

# VISCOTAQ® Viscowrap-ST

## Product data sheet

### Product description

VISCOWRAP-ST is a non crystalline a-polar viscous elastic solid polyolefin coating in roll form used for the protection of under- and aboveground substrates against corrosion. VISCOWRAP is a 2-layer system that consists of a corrosion protective inner wrap (VISCOWRAP) and mechanical protective outer wrap that can be a PE, PVC or PU composite outer wrap.

### General information

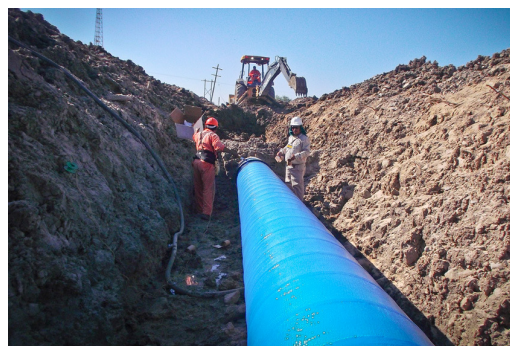
VISCOTAQ is a unique viscous-elastic non crystalline a-polar polyolefin for the protection of shaped and non-shaped substrates. VISCOTAQ offers the pipeline industry an unrivaled technology when it comes to corrosion prevention. Unlike other coatings VISCOTAQ always has a permanent and intimate contact with the surface of a substrate. The viscosity and elasticity modulus of the material are designed in such a way that the viscosity modulus provides permanent wetting characteristics hence forcing the material to flow into the pores and anomalies of the substrates whereas the elasticity modulus provides the strength and elasticity of a solid.

### Use and application

- Temperature range -42.92 °C/-45.26 °F up to +71° C/+160° F
- Continuous operating temperature up to 60° C/+140° F
- Application temperature > +5° C/+41° F
- Recommended surface preparation SA 2-1/2 or SSPC/SP-10
- Surface preparation minimum SSPC/SP-2
- Application minimum +3° C/+5° F above dew point

### Features

- Melting point +152,8° C/+307,04° F
- Glass transition temperature -42,92° C/-45,26° F
- CD value 0-3 mm (ASTM G8) at +23° C/+73,4° F
- Self healing in case of small damages
- Impervious to moisture and gases
- Adhesion to the substrate without primer
- Remaining flexibility over decades
- Easy in use; can be cut and paste
- Permanent wetting characteristics
- Eliminates Microbiological Induced Corrosion (MIC)
- No curing time
- Extreme high chemical resistance
- No sensitivity to salts and osmosis
- Cohesive fracture
- 100% inert formulation: no reactive groups and no deterioration in the course of time



| Measurement                             | Value   | Method  |
|---|---|---|
| Glass Transition Temperature            | -42.92° C/-45.26° F   | ASTM E1356-03   |
| Material State                          | Solid   | NA  |
| Density                                 | 1.1-1.3   | DIN 53479   |
| Thickness                               | >1.8 mm/ >70 mils   | ISO 4593:1993(E)  |
| Melting Point                           | 152.09° C/306° F  | ASTM E1356-03   |
| Yield Point                             | Yes   | ISO 3219  |
| Water Vapor Permeability                | <4 *10 <sup>-4</sup> g/day/m <sup>2</sup> /Pa   | ASTM E96/96M-10   |
| Water Absorption                        | <0,03 %   | ISO 62  |
| Water penetration                       | <0.14% (1800 hrs, 6V, 3% NaCl)  | ASTM G9-87  |
| Cathodic Disbondment                    | 0-3 mm<br>Self healing  | ASTM G8-96<br>ISO 21809   |
| Dissipation factor                      | <0.15 (1500 hrs, 20 kHz)  | ASTM G9-98  |
| Pore Resistance                         | Rp0/Rp1 <1.5  | EIS Spectroscopy  |
| Volume Resistivity                      | >2.2* 10 <sup>13</sup> ohm*cm   | ASTM D257-07  |
| Surface Resistivity                     | >5.6* 10 <sup>15</sup> ohm*m <sup>2</sup>   | ASTM D257-07  |
| Dielectric Strength                     | >17.5 kV/mm   | ASTM D149-09  |
| Tensile Strength                        | 222 N/cm  | ASTM D638   |
| Impact Strength                         | >15 J (immediate)<br>>18 J (self-healing, 96 hours)   | EN 12068:1998 Annex H   |
| Indentation                             | No holidays   | EN 12068:1998 Annex G   |
| Peel Adhesion (total system)            | 0.06 kN (cohesive fracture)   | ASTM D1000  |
| Soil stress test 23° C                  | No movement   | Alyeska Shear modified to full ring, 18.6 kg load, 6.8 kg force                           |
| UV/Weather cycle test                   | Excellent, rating 10  | ASTM D4587, 1000 hours  |
| Wet Adhesion Test                       | Excellent   | CSA Z245-20-06 Sec. 12.14   |
| Flexibility                             | No cracking   | CSA Z245-20-06 Sec. 12.11   |
| Chemical resistance in aggressive soils | Excellent<br>No deterioration, 72 hours at 70° C/ 158° F<br>No corrosion, 72 hours at 70° C/ 158° F | 1. Sulfuric acid 30%<br>2. Nitric acid 10%<br>3. Fosforic acid 20%<br>4. Chloric acid 10% |
| Smoke and Flame Spread                  | Class A Flame spread 0, Smoke 25<br>(system includes stainless steel foil)                          | ASTM E84  |

Testing was performed by Charter Coating Service Laboratories, Calgary, Canada.  
 Charter Coating is an ISO17025 certified laboratory.  
 Copies of reports are available upon request.



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