### **CANUSA-CPS**

### Scar-Guard®

# Composite Mechanical Protection for Directionally Drilled Pipelines

The patented Scar-Guard® line of products is designed to protect field joint and mainline coatings from the mechanical stresses and scarring associated with horizontal directional drilling (HDD), boring and micro-tunneling of pipelines. Scar-Guard® is a composite abrasion resistant overcoat comprised of fiberglass cloth and pre-impregnated flexible resin that is activated by water and cured within minutes. This sacrificial outer laminate system protects pre-approved anticorrosion field joint coatings and mainline coatings such as FBE, liquid epoxies, shrink sleeves, and tapes. The Scar-Guard® line of products minimizes the need for costly repairs after pull back, and provides robust protection of the underlying pipeline coating. U.S. Patent #8522827



 Provides unparalleled protection against impact, abrasion, gouge, punctures and tears that may result from directional drilling, rough handling, native backfills or severe in-service conditions

### **Cure Options for any Environment**

 Fast cure, slow cure, UV-Curable, UV-Resistant – all available options to suit a wide range of project cycle time requirements and construction conditions

### **Non-Shielding**

 Suggested voltages for high-spark voltage testing as per NACE SP0188 pass through Scar-Guard® to ensure the anticorrosion coating can be tested for integrity after pull-through and protected for the lifetime of the asset.

### **Fast, Easy Installation**

 Scar-Guard® products are simply wrapped onto the existing coatings surface and activated by water. Pre-impregnated moisture cured polyurethane resin means - no field mixing or saturation required!



### **Applications**



Onshore Pipelines



Offshore Pipelines



Abrasion Resistant Overcoat (ARO)



HDD, Drilling and Boring



Girth-Weld Joints



Mainline Coating Protection

## Scar-Guard®

# Composite Mechanical Protection for Directionally Drilled Pipelines

| Properties                         | Test Method         | Scar-Guard <sup>®</sup> |
|------------------------------------|---------------------|-------------------------|
| Total Thickness                    | SSPC-PA-2           | 68 mils                 |
| Thickness per Layer                | SSPC-PA-2           | 34 mils                 |
| Density                            | ASTM D792           | n/a                     |
| Colour                             | Visual              | Grey                    |
| Resin Type                         | Per Manufacturer    | Polyurethane            |
| Impact Resistance                  | ASTM G14-04         | 48 Joules               |
| Gouge Resistance                   | CSA Z245.20.10      | 16 mils at 50 kg        |
| Abrasion Resistance                | ASTM D4060          | 1667 cycles/mil         |
| Compressive Strength               | ASTM D695           | 27,182 psi              |
| Tensile Strength                   | ASTM D638           | n/a                     |
| Dielectric Strength                | ASTM D149           | 263 V/mil               |
| Adhesion to existing coating (FBE) | ISO 21809-3 Annex C | Rating 1                |
| Hardness (Shore D)                 | ASTM D2240          | 78 @ < 75°F             |
| Cure Schedule*                     |                     |                         |
| Pot Life (Gel Time)                | 100-gram resin mass | 12 min                  |
| Hard Dry Time (Shore D > 70)       | ASTM D2240          | 30 min                  |

 $<sup>^{*}\</sup>text{Cure}$  times were tested at an ambient temperature of 24°C (75°F).

Since 1967, Canusa-CPS has been a leading developer and manufacturer of specialty pipeline coatings for the sealing and corrosion protection of pipeline joints and other substrates. Canusa-CPS high performance products are manufactured to the highest quality standards and are available in a number of configurations to accommodate many specific project applications.

The product information shown here is intended as a guide for standard products.

Consult your Canusa representative for specific projects or unique applications.



Canusa-CPS A division of Shawcor Ltd.

#### **Head Office**

25 Bethridge Road Toronto, ON, Canada M9W 1M7

Tel: +1 416 743 7111 Fax: +1 416 743 5927

#### Canada

Dome Tower St. 2200, 333-7th Avenue SW Calgary, AB, Canada T2P 2Z1

Tel: +1 403 218 8207 Fax: +1 403 264 3649

#### Americas

5875 N. Sam Houston Pkwy W., Suite 200

Houston, TX, USA 77086

Tel: +1 281 886 2350 Fax: +1 281 886 2353

### Middle East

ADPC - Mussafah Port, P.O. Box 2621

Abu Dhabi, UAE Tel: +971 2 496 3500 Fax: +971 2 496 3501

### Europe, Africa & Russia

Dellaertweg 9-E, Gebouw "Le Carrefour" 2316 WZ Leiden, The Netherlands (NL)

Tel: +31 71 80 802 70 Fax: +31 71 80 802 71

### Asia-Pacific

101 Thomson Road, #11-03 United Square 307591 Singapore

Tel: +65 6749 8918 Fax: +65 6749 8919

### Quality Management system registered to ISO 9001

Canusa warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the product data sheet when used in compliance with Canusa's written instructions. Since many installation factors are beyond our control, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection therewith. Canusa's liability is stated in the standard terms and conditions of sale. Canusa makes no other warranty either expressed or implied. All information contained in this data sheet is to be used as a guide and is subject to change without notice. This data sheet supersedes all previous data sheets on this product. E&OE

PDS\_Scar-Guard\_rev011

