PERPRO

Anti Corrosion Company

PERNO HDPE JACKET

MANUFACTURE:

PT. PERINTIS PROTEKSI SEJAHTERA

Jl. Danau Sunter Utara Blok B 36A No. 10
Jakarta Utara 14350 - Indonesia
Phone : (021) - 6400751 , 6401849 , 6459542 , 64715428
Fax : (021) – 65308341
Email : perpro@perintis-proteksi.com
Website : www.perintis-proteksi.com

MADE IN
INDONESIA

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Anti Corrosion Company

PERNO HDPE JACKET

Perno HDPE Jacket System is made by PT. Perintis Proteksi Sejahtera, an Indonesian Company specializes in anti-corrosion since 1991.

Perno HDPE Jacket System composed of synthetic fabric filled with a petrolatum compound, inert filler and special anti-corrosion agents for protection of pipes, flanges, valves, and steel structure. This product offers excellent protection against corrosion and create a solid water barrier. Perno HDPE Jacket System has good resistance to acids, alkali and salts.

Perno HDPE Jacket System comply with NACE SP 0176, Corrosion Control of Submerged Areas of Permanently Installed Steel Offshore Structures

Uses:

1. Splash Zone Area
2. Underground Piping System
3. Above Ground Piping System
4. Underwater Pipe System

Application:

1. Prepare surfaces by removing all loosen scale, rust or other foreign matter in accordance to SSPC SP2 Hand Tool Cleaning or SP3 Power Tool Cleaning
2. Spirally Wrap the tape with minimum 10% overlap
3. While wrapping, press air pockets out and smooth all surfaces
4. Outer layer shall be protected with HDPE cover for splash zone area

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MATERIALS DATA SHEET
PERNO HDPE JACKET

Item	Requirement	Method	Result	Remarks	Laboratory
Congeal point of saturant	Min 63° Celcius	In house Lab	65° Celcius	**Passed**	In house Lab
Flash point of saturant	Min 60° Celcius	ASTM D 92	224° Celcius	**Passed**	Sucofindo Lab No. 13155/DBBPAN
Thickness	Min 1000 microns	ASTM D 1000	1370 microns	**Passed**	STP Lab No.1580779084
Dielectric strength	Min 170 Volt/mill	ASTM D 149	202.8 Volt/mill	**Passed**	STP Lab No.1580955472

ADDITIONAL PROPERTIES

Item	Method		Result	Laboratory
Breaking strength	ASTM D 4595		15220 N/m	STP Lab No.1580779084
Elongation at break	ASTM D 4595		15.63 %	STP Lab No.1580779084
Dropping point	ASTM D 566		155° Celcius	Sucofindo Lab No. 13155/DBBPAN
Salt Spray @960 Hours	ASTM B.117	Corrosion	None (Rating 10)	B4T Lab No. 4-09-20-00538
		Blister	None	
		Other Change	None	

MATERIALS DATA SHEET
PERNO HDPE SHEET

Item	Unit	Specification
Thickness	mm	2 ± 5%
Breaking Strength	Mpa	25.7
Breaking Elongation	%	576
Right Angle tear strength	N/mm	152
Flash Point	°C	224
Water Vapoor Penetration Coefficient	G.cm / (cm2.s.pa)	4.2×10^{-14}
Size Variation	%	2.2
Carbon Black Content	%	2.3

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MATERIALS DATA SHEET
PERNO HDPE GIRDER

Item	Unit	Specification
HDPE GIRDER		
Girder Width	cm	4.0
Girder Thickness	cm	2.5
Girder Length	cm/per girder	250
Density	g/cm^3	0.945
Tensile Strength	MPa	23
Compression Strength	Mpa	38
Elongation at break	%	324
Hardness Shore-D	D	62
Dinamic Friction Coefficient		0.188
Notched Impact Strength (Charphy)	kJ/m^2	85
Vicat Softing Point	^oC	82
NUT & BOLT		
Type		SS 316 Nut & Bolt
Size of Bolt & Nut		M10
Length	cm	7.5
Quantity of Washer	ea/set	2

MATERIALS

Petrolatum Tape

HDPE SHEET

HDPE Girder with Nut & Bolt

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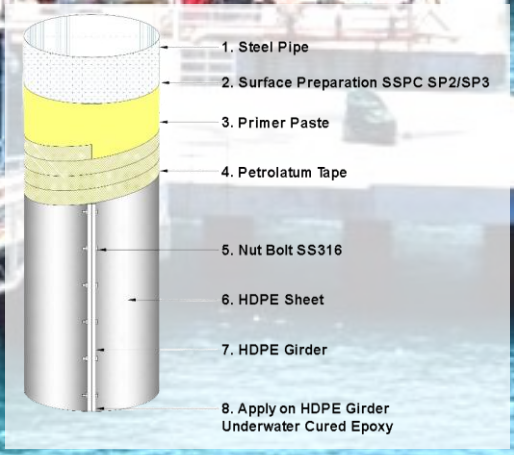
DOCUMENTATION

APPLICATION ON STEEL MARINE PILLINGS IN SPLASH ZONE AREA:




Advantages of HDPE for splash zone area:

