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Pile-Shield System

For heavy-duty corrosion protection of offshore pilings in splash zone areas



Trenton's three-part Pile-Shield System provides extraordinary protection against corrosion, ice, debris and other marine hazards.

The Pile-Shield System is designed for use in severe marine conditions, providing a dual-protection system against corrosion and abrasion or impact.

1. Anti-Corrosion
2. Anti-Abrasion/Impact

Description:

The Trenton Pile-Shield System has three components:

1. Trenton Pile Primer is a corrosion-inhibiting petroleum wax-based compound that displaces moisture. It is paste-like in consistency and is applied by hand.

2. Trenton Pile Inner-Wrap is a poly-fiber felt that is saturated with a petroleum wax blend and corrosion inhibitors. It combines with the Pile Primer to provide an anti-corrosion barrier.

3. Trenton Pile-Shield is a tough, extremely durable high-density polyethylene sheet that is UV-resistant.

End Use:

The Pile-Shield System is used to protect offshore pilings from corrosion and mechanical damage by ice, debris and wave action.

Application:

Surface preparation: Remove all marine growth and loose rust, scale, or old loose coating (SSPC-SP2). Inspect cleaned area to ensure that no sharp edges or metal burrs are present. If so, they must be removed mechanically.

Application of Pile Primer: Manually apply a thin film of Pile Primer to the surface, ensuring that all exposed metal to be protected is uniformly coated both above and below the water line. Rub the Primer into the surface, displacing any moisture and ensuring that the Primer is adhering to the piling.

Application of Pile Inner-Wrap: On vertical piping or pilings, start at the lowest end of the area to be protected. Apply Pile Inner-Wrap tape in a spiral wrap fashion, using a 50% overlap, such that it uniformly adheres to the metal surface with no water or air pockets trapped underneath. Smooth out all seams by hand to seal the Inner-Wrap at the overlap.

Application of the Pile-Shield: Wrap the Pile-Shield around the pile as tightly as possible by hand securing it. Then apply stainless steel banding to permanently secure the Shield to the piling. Apply the first band at the middle of the Shield. Then apply additional bands at no greater than 1 to 1.5 foot (.3 to .5 meter) intervals, making sure that the top and bottom bands are no more than 4 to 6 inches (10 to 15 cm) from each end. If additional sections are used, they are butted up against the previously applied section.

Packaging:

Pile Primer:

1-gallon (3.785 liters) cans
4 gallon/case
32 lb/case

Pile Inner-Wrap:

9" x 27' (225 mm x 8.2 m) rolls
6 rolls (13.5 sq yd)/case
34 lb/case

Pile-Shield:

Sections are custom-made as required by actual pile circumference in lengths up to 8 feet (standard).

316 Stainless Steel Banding:

Banding: 3/4" x 100' rolls
Banding: EVA coated black 3/4" x 82' rolls
Buckles (Earlock): 100/box

Specifications:

Property	Specification	ASTM Test Method
Pile Primer		
Dielectric strength	100 volt/mil	D-149
Flash point	350°F (177°C)	D-92
Specific gravity	.90 at 77°F (25°C)	D-3505
Color	Brown	
Application temperature	0° to 100°F (-18° to 38°C)	
Service temperature	-90° to 125°F (-68° to 52°C)	
Pile Inner-Wrap		
Dielectric strength	170 volt/mil	D-149
Thickness (typical)	50 mil (1.27 mm)	D-1000
Break strength	22.5 lb/in. width (3940 N/m width)	D-1000
Weight	2.5 lb/sq yd (1.35 kg/sq m)	
Flash point (of saturant)	300°F (149°C)	D-92
Application temperature	0° to 125°F (-18° to 52°C)	
Service temperature	-90° to 125°F (-73° to 52°C)	
Pile Shield		
Thickness*	100 mil (2.5 mm)	D-1505
Break strength	400 lb/in. width	D-838
Elongation at break	700%	D-838
Tear strength	65 lb.	D-1004
Low temperature brittleness	-112°F	D-746
Puncture resistance	130 lb.	FTMS 101 Method 2065
Application temperature	30° to 125°F (-1° to 52°C)	
Service temperature	-110° to 125°F (-80° to 52°C)	
Color	Black	

*Also available in 50 mil (1.25mm) and 70 mil (1.75 mm) thicknesses.

Quantity Requirements:

(Estimate based on 100 linear feet of piling)

Piling Size (Diameter) Inches (mm)	Pile Primer (100 sq ft/gal) Gal (liters)	Pile Inner-Wrap 9" x 27" Rolls	Pile-Shield Width**
12.75 (324)	3.25 (12.3)	36	44.5"
14 (356)	3.75 (14.2)	39	48.5"
16 (406)	4.25 (16.1)	45	54.5"
18 (457)	4.75 (18.0)	50	61"
20 (508)	5.25 (19.9)	56	67"
22 (559)	5.75 (21.8)	61	73.5"
24 (610)	6.25 (23.7)	67	80"
26 (660)	6.75 (25.6)	73	86"
28 (711)	7.25 (27.5)	78	92"
30 (762)	7.75 (29.3)	84	98.5"
32 (813)	8.25 (31.2)	89	105"
36 (914)	9.50 (35.9)	100	117.5"

**Widths are custom-made as required by actual pile circumference in lengths up to 8 feet standard.

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