

### General description

RETROSHIELD HD is a tape-and-wrap corrosion protection solution for onshore, inshore splash zone and underwater corrosion protection for pipelines and steel or concrete piles.

RETROSHIELD HD can be made for pile diameter from 100 mm to 3 meters (4" - 118"), also square, hexagonal and octagonal shaped piles, and it may be interlocked to accommodate any required protected length.

RETROSHIELD HD solution consists of corrosion protection Paste, Piling Tape and a Protective Outer Cover.

Corrosion protection with RETROSHIELD HD is built up in a 2 or 3-step installation procedure;

1. Application of preparation/fill-up Paste, RW Anticor Plast 732 W, on the cleaned pile surface area to be protected (**if applicable for the specific project**). Paste shall be applied in thin layer by hand, brush, trowel or similar if pits are deeper than 2 mm. The paste can also be used for filling and smoothening deeper pits and other structurally non-hazardous minor damages and edges before applying tapes.
2. Application of petrolatum-based piling tape, RW Anticor Plast 750-60 W, on the paste covered pile surface or directly on the pile surface if specified in the project. Tape to be applied with 50% overlap, as minimum, to create a double tape layer coating.
3. Installation and fastening of the protective Outer Cover on top the taped surface. The Outer Cover is a PVC coated reinforced multilayer fabric jacket that is equipped with factory-fitted full-length closure flanges, prepared for corrosion-resistant marine grade fastening bolt sets.

See separate RETROSHIELD HD installation instructions for further information regarding the complete installation procedure and pre-installation pile surface cleaning recommendations.

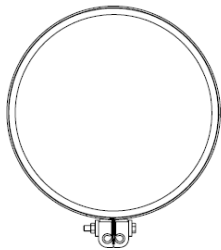
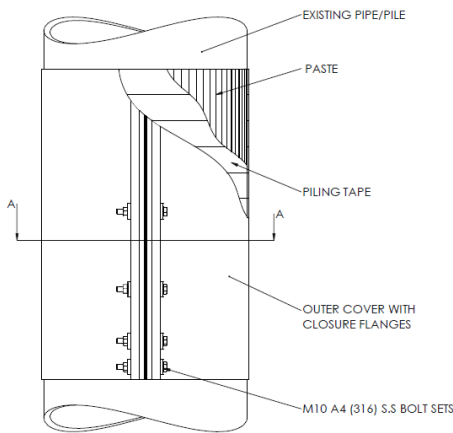
Long time and high-class corrosion protection is achieved by using the chemically and biologically resistant and durable and abrasion resistant elastic outer cover to protect and encapsulate the corrosion-inhibited protection tape layers.

During installation, materials in the system are stressed below their operational limits ensuring a high safety factor in all parameters while in service. Closure flanges permit the creation of induced hoop tension within the multilayer outer cover fabric, that ensure proper long time encapsulation stability even at big temperature fluctuations, UV- and Ozone loads, high wave suction forces and heavy marine growth.

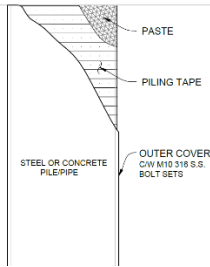
### Features & benefits

- Long design lifetime, 15 years, depending on operation conditions
- Long term proven outer cover material and installation technology, gathered from Retrowrap™ brand.
- Outer cover material elasticity ensures sufficient hoop tension throughout its projected lifetime
- No re-tightening need of fastening bolts during projected lifetime
- No installation stability-jeopardizing permanent material elongations or hoop tension changes
- Outer cover easy removal and reinstallation for inspection
- Provides active protection against impact, high wave suction forces and heavy sea growth
- Excellent UV, Ozone, abrasion, biological and chemical resistance
- Old proven method for corrosion inhibitor included pile taping and primer application
- Cold-applied – no hot work permit required
- Outer covers can be supplied in lengths according to project need.
- May be fitted with corrosion rate monitoring

### RETROSHIELD HD PRINCIPLE PICTURE ( NON\_SCALE )



VIEW A-A



### Technical specification RETROSHIELD HD

#### Wrapping concept Main Components

- Outer Cover Panel of PVC fabric, with marine and impact resistant polymetric closure flanges and Marine Grade Stainless steel fasteners.
- Corrosion tape soaked with petrolatum-based corrosion protection gel
- Paste (optional)

#### Product Data:

Product name	RetroShield HD	HS Code 39269092
Pile Diameters applicable	Ø 100 - 3000 mm ( 4" – 118" ), typically Also for Hexagonal, Octagonal and dual/various diameter piles and pipelines	If smaller or bigger diam contact CCI Oy
Applicable Height ( Pile length to protect )	Tailor made according to customer needs. Depending on protected height, outer covers are made in one, two or several sleeves. Multiple sleeves are made with 100-150 mm overlap.	Max height per separate sleeve in one piece: 3 m ( 9,8 ft )
Wrapping max total thickness as installed	Outer Panel + tape (at 50% overlap) + paste : ~ 3.5 – 4.5 mm (140 -180 mils). At flanges : 54 ± 2 mm ( 2,13" ± 80 mils)	Distance from pile/structure surface
Wrap Operating Temperature	-20 to +70°C ( - 4 to +158°F )	

