

SOLID INSULATION AND LIGHTWEIGHT POLYSTYRENE CONSTRUCTION SOLUTIONS



Learn about our recycling initiatives

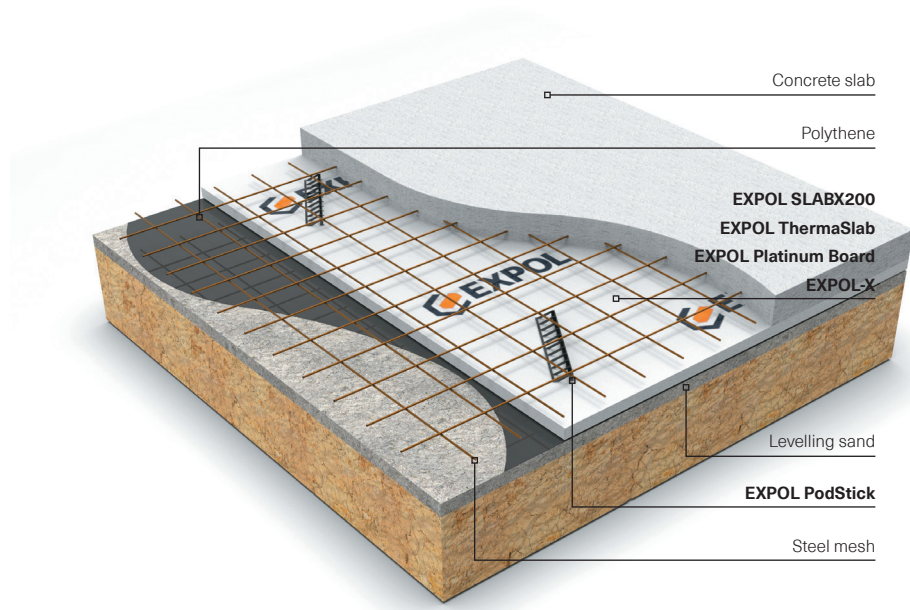


NEW GENERATION
Consciously designed
& engineered



CONCRETE FLOOR INSULATION

EXPOL supplies both **Expanded Polystyrene** and **XPS** 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 200kPa @ 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.

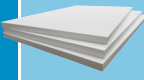
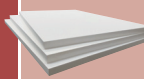
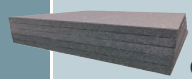
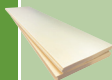
EXPOL ThermaSlab S can be used under concrete floors where the kPa loading requirement is reasonably low. EXPOL ThermaSlab S can be recycled.

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 (XPS) available in full sheets only (see Table 5.1). EXPOL-X is highly water resistant and has an extremely high compressive strength. See Table 5.2 for specifications. EXPOL-X can be recycled.

Table 5.1

PRODUCT OPTIONS & SIZES

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

SYSTEM COMPONENTS

EXPOL PODSTICK

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

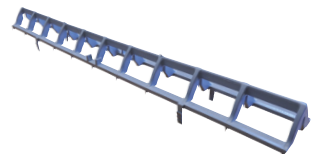


Table 5.2

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 1.71	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 3.14	R 3.06	R 2.89	R 3.44	-	
	120mm	-	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%	200	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 1530.3:1999
- Smoke Developed Index (0-10)		-	5	5	5	5	3	
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

Scan the code to access the EXPOL Concrete Foundation Insulation Calculator



For further detailed information on all products refer page 36 & 37 or contact EXPOL 0800 86 33 73.

For Expanded Polystyrene Densities and Colour Coding refer page 37.

