GUARDIAN Splash-Zone 2000

Outer Cover & System Application

Description

GUARDIAN 2000 Outer Cover is an intrinsic component of the GUARDIAN 2000 System.

GUARDIAN 2000 Outer Cover is formulated from non-recycled UV Stable HDPE resin, providing mechanical protection to the GUARDIAN Petrolatum coating materials applied to the substrate for corrosion protection.

GUARDIAN 2000 Outer Cover inherently possesses substantial mechanical properties, chemical and environmental stress crack resistance, thermal stability and long life UV resistant characteristics.

The 316 Stainless Steel Thermoplastic bolt-on fastening system employed with the GUARDIAN 2000 system enables its use in severe, open water environments.

The GUARDIAN 2000 Hydraulic Clamping Tool is recommended to achieve the required tension during installation of the jacket.

Physical Properties

SYSTEM OUTER COVER PROPERTIES		
PROPERTY	**TEST METHOD**	**RESULTS**
Thickness	ASTM D5199	2.0mm
Tensile strength at break	ASTM D6693	58 N/mm - Width
Elongation at break		700%
Tear Resistance	ASTM D1004	249 N
Puncture Resistance	ASTM D4833	703 N
Carbon Black content	ASTM D1603	2% - 3%
Application Temperatures		-100C to +550C
Service Temperatures		-100C to +750C
Service Life		30+ Years

System Application Guidelines

SURFACE PREPARATION

Prepare substrate to Class St2 (ISO 8501-1:2007). Substrate must be cleaned. Remove all loose material including rust, scale, coatings, etc.

This may be achieved via the following methods including:

- Abrasive / Hydro Blast
- Pneumatic / Hydraulic Tools
- Hand Tools

Clean pile by removing marine growth from the area to be protected. Remove rust scale, protrusions (other than weld seam on the pile) and ensure the surfaces ground smooth to remove, loose coating material and wash pile. In the removal of any pre-existing coating, ensure this loose material is captured for appropriate disposal. Efforts should be made to minimise any debris escaping into the marine environment.

Head Office: 1/30 Bluett Drive
SMEATON GRANGE NSW 2567

PH: 1300 HYCHEM
hycheminfrastructure.com.au

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PRIME (PRIMER MP)

Apply GUARDIAN Splash-Zone Primer MP by gloved hand to evenly coat substrate above and below water, filling surface imperfections. Ensure that a sufficient amount of primer is used to avoid the potential for any voids. A small section of Guardian

Splash-Zone Tape may be used to assist in filling these areas. Any gentle protrusions such as spiral welds can be further chamfered or profiled with the use of primer. Anticipate a spread rate of 1 to 2m2/kg.

CONTOUR (MASTIC MM)

Fill all voids and contour or profile any angular changes with the GUARDIAN Splash-Zone Mastic MM. The profile should be such that the GUARDIAN Splash-Zone Tape MT may be applied without bridging and / or likelihood for the GUARDIAN Splash-Zone Tape MT to be damaged while in service by any angular projection.

INNER WRAP (TAPE MT)

Spirally apply GUARDIAN Splash-Zone Tape MT incorporating a minimum 50% overlap resulting in a coating of two layers in a single wrapping motion. At the end of the roll, start a new roll of tape by inserting it under the end of the preceding roll of tape by 100mm. Press the end of the existing tape firmly over the top of the end of the new roll. GUARDIAN Splash-Zone Tape MT should be applied under firm tension to minimize wrinkling and smooth wrapping with a gloved hand throughout the wrapping process to squeeze out any trapped air or water. All tape overlaps should be pressed firmly to progressively seal the exposed edge of applied tape.

MECHANICAL PROTECTION (2000 OUTER COVER)

Prepare the stainless steel 316 fasteners. Position the overlap interface HDPE strip on the pile, in position, where the GUARDIAN Splash-Zone 2000 Outer Cover flange is to be located. Position prefabricated GUARDIAN Splash-Zone 2000 Outer Cover around the wrapped pile. Bring the jacket flange together, and align the holes for fastening.

With use of the GUARDIAN Splash-Zone 2000 Hydraulic Clamping Tool, fit and tension the GUARDIAN Splash-Zone 2000FD Outer Cover in place in the following way:

- Slide the tensioning (part-threaded rods) through the holes on the jacket flange (in both ends of the jacket). Ensure that each pair of rods are evenly spaced apart, and fed through the correct holes along the jacket. The ram/clamp assemblies are fitted so that there are 2 exposed bolt holes at the top and bottom of the jacket and 2 holes between each of the 3 clamps for a full length jacket (1.9-2.0m). Shorter jackets may require less clamps.
- With use of the Stainless Steel 316 M12 nuts and bolts secure the clamp end plates and hydraulic ram onto the clamp rods.
- Ensure the hoses, pump, manifold and rams are connected and increase pressure. Apply pressure evenly to each ram and slowly increase pressure until the jacket flange ends are together under even pressure. When the jacket flange is closed, fasten the flange with the use of the SS316 M12 nuts and bolts between the clamp(s). Remove clamp(s) and install the remaining nuts and bolts fully tightening all.

Note: To avoid the risk of the stainless steel fasteners "seizing" or "gauling", we recommend that each bolt is protected with a layer of GUARDIAN Splash-Zone Primer MP.

Equipment

Protective Gloves, Eye Protection.

Pile Cleaning Tools:

- Wire Brush
- Chipping Hammer
- Knife/Scissors.
- Guardian Splash-Zone 2000 Hydraulic Clamping Tool.

PACKAGING

GUARDIAN 2000 System Outer Cover is manufactured to meet project requirements.

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