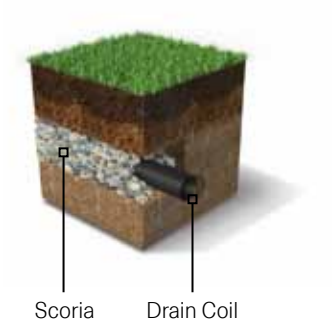
Straight Joiner
1 x straight joiner comes with every length of **QuickDrain**.



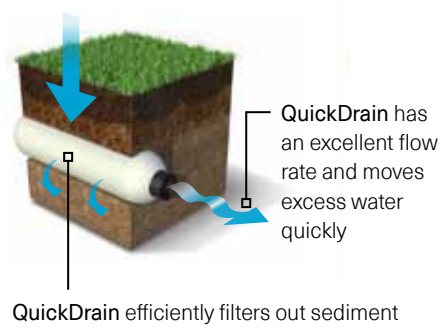
Y Joiner
Where you need to change direction and join one length of **QuickDrain** with two you can use a Y joiner. Available from local hardware stores.



Traditional drainage using scoria



New drainage solution using **QuickDrain**



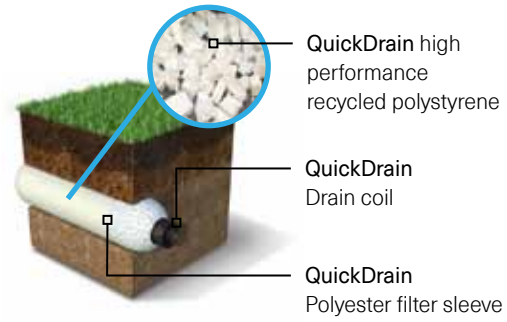


Table 13.2

PRODUCT PROPERTIES

Property	Unit	EXPOL QuickDrain	Test Reference
Material		Recycled Polysytrene - HDPE Pipe - Polyester Filter	
Length		2500mm	
Diameter		200mm	
Recycled content	%	75	
Flow rate l/s/m		0.186	WSP/OPUS



EXPOL **QuickDrain** includes
75% Recycled content

INSTALLATION

- **QuickDrain** comes in easy-to-handle 2.5 metre lengths. Each length comes with a **QuickDrain** Joiner and cable tie.
- Dig your trench the same width as your **QuickDrain** and deep enough to allow a minimum of 200mm of soil coverage.
- Simply clip the length together to achieve the required length for your project. Once the **QuickDrain** has been laid in the trench you are ready to start covering the **QuickDrain**.

Once **QuickDrain** is buried it will last 50+ years as it is produced from HDPE plastic, recycled polystyrene and PET fibre, however the drainage performance will be dependent on the overall design.

When laying **QuickDrain** please ensure it has a fall. Make sure it is directed to the lowest point of your property and is connected to a storm water outlet. Exposure of **QuickDrain** to sunlight for prolonged periods should be avoided.



1. Position QuickDrain



2. Join QuickDrain



3. Lay QuickDrain



4. Fill in with soil

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

EXPOL QuickDrain has been tested by WSP/Opus International Consultants Ltd.

MANUFACTURING STANDARD
All products and grades of Expanded Polystyrene EXPOL supplied for retaining wall solutions comply with manufacturing standard AS 1366 Part 3 1992.