MANUFACTURING STANDARD

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



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

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



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CONCRETE FLOOR INSULATION

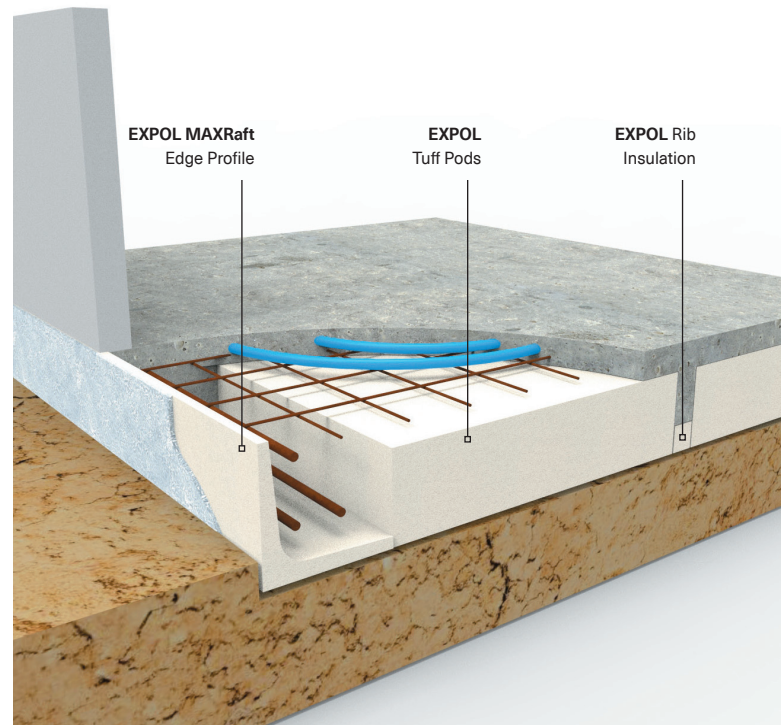
EXPOL MAXRaft

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.

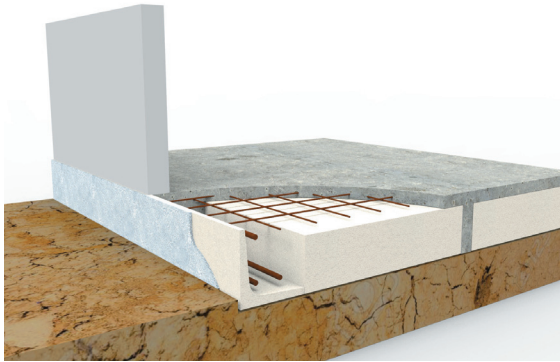


EXPOL MAXRaft Construction R-value Summary


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

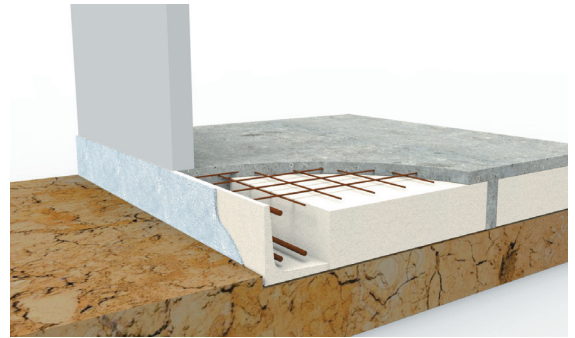
THE PRODUCTS

 **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.




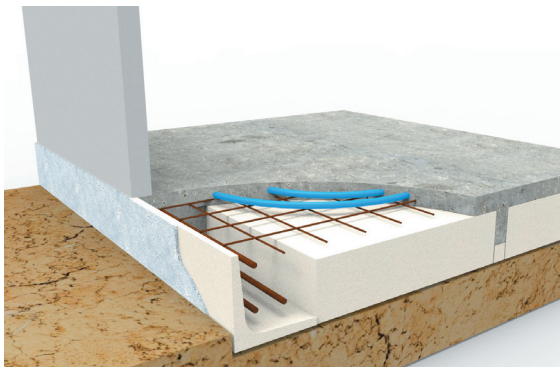
Heights | 305mm / 385mm
● Bespoke options available

 **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.




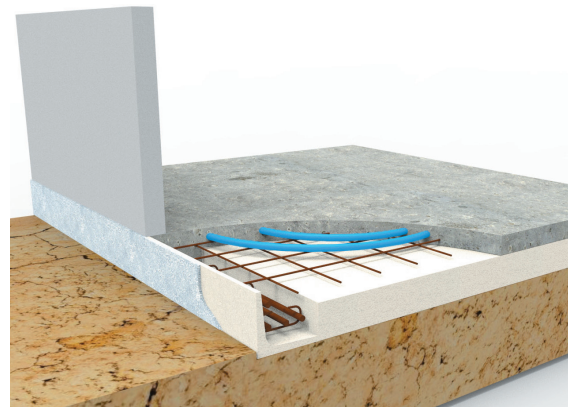
Slab Heights | 320mm / 340mm / 400mm / 420mm
● Bespoke heights available

 **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

Scan the code to access the EXPOL Concrete Foundation Insulation Calculator




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



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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.

