

BluSeal Anchor Knob Sheet

HDPE CONCRETE PROTECTION MEMBRANE



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DESCRIPTION

BluSeal Anchor Knob Sheet is a cast-in high density polyethylene sheet which requires only installation and welding to form an extremely durable, chemically resistant concrete protection membrane.

USES

BluSeal Anchor Knob Sheet is used for lining concrete structures subject to aggressive chemical environments. BluSeal Anchor Knob Sheet comes in a range of thicknesses for various performance applications. The membrane may be applied to both new and existing structures for protection, enhancement or repair requirements.

ADVANTAGES

- Potable water use approved in accordance with AS/NZS 4020:2005
- Resistant to chemical and mechanical impact
- Fully welded homogeneous lining
- Low maintenance
- Time saving and reliable installation
- High anchor pull-out strength

PREPARATION

Formwork shall be cleaned and free of defects. Form release oils are not necessary where BluSeal Anchor Knob Sheet Liner is applied. The sheet shall be fixed to the formwork using Form Tak supplied by Bluey, nailing through the sheet is not recommended. H-Profile supplied by Bluey shall be used between each sheet to ensure alignment and protection of sheet edges during casting of concrete. Where BluSeal Anchor Knob Sheet is applied to an existing structure the host concrete must be adequately prepared to ensure high bond. Concrete surfaces shall be prepared with surface profile greater than CSP4 in accordance with ACI guidelines. Following removal of all defective concrete, any partially exposed reinforcing bars shall be fully exposed to a depth of 20mm behind the bar. If the bar has lost more than 20% of its original diameter then it should be replaced and the Structural Engineer must be consulted. Where the original reinforcement is retained it must be cleaned to a standard surface purity of Sa 2.5 for chloride contaminated concrete and Sa 2.0 for carbonated concrete. This is best achieved by wet blasting or abrasive blasting. If chloride contamination is present then high pressure wet blasting is the only acceptable method of cleaning. Priming of reinforcement is generally not required. If the steel will be exposed to the atmosphere for several days after cleaning then an acceptable form of priming would be to mix cement into a slurry using BluCem API0 and apply a cement rich coating to the steel surface within 4 hours of priming.

APPLICATION

BluSeal Anchor Knob Sheet must be installed by an approved, specialised applicator. Experience in installation techniques and testing is essential. Prior to installation, the contractor shall complete layout drawings to indicate panel configuration and weld seam locations. Formwork shall be designed by a Structural Engineer. Grouting shall be completed using BluCem HS100 or BluCem HS100A. The grout shall be mixed in accordance with the instructions. Grout shall be applied by tremmie pipe to ensure that air is completely removed from the void. Welding shall be completed by either hot wedge or extrusion welding machines approved by Bluey. Membrane must be clean and free of defects prior to all welding operations. Please contact Bluey for further details if ambient temperatures are below 5°C or if relative humidity exceeds 80%. Welds shall be completed in accordance with DVS2227. All welds shall be tested by either vacuum box testing or by air-pressure testing in accordance with DVS standards or equivalent. Destructive seam peel tests shall also be completed for every 150m of welded seam. These areas and all other required repairs shall be completed by patching with minimum 200mm diameter round patch extending at least 80mm past the defect on each side. Each repair shall be vacuum box tested.





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PRODUCT DATA

Density:	945kg/m ³	ASTM D 505/D 792
Carbon Black Content*:	2.35%	ASTM D 1603
Carbon Black Dispersion*:	Category I	ASTM D 5596
ESCR (NCTL):	> 500 hrs	ASTM D 5397
OIT:	> 330 min	D 3895
Coefficient of Linear Expansion:	1.1 to 1.4 m/m/degC	ASTM E 831
Length of Knobs (nom):	12mm	
Knobs per m²:	1230/m ²	
Pull-off Resistance:	> 70 T/m ²	
Tensile Properties:		ASTM D 6693-04
Yield Stress	16MPa**	
Break Stress	32MPa**	
Yield Elongation	13%**	
Break Elongations	750%**	
Shore Hardness:	> 56 Shore D	DIN 53505
Tear Resistance:	124 N/mm (t)	ASTM D 1004
Puncture Resistance:	402 N/mm	ASTM D 4833
Dimensional Stability:	< 1% change	ASTM D 1204
Water Absorption:	0.0009%	ASTM D 570

* Black AKS only

** Denotes measurements on smooth portions of BluSeal Anchor Knob Sheet

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this publication is based on the present state of our best knowledge.

As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, their representative or the contractor is responsible for checking the suitability of products for their intended use.

Product properties are dependent upon seasonal and geographical criteria. Product properties and performance may vary between countries and locations within. We recommend that you clarify your specific requirements with your local Bluey representative to ensure that all specific project requirements are met.

NOTE

Field service where provided, does not constitute supervisory responsibility. Suggestions made by Bluey Technologies Pty Ltd either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Bluey Technologies Pty Ltd are responsible for carrying out procedures appropriate to a specific application.

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Page 2 of 2