#### Outer Cover Panel specifications



Tape and outer cover with closure flange and permanent bolt sets

Panel Type	Reinforced coated multilayer fabric with factory fitted fastening flanges	HS Code 39269092
Outer and inner layer coating	Polyvinyl chloride, PVC	
Color	Black	
Base fabric type	Polyester, PES	DIN EN ISO 2076
Panel weight ( excl. flanges& bolt sets)	0.9 -1 kg/sqm ( ~0,2 lb/sq ft)	EN ISO 2286-2
Panel thickness	1-1.2 mm (40 – 47 mils)	
Tensile strength MD/XMD	4300/4100 N/50 mm	EN ISO 1421/V1
Tear strength MD/XMD	500/500 N/50 mm	DIN 53363
Coating adhesion	20 N / cm	PA 09.03 (intern)
Light fastness	> 6	EN ISO 105 B02
Closure Flanges / Rods	Geon , Black Vinyl	
Fastening Bolts	SS, Marine Grade A4 (316), M10 DIN 931	HS Code 73181575
Fastening Nuts	SS, Marine Grade A4 (316), M10 DIN 934	HS Code 73181631
Fastening Washers	SS, Marine Grade A4 (316), M10 DIN 522	HS Code 73182200
Nylon Nuts (Optional)	M10 PA 6.6, DIN 555	HS Code 39259080
Storage Recommendations	In crates, max +50°C ( 122 F) amb. temp	

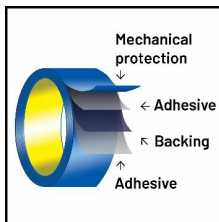
#### Tape specifications

Tape name	RW Anticor Plast 750-60 W	HS Code 59070000
Material	Non-woven fabric and PP foil	Colour; olive
Tape thickness	≥ 1.25 mm ( 49 mils) avg.	Apply with 50% overlap
Tape roll width & length	300 mm x 10 m ( 1 x 33 ft ) , as default	Other sizes available
Corrosion gel	Petrolatum base 90 % / Inhibitors 10 %	Hydrophobic

#### Paste specifications

Paste name	RW Anticor Plast 732 W	HS Code 27121090
Material	Refined mineral oil mixed hydrocarbon thickener with corrosion inhibitor and adhesive-improving components	Non-dissolving in water
Density at 20°C	0.82 – 0.87 kg/dm <sup>3</sup> ( ~0,03 lb/in <sup>3</sup> )	
Flash point	200°C ( 392 F)	
Application , normal case 1 layer	0.8 kg / sqm ( 0,16 lb/sq ft ) per layer	Use Trowel or similar

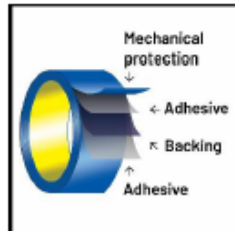
Specifications subject to change without notice



# RWANTICOR Plast 750-60 W

## CORROSION PROTECTION

### TAPE STRUCTURE



### PRODUCT DESCRIPTION

- Backing:**
- Stitched bonded, non-woven fabric.
- Adhesive:**
- Petroleum plastic mass with corrosion inhibitors.
- Mechanical protection:**
- PP foil.
  - Colour:
    - Olive.

### RWANTICOR Plast 750-60 W

Corrosion protection plastic tape with PP laminate.

### APPLICATION

- As corrosion protection of T-joints, flanges and muff joints, pipe fittings, joints, valves, piles, timber.
- Monotape with a mechanical protection layer.
- Could be used under water as protection of piles and timbers.
- Apply with 50 % overlap (2 layers).

### FEATURES & ADVANTAGES

- The unique anticorrosion mass containing corrosion inhibitors based on mineral oil.
- The base oil with corrosion inhibitors constantly affects protected surface penetrating its structure.
- Do not change its properties throughout the period of use (does not harden).
- Compatible with all types of insulation coatings.
- Easy and fast to apply.
- High electric strength.
- Does not contain ingredients harmful to health and the environment.

### TECHNICAL DATA

Parameters	Unit	Value
Total thickness	mm	≥1.25
PP foil thickness	mm	0.08
Operating temperature	°C	up to 50
Adhesion to steel (protected surfaces)	-	cohesive

### USAGE

- Apply to clean and degreased surface free from other contaminants.
- If necessary, use primer RW ANTICOR Plast 732 W.
- Wrap the tape around the surface spirally stretching a bit. If combining with the existing insulation is necessary to make ~10 cm overlap on the existing coating.
- During application use tension and pressure to smooth the tape surface by hand.
- Recommended application temperature: 10 ÷ 30°C.

### STORAGE

- Store the product in dry area in original packaging.
- Protect the cartons against mechanical damage.
- The recommended storage temperature: up to 25°C.

### PRODUCT FORM & SIZE AVAILABLE

Cut rolls: 100, 200, 300 mm x 10 m, other sizes available on individual request.



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# RW ANTICOR Plast 732W

## CORROSION PROTECTION

### PRODUCT DESCRIPTION

RW ANTICOR Plast 732W primer is manufactured basing on deeply refined mineral oil, hydrocarbons thickener with corrosion inhibitors and adhesion-improving components.

Colour: Sahara.

TECHNICAL DATA		
Parameters	Unit	Value
Density at 20°C	kg/dm <sup>3</sup>	0.82 ÷ 0.87
Flash-point	°C	200
Operating temperature	°C	up to 50

### RW ANTICOR Plast 732W

Corrosion protection primer.

### APPLICATION

- As a primer on very corroded or uneven surfaces,
- and also, as a protection of underground installations placed in wells.

### FEATURES & ADVANTAGES

- Easy to apply.
- It contains corrosion inhibitors and adhesion improving components.
- Resistant to moisture.
- It does not dissolve in water.
- It does not contain harmful substances in quantities, which are dangerous for human health and for environment.

### USAGE

- Apply with trowel on surface cleaned from contaminants, dust and rust.

### STORAGE

- Store the product in dry area in original packaging.
- Protect the cartons against mechanical damage.
- The recommended storage temperature: up to 25°C.

### PRODUCT FORM & SIZE AVAILABLE

PE bag: 2 kg.  
PE container: 5 kg.

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