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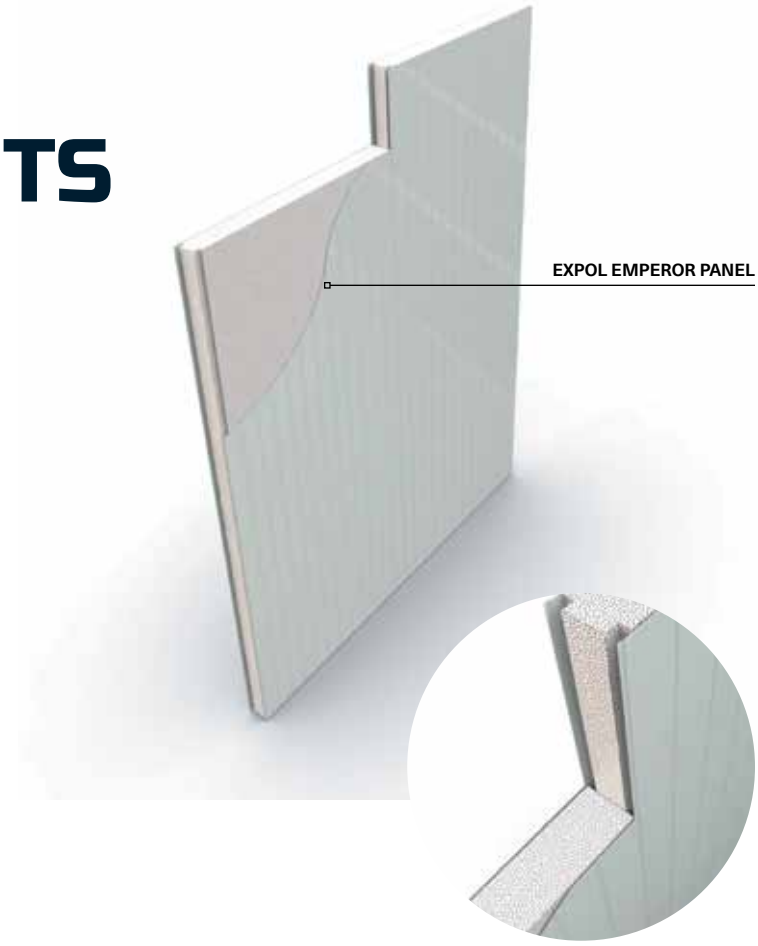
SPECIALISED ENVIRONMENTS

EXPOL Emperor Panel is used in buildings or areas where specialised environments are required to provide efficiencies or create sterile and precise climate-controlled environments such as:

- Cool and cold stores
- Freezers
- Food processing units
- Supermarkets
- Leisure centres
- Laboratories
- Shopping malls
- Agribusinesses and wineries
- Conservatory roofs
- Portable insulated buildings



THE PRODUCT

EXPOL Emperor Panel is a versatile insulated building panel made from Expanded Polystyrene Sheet with a tongue and groove joining system, roll formed along the edge.

Insulated panel comprises outer skins of 0.59BMT pre-painted COLORSTEEL® produced by NZ Steel, with a core of CFC-free expanded polystyrene foam containing flame retardant. Nominal panel width is 1200mm, with the length being produced to order. EXPOL Emperor Panels and COLORSTEEL® can be recycled.

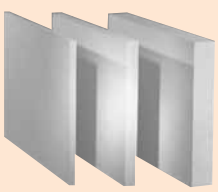
KEY BENEFITS:

- Cost effective construction and fast build time
- Optimum energy efficient environment
- Hygienic environment for food processing industries
- Durable material resistant to most forms of surface deterioration
- Modern appeal and functionality

Table 14.1

Product Details

EXPOL Emperor Panel Thickness	Standard Weights (kg per M²)	Thermal Resistance (R Value at 15°C)	Recommended Thickness for Chillers & Freezers
(mm)	kg per M²	R Value	Operating Temperature (°C)
50mm	11.6	R 1.31	–
75mm	12.0	R 1.96	7 down to 3
100mm	12.3	R 2.62	3 down to -3
150mm	13.1	R 3.92	-3 down to -18
175mm	13.5	R 4.58	-18 down to -23
200mm	13.9	R 5.23	-23 down to -30
250mm	14.7	R 6.54	–



The length is made to order

Table 14.2

LOAD SPAN

This table provides the approximate limits (in metres) for uniformly distributed loads on simply supported EXPOL Emperor Panels. To derive the correct load, the shelf-weight of the panel must be included.
Two sets of data are included in the table.
The light numbers are "Ultimate Limit State Strength Loading" (kPa). Maximum design load is 5kPa.
Minimum design load is 0.5 kPa.

