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PRODUCT DATA SHEET — SP-1890 PRIMER

DESCRIPTION: Specialty Polymer Coatings, Inc.'s ("SPC's") **SP-1890 Primer** is a two-component 100% solids modified epoxy polymer designed to provide superior adhesion between three-layer ("3L") Polyolefin ("PE & PP") and liquid epoxy joint coatings.

ADVANTAGES:
- Provides outstanding adhesion to properly prepared Polyolefin (PE & PP) surfaces and liquid epoxy field joint coatings.
- 100% Solids - No Volatile Organic Compounds ("VOCs").

USES:
- Adhesion enhancer for liquid epoxy joint coatings when utilized on pipelines coated with 3L Polyolefin (PE & PP).

APPLICATION:
- Brush Grade: Brush or roller.

SURFACE PREPARATION:

- All surfaces to be treated or coated shall be free of grease, oil, moisture, soil, dust, abrasive material and all other contaminants.
- The surface of the Polyolefin (PE & PP) shall be prepared by either sanding or sweep blasting, and then shall be flame treated before application of SP-1890 Primer. Refer to the SP-1890 Primer Application Specification.

SURFACE PREPARATION (cont.):

Step 1: Use either the sanding or sweep blasting procedure:

A) Sanding procedure: Thoroughly sand the Polyolefin (PE & PP) surface to be coated using an electric sheet sander fitted with 80 grit sandpaper. There should be **NO GLOSSY OR SHINY** areas on the Polyolefin (PE & PP) surface, these areas or missed spots must be re-sanded. The sandpaper must be changed when it is plugged with Polyolefin (PE & PP) dust and no longer effective. All sanding dust must be removed before flame-treating to avoid adhesion problems with SP-1890 Primer.

B) Sweep blasting procedure: Sweep blast or brush off blast (SSPC SP 7) the Polyolefin (PE & PP) surface to be coated using grit abrasive. Avoid aggressive blasting of the Polyolefin (PE & PP) surface because this will cause a "burr" or carpet like effect on the surface that will lead to poor adhesion. The resulting surface roughness profile shall be 75-100 microns (3-4 mils). There should be **NO GLOSSY OR SHINY** areas on the Polyolefin (PE & PP) surface, these areas or missed spots must be re-blasted. All dust must be removed before flame-treating to avoid adhesion problems with SP-1890 Primer.

Step 2: Flame-treat the Polyolefin (PE & PP) surface using an SPC Plasma Torch fitted with a flame spreader. The surface tension reading should be between 52-70 dynes/cm. Refer to SPC's SP-1890 Primer Application Specification. Contact an SPC Technical Representative for information on the appropriate flame treatment torch to use.

Step 3 For PP substrate, it is recommended to do a test patch with SP-1890 Primer first. Due to variation with the polypropylene polymer used, some PP substrates may necessitate the use of SP-1891 Primer (95% Solids).

MIXING RATIO: By Volume: 6 Parts Base to 1 Part Hardener.

MIXING INSTRUCTIONS:

- Base and Hardener components are to be uniformly mixed together using a variable speed drill fitted with a mixing impeller. During mixing, care is to be taken to prevent the introduction of air into the product.
- Refer to the SP-1890 Primer Application Specification.

RECOMMENDED DRY FILM THICKNESS (DFT):

- 100-150 microns (4-6 mils) on the sanded or sweep blasted Polyolefin (PE & PP) surface.
- The maximum allowable DFT is 400-480 microns (10-12 mils).

APPLICATION INSTRUCTIONS:

- Avoid coating the blasted bare steel surface with SP-1890 Primer. If any Primer is accidentally spilled onto the steel surface, remove it with a clean cloth.
- Refer to the SP-1890 Primer Application Specification.

CURING AND RE-COAT INTERVAL:

- Allow SP-1890 Primer to cure to a slightly tacky stage before applying the topcoat. At 25°C (77°F), this slightly tacky stage can be achieved in about 30 minutes. Curing to the slightly tacky stage is temperature dependent: the higher the temperature, the shorter the cure time; or the lower temperature, the longer the cure time.
- Avoid leaving SP-1890 Primer without over-coating for an extended time due to the increased possibility of surface contamination by airborne particles.
- The maximum over-coat time at 25°C (77°F) is six (6) hours.

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HANDLING PROPERTIES:

Pot Life [25°C (77°F)]	45 ± 10 Minutes
Minimum Application Temperature	10°C (50°F)
Substrate Temperature	The substrate temperature must be a minimum of 3°C (5°F) above the dew point temperature to avoid the risk of condensation.
Storage / Shelf Life	Store in a cool, dry, well-ventilated area at temperatures between 5°C (41°F) and 40°C (104°F) away from incompatible materials and all sources of ignition. Keep in a tightly sealed container. The Shelf Life is a maximum of 24 months in unopened containers.

LIQUID PROPERTIES:

Appearance	Pastel Pink
Volume Solids Content (%)	100%
Specific Gravity (ASTM D1475)	1.30 ± 0.03 (Base) 1.04 ± 0.03 (Hardener)
Coverage (Theoretical, Base & Hardener Mixed)	39.0 m^2/Litre/25 microns [1604 ft^2/U.S. Gallon/mil]

PHYSICAL PROPERTIES:

Adhesion to PE & PP:

Dry Adhesion [MPa (psi)] [ASTM D4541-95-A4 (Pull-off Strength)] (Self-Alignment Adhesion Tester, Type IV) [25°C (77°F)]	>20.68 (>3000)
Wet Adhesion [MPa (psi)] [ASTM D4541-95-A4 (Pull-off Strength)] (Self-Alignment Adhesion Tester, Type IV) [28 Days, 65°C ± 3°C (149°F ± 5°F)]	>13.79 (>2000)
Wet Adhesion [CSA Z245-20-06, Clause 12.14 (Hot Water Soak)] [28 Days, 65°C ± 3°C (149°F ± 5°F)]	Rating #2

SAFETY: Read the Material Safety Data Sheets before use.

EFFECTIVE DATE: September 30, 2011