



BluSeal DL20 Drainage Liner

HDPE DIMPLE SHEET



BluSeal DL 20 Drainage Liner is a weldable HDPE dimple sheet with 20mm dimples.

BluSeal DL20 Drainage Liner is manufactured from black HDPE. It is impermeable and resistant to typical chemicals encountered in underground building construction. It can be supplied to suit an overlap joint or welded joint.

Application Advantages

- Flexibility to conform to various surface profiles
- High tear strength and elongation
- Exceptional waterproofing performance
- Good weldability

Lifecycle Advantages

- 100 year design life
- International Standards testing
- Fire rated

About the Product

BluSeal DL20 Drainage Liner has a stud height of approximately 20mm and can be supplied in various sheet sizes to suit your project needs. It is manufactured from robust HDPE and can be supplied with flat edges to suit seam welding for a fully waterproof system. The liner's design allows for water to easily pass to drainage area, whilst reducing pressure build up behind the liner.

Application Solutions

- Drained tunnels
- Cut and cover tunnels
- Green roofs
- Planter boxes
- Drained walls
- Underground structures

Project Specification Clause

DL20 DRAINAGE LINER - The DL20 Drainage Liner used for this project shall be supplied and installed as a fully welded, or lap joint system depending on project specifications. It shall be a pre-fabricated product that has independent testing to validate the performance outlined in the technical data table on the following pages. BluSeal DL20 Drainage Liner manufactured by Blueey Technologies or equivalent shall be accepted.

Project Examples

Tunnel waterproofing, basements, green roofs, rail bridges, land bridges





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Application Specification

PREPARATION

- 1.1 Substrate surfaces onto which a waterproof membrane is to be applied shall be prepared by the addition of a shotcrete smoothing layer to remove local peaks and infill hollows, or a suitably smooth concrete or rock surface.
- 1.2 Surfaces on which waterproofing systems shall be installed shall be clean, free from loose aggregate, sharp protrusions, projecting tying wire, release agents and other substances which are likely to damage or affect the waterproofing system.
- 1.3 Large circumferential irregularities shall not exceed 200mm when measured from a 1.0m curved edge held against the tunnel circumference.
- 1.4 Any curvature or irregularity shall have a radius greater than 200mm. In areas where curvature is in excess of this value the Waterproofing Supervisor shall be required to inspect and deem if acceptable with the use of double geotextile fleecing, etc.
- 1.5 The shotcrete (including smoothing layer) shall be cured for at least 24 hours prior to liner placement.
- 1.6 Steel elements, such as reinforcement bars, steel girders and the heads of rock bolts (as far as not used to hold inner lining structures) shall be covered with at least 20mm of shotcrete (or other approved method).
- 1.7 Depth pins shall be cut flush with the surface and patched with mortar.
- 1.8 If water is later found excessively penetrating through the shotcrete lining, which can adversely affect the installation of membrane, the water shall be collected by means of hoses and temporarily drained to the tunnel invert (i.e. during concrete lining pour, etc.).
- 1.9 The drainage shall be maintained during the membrane installation process so that no water pressure can develop behind the liner.
- 1.10 BluSeal DL20 Drainage Liner is to be installed over non woven geotextile of not less than 700gsm.

APPLICATION

- 2.1 BluSeal DL20 Drainage Liner must be installed by an approved, specialised applicator. Experienced in installation techniques and testing is essential.
- 2.2 The compatible roundels are nailed to the surface using a suitable nail gun. Roundels shall be set in a pattern to adequately support the membrane. This will vary between the tunnel crown, walls and invert.
- 2.3 BluSeal DL20 Drainage Liner shall be attached to the roundels by hot air 'spot' welding.
- 2.4 The liner should not be installed too loose, that it folds over itself during concrete placement (the liner should be pressed against the surface during concreting).
- 2.5 Adjacent sheets of BluSeal DL20 Drainage Liner shall be overlapped by approximately 100mm and joined by double seam welding.
- 2.6 Double seam welds are to be tested by applying pressure to the gap between the welds.



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Product Data

Please refer to Important Notice on following page

Storage	The liner must not be exposed to UV light for more than 3 months Storage and transport of the liner must be done with consideration for eliminating potential damage
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TESTED CHARACTERISTIC	STANDARD	RESULT
Reaction to Fire	NS-EN 13967:2012 NS-EN 13984:2013	Class F
Tensile Strength Properties	NS-EN 13967:2012 NS-EN 13984:2013	MD 530N/50mm (minimum) CMD 500N/50mm (minimum)
Resistance to Static Loading	NS-EN 13967:2012 NS-EN 13984:2013	øtool = 10mm Pass @ 20kg
Resistance to Impact	NS-EN 13967:2012 NS-EN 13984:2013	wtool = 500g (method A) Pass @ 0.85m
Resistance to Tearing	NS-EN 13967:2012 NS-EN 13984:2013	350N (minimum)
Joint Strength	NS-EN 13967:2012 NS-EN 13984:2013	35N
Watertightness - Durability - After Heat Ageing - After Chemical Ageing	NS-EN 13967:2012 NS-EN 13984:2013	Pass @ 2kPa Pass Pass
Water Vapour Resistance	NS-EN 13967:2012 NS-EN 13984:2013	550m ± 25%
Durability after Heat Ageing	NS-EN 13967:2012 NS-EN 13984:2013	Pass
Durability against Alkali	NS-EN 13967:2012 NS-EN 13984:2013	Pass
Bitumen Compatibility	NS-EN 13967:2012 NS-EN 13984:2013	No performance declared
Dangerous Substances	NS-EN 13967:2012 NS-EN 13984:2013	None
Resistance to Deformation Under Load	NS-EN 13967:2012 NS-EN 13984:2013	20% @ 50kN/m ² (maximum)



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Contact Bluey

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