Panel Thickness (mm)	SPAN (m) 1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00
50		3.2	2.0	1.4	1.0	0.8	0.6	0.5						
		2.0	1.4	1.0	0.8	0.6	0.4	0.3						
75		4.7	3.0	2.1	1.5	1.2	0.9	0.7	0.6	0.5				
		3.2	2.3	1.7	1.3	1.0	0.8	0.7	0.5	0.4				
100			3.9	2.8	2.0	1.6	1.2	1.0	0.8	0.7	0.6			
			3.3	2.6	2.0	1.6	1.3	1.1	0.9	0.7	0.6			
125			5.0	3.5	2.6	1.9	1.5	1.2	1.1	0.9	0.8	0.7	0.6	
				3.4	2.6	2.1	1.7	1.5	1.2	1.0	0.9	0.7	0.6	
150				4.1	3.1	2.4	1.8	1.5	1.2	1.1	0.9	0.8	0.7	0.6
					3.3	2.7	2.2	1.9	1.6	1.3	1.1	1.0	0.8	0.7
175				5.0	3.6	2.7	2.1	1.7	1.5	1.2	1.1	0.9	0.8	0.7
						3.4	2.7	2.3	1.9	1.7	1.4	1.2	1.1	0.9
200					4.1	3.1	2.5	2.0	1.6	1.4	1.2	1.0	0.9	0.8
							3.3	2.8	2.4	2.0	1.7	1.5	1.3	1.1
225					4.7	3.6	2.8	2.3	1.9	1.6	1.3	1.2	1.0	0.9
								3.3	2.8	2.4	2.1	1.8	1.6	1.4
250					5.0	3.9	3.0	2.5	2.1	1.7	1.5	1.3	1.1	1.0
									3.2	2.7	2.4	2.1	1.8	1.6

The shaded numbers are "Serviceability Limit State Loading" (kPa) corresponding to deflection limit of span/200.



FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

MANUFACTURING STANDARD

Expanded Polystyrene cored EXPOL insulation panel is tested to ISO 9705 and NZBC verification method C/VM2 appendix A, giving a New Zealand Building Code classification group number 1–5.

6 EPS RECYCLABLE PRODUCT

Contact EXPOL
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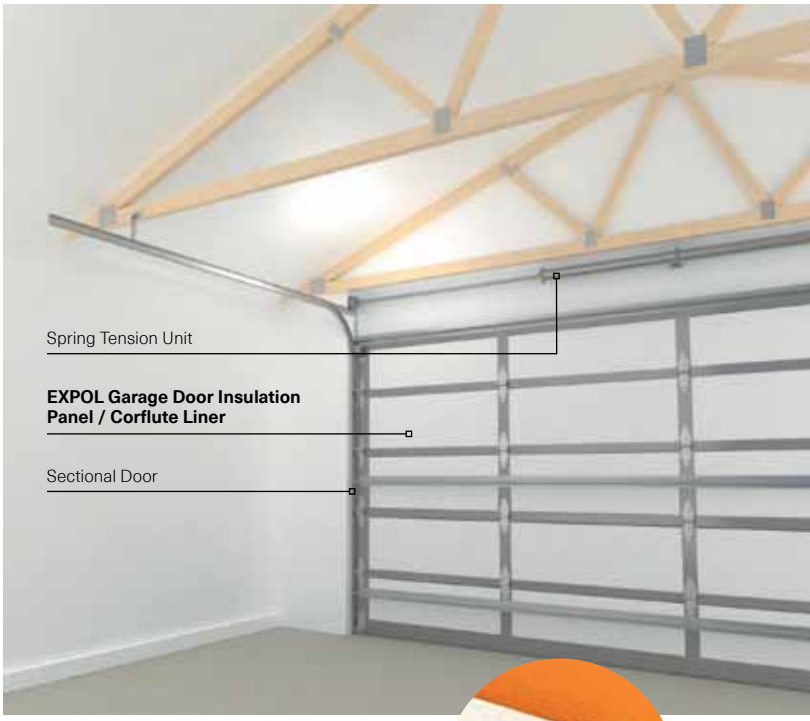
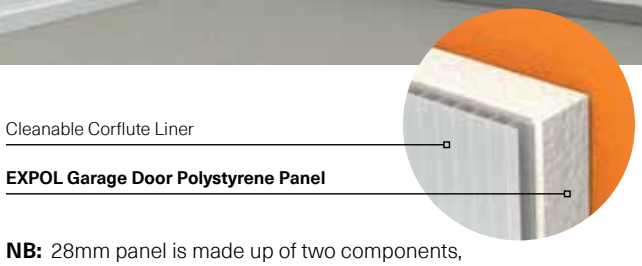
GARAGE DOOR INSULATION

EXPOL Garage Door Insulation is an innovative, DIY product that improves the insulation value of garages. Once installed, it creates a warmer, dryer garage in winter and a cooler garage in summer. It will improve the internal appearance of the garage door and create a quieter space. This product is easy to install and you will be amazed at the results.





