

**SOLID INSULATION AND LIGHTWEIGHT
POLYSTYRENE CONSTRUCTION SOLUTIONS**



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.

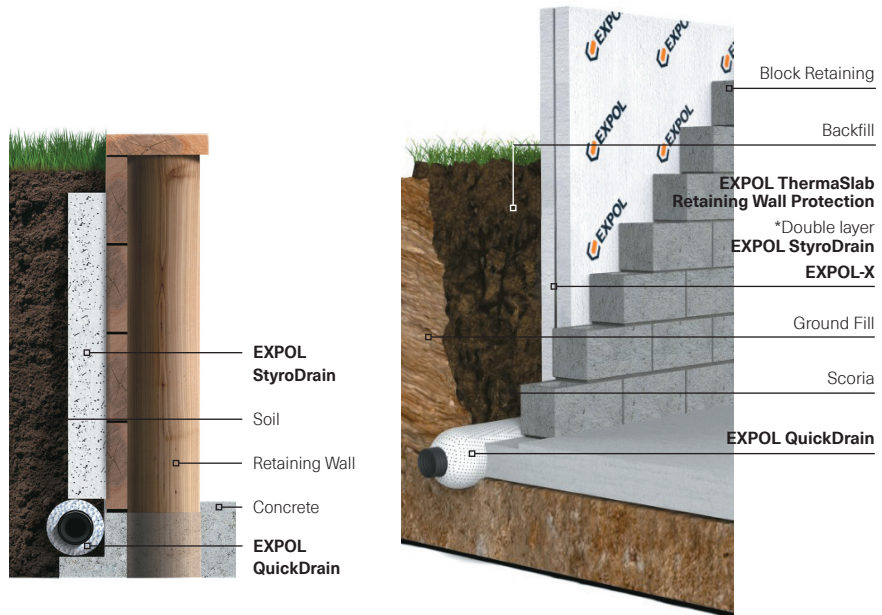
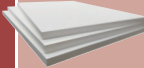
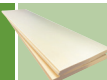
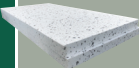



Table 1.1

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 Polystyrene • HDPE Pipe • Polyester Filter	
Density	kg/m ³	16	30	11	n/a	
Thickness / Product R-value	m ² K/W					ASTM C518-04
	10mm	-	R 0.36	-	L 2500mm D 200mm	
	20mm	-	-	-		
	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/m ² s	520	-	-	-	AS 2498.5
Permeability	m/s	-	-	4.18 x 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 38 & 39 or contact EXPOL 0800 86 33 73.

For Expanded Polystyrene Densities and Colour Coding refer page 39.

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.

Contact EXPOL
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