1. No water penetration in girder gaps because sealing system using underwater epoxy mastic
2. Gaps in bottom girder filled with underwater cured epoxy
3. Combine HDPE sheet on petrolatum tape using hydraulic jack to pull the HDPE Sheet with 5% elongation
4. Fully secured
5. Easy to install
6. Easy for maintenance



APPLICATION ON PIPELINE



APPLICATION ON FLANGE


DATASHEET PRIMER PASTE YELLOW

General Description	Primer Paste Yellow of saturated petroleum hydrocarbon containing corrosion inhibitor and inert barrier filler. Primer Paste Yellow has good resistance to acids, alkali and salts
Typical Uses	As a primer prior to the application of HDPE Jacket System, As a petroleum based primer for increasing the adhesive and anti corrosive properties of petroleum tape.
Specification data	
Volume Solids	75%
Color	Yellow
Specific Gravity	1,085 Kg/Liter
Flash Point	>180^{0}C
Max Service Temp.	80^{0}C
Practical Coverage	0.5 Kg/m^2
Packaging	5 Kg/can
Method of Application	
Hand Tool	Recommended

DATASHEET PRIMER PASTE YELLOW

Surface Preparation

Need to clean the surfaces. Clean loose scales, rusts on the surfaces using Hand Tool Cleaning (SSPC-SP 2) or Power Tool Cleaning (SSPC SP3)

Application

Apply a thin uniform coat of Primer Paste to entire surface with gloved hand, brush or rag

Safety

Wash hands thoroughly with soap and water or a proprietary hand cleaner prior to eating. Launder contaminated clothing, and gloves

Storage

Store in original containers in a cool, dry place
Recommended shelf life: 6 months

Technical Services

PERPRO maintains a technical division to investigate and advice on all problems related to corrosion control. The divisions will advise on the correct selection of and specification for the required protective and marine coating system. Contact the division through PERPRO head office.

DATASHEET PETROLATUM TAPE

General Description	HDPE Jacket System system consist of petrolatum tape which composed of synthetic fabric, filled with a petroleum compound, inert filler and special anti-corrosion agents for protection of pipes, flanges, valves, and steel structure. This product offers excellent protection against corrosion and create a solid water barrier. PERNO HDPE Jacket System has good resistance to acids, alkali and salts.
Typical Uses	Hydraulic pipes and cable lines on vessel. Fresh water pipes and CO_2 pipes on vessel. Steel pilings and marine structures. Underground pipes or cables. Drainage pipe or Building plumbing pipe.

Specification data	
Color	Yellow
Thickness (micron)	1370 ± 50 Micron
Breaking Strength (N/m)	15220 ± 1590 N/m
Elongation at Break (%)	15.63 ± 3.73 %
Dielectric Strength (Volts/mil)	202.8 Volts/mil
Flash Point (^oC)	224 ^oC
Dropping Point (^oC)	155 ^oC
Roll Lengths	10 Meter / Roll
Roll Widths	15 Centimeter
Package Box	12 Roll / Box

Method of Application	
Power Tool	Recommended
Hand Tool	Recommended

DATASHEET PETROLATUM TAPE

Surface Preparation

Need to clean the surfaces. Clean loose scales, rusts on the surfaces using Hand Tool Cleaning (SSPC-SP 2) or Power Tool Cleaning (SSPC SP3)

Application

As primer of Tape cover the surface with thin film of Primer Paste Yellow

Safety

Wash hands thoroughly with soap and water or a proprietary hand cleaner prior to eating. Launder contaminated clothing, and gloves

Storage

Store in original containers in a cool, dry place
Recommended shelf life: 6 months

Technical Services

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DATASHEET HDPE SHEET

General Description	HDPE Sheet as a main component in HDPE Jacket System is made from High Density Poly Ethylene which mainly composed of 97.5% Polyethylene, 2.5% Carbon Black, a heat stabiliziers and anti-oxidants. HDPE cact as a waterproof and impact resist component. It has an excellent resistance against UV radiation and suitable with exposed condition.
Typical Uses	As an outer protection of HDPE Jacket System as it has a good resistance to chemical, heat, and acid. Usually can be applied to landfill, waste lake and for splash zone protection.

Specification data	
Thickness	2±0.1 mm
Breaking Strength	25.7 MPa
Breaking Elongation	576%
Right Angle Tear Strength	152 N/mm
Flash Point	224 ^{0}C
Water Vapor Penetration	4.2 x 10^{-14} G.cm/(cm^{2}.s.pa)
Carbon Black Content	2.3%

Method of Application	
Hand and Power Tools	-Apply HDPE using hands -Tighten the HDPE with Girder -Apply Nut & Bolt to secure the HDPE

DATASHEET HDPE SHEET

Surface Preparation

Need to clean the surfaces. Clean loose scales, rusts on the surfaces using Hand Tool Cleaning (SSPC-SP 2) or Power Tool Cleaning (SSPC SP3)

Application

Apply the HDPE Sheet after applying the Petrolatum Tape to the surface

Safety

Wash hands thoroughly with soap and water or a proprietary hand cleaner prior to eating. Launder contaminated clothing, and gloves

Storage

Store in original containers in a cool, dry place

Technical Services

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