NB: 28mm panel is made up of two components, 25mm polystyrene panel and 3mm corflute liner.

35mm panel is made up of two components, 32mm polystyrene panel and 3mm corflute liner.

THE PRODUCT

The **EXPOL Garage Door Insulation Kit** is easy to install and is designed to be used in single or multiple sectional garage doors. One pack will insulate a single garage door / 5.76m² and will fit either flat or embossed panels. EXPOL Garage Door polystyrene panels can be recycled.

KEY BENEFITS:

- Enhances the appearance of your sectional garage door
- Keeps your garage warm in winter/cool in summer
- Reduces noise
- Easy to clean smooth surfaces
- From single to multiple garage doors



Table 15.1

PRODUCT OPTIONS & SIZES

Polystyrene Panel Thickness / Corflute Liner	Thermal Resistance (R Value)	Pack Inclusions
28mm for Embossed Panel Garage Doors	0.65	8 x Polystyrene Insulation Panels, 8 x Plastic Corflute Door Liners, 1 x Tube of Glue 1 x Instruction Sheet
35mm for Flat Panel Garage Doors	0.85	8 x Polystyrene Insulation Panels, 8 x Plastic Corflute Door Liners, 1 x Tube of Glue 1 x Instruction Sheet

Product Notes:

- Specifically for sectional garage doors
- Kit insulates 1 single garage door / 5.76m²
- Enhances the appearance of your garage door
- Double doors require 2 kits
- Panel and liner size 1200mm x 600mm

DETERMINING THE PACK REQUIRED

Embossed panel doors use 28mm and flat panels doors use 35mm

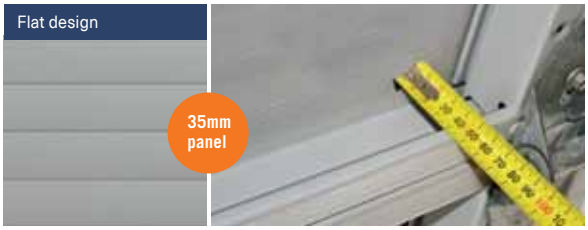
OPTION ONE: 28mm panel

Embossed panel design doors have a smaller depth for the panel to sit in. To allow for this place a ruler vertically against the protruding design and measure as shown in the photo (right); it should suit the 28mm product.

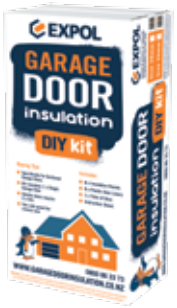


OPTION TWO: 35mm panel

Flat panel design doors generally have a deeper depth, measure this from the back of the panel to the front of the profile. This should suit the 35mm product.



See inside the box for full instructions.



IMPORTANT

The EXPOL GARAGE DOOR Insulation DIY Kit is made for sectional Garage Doors. Each kit will insulate a single Garage Door of approx. 5.76m^2. You will need two kits to insulate a double garage door.

The polystyrene insulation and the corflute liners are supplied in 1200mm x 600mm sheets. You will need to cut the insulation panels and corflute liners to size to suit your garage door.

Some garage doors have sections wider than 1200mm for these doors you will need to use some of the offcuts to make up the shortfall and use the glue to fix them in place against the door.

Do the same with the corflute liners but make sure the pieces used to make up the shortfall have the flutes running the same direction as the larger panels. The joins can be hidden with some white tape. Do not use the glue on the liners as they will stay in place if cut to the correct size.

FURTHER INFORMATION

For further detailed information on all products refer page 40 & 41 or contact EXPOL 0800 86 33 73.
For Expanded Polystyrene Densities and Colour Coding refer page 41.

