



BluSeal AKS

HDPE CONCRETE PROTECTION MEMBRANE



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 FormTak 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 HSI00 or BluCem HSI00A. 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

Please refer to Important Notice on following page

Length of Knobs (nominal)	12mm
Knobs per m ²	1230
Pull-off Resistance	>70T/m ²

TESTED CHARACTERISTIC	STANDARD	RESULT			
Density	ASTM D 505/D 792	945kg/m ³			
Carbon Black Content*	ASTM D 1603	2.35%			
Carbon Black Dispersion*	ASTM D 5596	Category I			
ESCR (NCTL)	ASTM D 5397	>500 hours			
OIT	D 3895	>330 minutes			
Coefficient of Linear Expansion	ASTM E 831	1.1 - 1.4 m/m/degC			
Tensile Properties	ASTM D 6693-04	Yield Stress 16MPa**	Break Stress 32MPa**	Yield Elongation 13%**	Break Elongation 750%**
Shore Hardness	DIN 53505	>56 Shore D			
Tear Resistance	ASTM D 1004	124N/mm (t)			
Puncture Resistance	ASTM D 4833	402N/mm			
Dimensional Stability	ASTM D 1204	<1% change			
Water Absorption	ASTM D 570	0.0009%			

* Black AKS only

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



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Contact Bluey

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