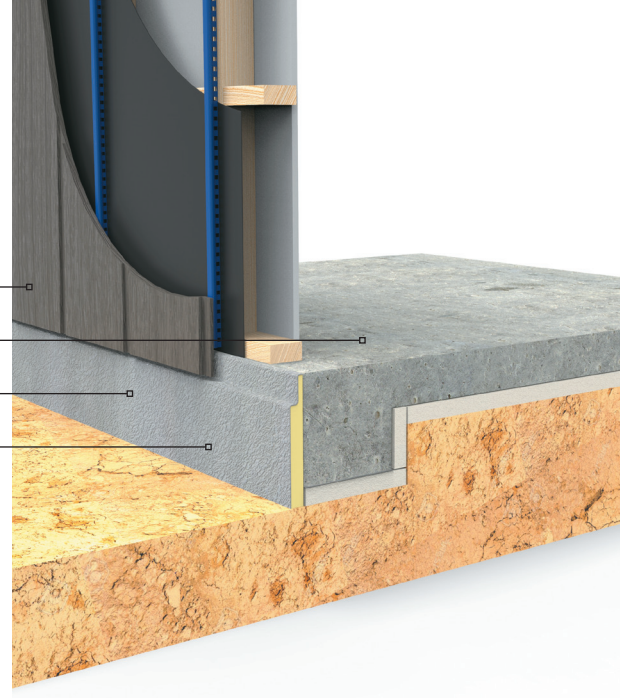


THERMASLAB/EDGE SLAB EDGE INSULATION

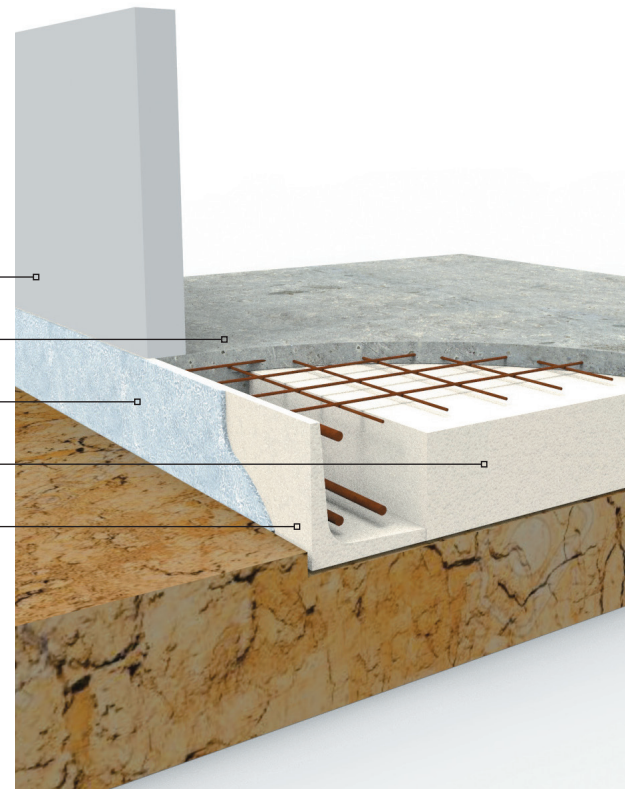
or

MAXEdge® Patented Technology

External cladding
Concrete floor
Water-proof resin coating
ThermaSlab Edge



External cladding
Concrete floor
Water-proof resin coating
EXPOL Tuff POD
MAXEdge



SYSTEM COMPONENTS



EXPOL Patch Kit

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



STYRO-FIX CONSTRUCTION ADHESIVE

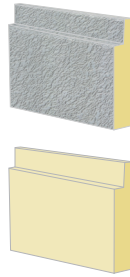
Styro-Fix is an advanced single component polyurethane-based construction adhesive. This powerful adhesive is developed especially for the construction industry and will bond most types of construction materials including timber (damp and dry), concrete, plasterboard, polystyrene and many other porous and non-porous substrates. It bonds expanded polystyrene to most surfaces, delivers strong adhesion and rapid cure, it is gun-able and non-drip.



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/m ³	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

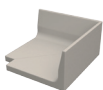
NEW ZEALAND'S LEADING HIGH PERFORMANCE SLAB EDGE INSULATION SYSTEM

Pre-made L Shape Perimeter Slab Insulation

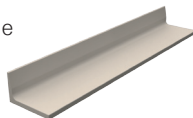
PRE-COATED - With a water-proof resin coating that does not require painting, saving time and money.

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

PRODUCT OPTIONS & SIZES

Thermal Performance that does the job

Product	Area / Perimeter Ratio									
	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.6	4
MAXEdge 305 / 320	1.46	1.54	1.62	1.7	1.77	1.85	1.92	2	2.21	2.36
MAXEdge 385 / 400	1.52	1.62	1.72	1.8	1.88	1.96	2.03	2.11	2.33	2.48
MAXEdge 305 / 320 Brick	1.3	1.39	1.47	1.55	1.62	1.7	1.78	1.85	2.06	2.21
MAXEdge 385 / 400 Brick	1.34	1.43	1.53	1.6	1.68	1.76	1.84	1.92	2.14	2.28

Construction R-values in BLUE



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