More information can be found online: www.expol.co.nz

INSTALLATION


Tools & materials

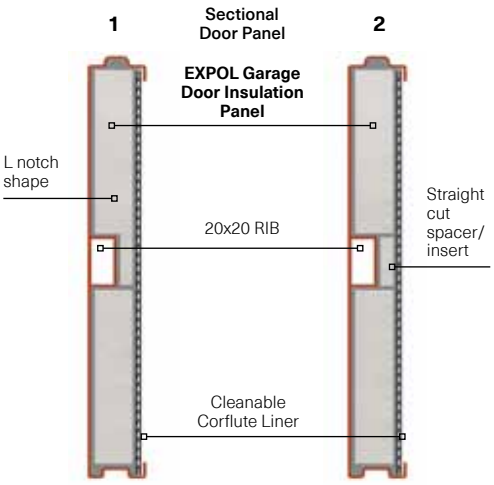

1. Cut


2. Fit


3. Finish

Allowing for a Metal Rib: Some doors have a horizontal metal rib to add strength. When installing EXPOL Garage Door Insulation you have 2 choices to accommodate this.

1. Cut an L notch and insert
2. Cut a spacer and insert



WARNING: The added weight of the insulation may affect the spring tension in your door. This may require adjustment by a qualified service technician. For your nearest service technician contact your garage door installer or your local garage door company.

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6 EPS RECYCLABLE PRODUCT

EXPOL
Guaranteed Performance

SOLID INSULATION AND LIGHTWEIGHT POLYSTYRENE CONSTRUCTION SOLUTIONS



EXPOL ThermaSlab

ThermaSlab sheet is available in a range of sizes and thicknesses, for insulating concrete slab floors, waterproof protection for block walls and roof insulation. ThermaSlab has excellent thermal properties, is water resistant, easy to cut and lightweight, making it the first choice when choosing insulation materials. EXPOL ThermaSlab can be recycled.



EXPOL Platinum Board

Platinum Board has the same physical characteristics as ThermaSlab, with the addition of graphite to the raw material. It is a superior material, offering supreme R-values for maximum insulation for floors, walls, and roofs. Platinum Board comes in a range of sizes and thicknesses suitable for all applications. EXPOL Platinum Board can be recycled.



BRANZ Tested
Test No. TV17029-02

EXPOL SLABX200

Specifically designed for insulating concrete slabs. It delivers an uncompromised compressive strength of 220kPa @ 10% deformation and exceptional Insulation Values. Specifically engineered for residential and commercial projects, its high performance gives engineers and specifiers peace of mind while increasing the thermal performance of a building. EXPOL SLABX200 is BRANZ Tested and can be recycled.



EXPOL-X

EXPOL–X is extruded rigid polystyrene foam (XPS). It provides optimum insulation for high and low temperatures and reduces energy consumption. EXPOL–X features a high compressive strength, low water absorption and outstanding thermal insulation.



EXPOL Tuff Pods

Tuff Pods are Expanded Polystyrene blocks 1100mm or 1200mm square and between 200mm and 300mm thick. They are laid equally spaced separated by a plastic spacer, to create 100mm ribs of concrete. Steel reinforcing is laid between the Tuff Pods and around the perimeter before the concrete pad is poured over the entire area.

Tuff Pods provide a quick method for creating a concrete slab floor without the need to dig footings or build concrete block perimeters. EXPOL Tuff Pod off cuts can be recycled.



EXPOL GeoFoam Lightweight Fill

GeoFoam is a lightweight material, manufactured from Expanded Polystyrene and moulded into blocks. Used on construction sites, roads, bridges, and other areas where soft substrates occur over a building site requiring lightweight fill. EXPOL GeoFoam can be recycled.



EXPOL StyroDrain

EXPOL StyroDrain is processed from 100% recycled Expanded Polystyrene, fused lightly to allow water to migrate easily through it. The material is cut into sheets which can be placed behind a block wall providing protection for water proofing, and to act as a drainage material for water to flow to the drain coil and away from the wall. EXPOL StyroDrain can be recycled.



EXPOL QuickDrain

EXPOL QuickDrain's engineered drainage solution provides a scoria-free alternative to traditional scoria drainage solutions, cutting installation time in half. The QuickDrain solution incorporates a recycled polystyrene aggregate that provides enhanced drainage performance, strength, filtration and longevity. EXPOL QuickDrain polystyrene and HDPE plastic can be recycled.



EXPOL Garage Door Insulation Kit

EXPOL Garage Door Insulation Kit is easy to install and is designed to be used in single or multiple sectional garage doors. One pack will insulate a single garage door (5.762 sqm) and will fit either flat or embossed panels. EXPOL Garage Door polystyrene panels can be recycled.



EXPOL Emperor Panel

EXPOL Emperor Panel is used in buildings or areas where specialised environments are required to provide efficiencies or create sterile and precise climate-controlled environments such as: Cool and cold stores, freezers, food processing units, supermarkets, leisure centres, laboratories, shopping malls, agribusinesses and wineries, conservatory roofs, portable insulated buildings. EXPOL Emperor Panels and COLORSTEEL® can be recycled.



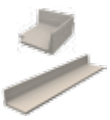
EXPOL MAXRaft

EXPOL MAXRaft comprehensive suite of systems delivers uncompromised performance for residential and commercial projects. With Waffle Pod foundations becoming a preferred building method, EXPOL has multiple solutions to increase the insulation of a standard Waffle Pod Floor design. We offer EXPOL MAX85, EXPOL MAXRaft and EXPOL MAXRaft Plus+ to suit your build.



EXPOL ThermaSlab Edge

ThermaSlab Edge is suitable for retrofit applications. Specifically, engineered for residential and commercial projects, its high performance gives engineers and specifiers peace of mind while increasing the thermal performance of the building. ThermaSlab Edge's durable nature means it will not degrade over time, keeping its integrity for the life of the structure.



EXPOL MAXEdge

MAXEdge won't degrade over time, meaning thermal insulation performance is maintained for the life of the building. MAXEdge is designed for in situ use as a slab edge insulation product. EXPOL concrete floor edge insulation is suitable for both residential and commercial building projects.



EXPOL TIMBER UNDERFLOOR INSULATION



EXPOL R1.4 UnderFloor Insulation

A flame retardant, white, rigid, Expanded Polystyrene panel, designed to fit between the joists under a timber floor. The product offers excellent insulation values, can be installed easily, is resistant to moisture, and has no nutritional value for vermin, birds, or animals.
The panels are white, 1.2 metres in length and 60mm in thickness, and are produced in four standard widths to fit between most standard joists.
All panels are concertina cut on both sides to allow for a compression of up to 20mm for ease of installation, and are ideal for both retro-fit applications and new floors.

EXPOL R1.4 UnderFloor Insulation comes with a 50 year EXPOL product warranty and can be recycled.



EXPOL R1.8 Black UnderFloor Insulation

EXPOL BLACK has the same physical characteristic as EXPOL UnderFloor, and offers a greater insulation value with the addition of graphite infused into the raw material, hence the charcoal colour of the product.

The panels are black, 1.2 metres in length and 60mm in thickness, and are produced in four standard widths to fit between most standard joists.

EXPOL BLACK offers a superior R-value for home owners who require the highest grade of insulation and warmth.

EXPOL R1.8 Black UnderFloor Insulation comes with a 50 year EXPOL product warranty and can be recycled.

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



BRANZ Appraised
Appraisal No.256 [2020]

EXPOL R2.5 UnderFloor Insulation

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

A flame retardant, white, rigid, Expanded Polystyrene panel, designed to fit between the joists under a timber floor. The product offers excellent insulation values, can be installed easily, is resistant to moisture, and has no nutritional value for vermin, birds, or animals.

The panels are white, 1.2 metres in length and 100mm in thickness, and are produced in four standard widths to fit between most standard joists.

All panels are concertina cut on both sides to allow for a compression of up to 20mm for ease of installation, and are ideal for both retro-fit applications and new floors.

EXPOL R2.5 UnderFloor Insulation is BRANZ Appraised, comes with a 50 year EXPOL product warranty and can be recycled.



EXPOL R3.1 Black UnderFloor Insulation

The ultimate underfloor insulation. A rigid panel infused with graphite makes it up to 24% more efficient than EXPOL R2.5.

EXPOL BLACK has the same physical characteristic as EXPOL UnderFloor, and offers a greater insulation value with the addition of graphite infused into the raw material, hence the charcoal colour of the product.

The panels are black, 1.2 metres in length and 100mm in thickness, and are produced in four standard widths to fit between most standard joists.

EXPOL BLACK offers a superior R-value for home owners who require the highest grade of insulation and warmth.

EXPOL R3.1 Black UnderFloor Insulation comes with a 50 year EXPOL product warranty and can be recycled.

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

Expanded Polystyrene Densities and Colour Coding

Grade	Density	Colour
SL	12kg/m3	Yellow
S	16kg/m3	Brown
M	20kg/m3	Black
H	24kg/m3	Green
VH	28kg/m3	Red
SLABX200	220kPa	Blue

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

EXPOL AND THE ENVIRONMENT

Look out for the **EXPOL** Earth logo on our packaging. The logo is our guarantee that the product you are purchasing contains recycled content and/or can be fully recycled by **EXPOL**.

We have set up recycling facilities in each of our 6 plants nationwide and a network of recycling cubes for residential waste in hardware stores nationwide. For the construction industry we operate a construction waste collection service nationwide which can be accessed through the **EXPOL** Live App. To find out more about both services visit www.expolearth.co.nz

This benefits humanity and the planet by reducing the volume of waste going to landfill.

At **EXPOL** our focus is to ensure that all our manufacturing and recycling processes comply with the latest environmental regulations.

Expanded Polystyrene at every stage of its life cycle from production to recovery or recycling offers exceptional eco-credentials. It is environmentally and chemically non-aggressive.

The manufacturing of **EXPOL** polystyrene insulation does not create CFCs or HCFCs. It can be – and is – easily recycled into long-life products and is therefore ideally suited to the new generation of eco-friendly building projects.

It is our goal to manufacture and operate in a zero waste environment.

INSTORE RECYCLING CUBE



NEW GENERATION
Consciously designed
& engineered

FULL CIRCLE RECYCLING



Go NZ Business
NEW ZEALAND OWNED & MANUFACTURED

airpop®
engineered air

6
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RECYCLABLE PRODUCT

NEW CONSTRUCTION AND BUILDING SITE WASTE COLLECTION APP.

Keep your site tidy. Contact us about collecting your Construction and Building site waste to recycle.

E: **sustainability@expolearth.co.nz**

0800 86 33 73 WWW.EXPOLEARTH.CO.NZ





WE RECYCLE OVER 500 TONS OF POLYSTYRENE EVERY YEAR THROUGH SIX RECYCLING PLANTS NATIONWIDE.

NEW GENERATION
Consciously designed
& engineered

EXPOL PRODUCTS ECO-CREDENTIALS

EXPOL PRODUCT	100% RECYCLABLE PRODUCT - EPS 6	CONTAINS RECYCLED CONTENT	ENVIRONMENTALLY & CHEMICALLY NON-AGGRESSIVE
EXPOL R1.4 White UnderFloor Insulation	✔	✔	✔
EXPOL R2.5 UnderFloor Insulation	✔	✔	✔
EXPOL R1.8 Black UnderFloor Insulation	✔	–	✔
EXPOL R3.1 Black UnderFloor Insulation	✔	–	✔
EXPOL ThermaSlab	✔	–	✔
EXPOL Platinum Board	✔	–	✔
EXPOL Tuff Pods	✔	✔	✔
EXPOL StyroDrain	✔	✔	✔
EXPOL Garage Door Insulation Polystyrene Panel	✔	✔	✔
EXPOL Emperor Panel	✔	–	✔
EXPOL GeoFoam Lightweight Fill	✔	✔	✔
EXPOL QuickDrain Polystyrene & HDPE Plastic	✔	✔	✔
EXPOL MAXEdge (uncoated)	✔	–	✔

75%
OF OUR PRODUCTS (BY VOLUME) CONTAIN RECYCLABLE CONTENT.

98%
COMPOSITION OF OUR POLYSTYRENE PRODUCT IS AIR.

100%
OF OUR RANGE IS RECYCLABLE.



EXPOL
Guaranteed Performance

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

Website
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NEW ZEALAND
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11/2026