

## STARFLEX PR/HS 339

**PRODUCT DESCRIPTION:** High-solids 2-pack polyamide epoxy primer with anti-corrosion zinc phosphate-based pigments. It has excellent adhesion to carbon steel subjected to abrasive blasting or phosphate conversion.

**RECOMMENDED USES:** Recommended for coating transformers, radiators, refineries, chemical and petrochemical plants, pulp and paper plants, industrial machinery and equipment. Recommended for environments of low and medium aggressiveness.

**CERTIFICATIONS AND APPROVAL:** This product, when supplied to comply with the RoHs Directive (Restriction of Certain Hazardous Substances) has the letter R in its description.

| PACKAGING: | Component   | Content   | Package   | Unit of measurement |
|------------|-------------|-----------|-----------|---------------------|
|            | Component A | 3,6<br>18 | 3,6<br>20 | L                   |
|            | Component B | 3,6<br>18 | 3,6<br>20 | L                   |

**CHARACTERISTICS:**

**Color:** Red oxide

**Gloss:** Matte

**VOC content:** 150 g/l

**Volume solid:** 78 ± 2% (ISO 3233).

**Expiry Date:** 12 months at 25°C.

**Thickness per coat (dry):** 125 µm –175 µm

**Theoretical coverage:** 5,2 m<sup>2</sup>/l without dilution in the thickness of 150 µm dry. Without considering the loss factors in the application.

**Resistance to dry heat:** Maximum temperature 120 °C . The product retains its physical and chemical properties up to the temperature of 120 °C however, variations in the coating color and gloss may occur from 60 °C.

**Drying:**

|                  | 16°C      | 25°C      | 35°C      |
|------------------|-----------|-----------|-----------|
| <b>Touch:</b>    | 6 hours   | 4 hours   | 2 hours   |
| <b>Handling:</b> | 16 hours  | 12 hours  | 8 hours   |
| <b>Final:</b>    | 240 hours | 168 hours | 120 hours |

**Repainting Drying:**

|     | 10°C      | 25°C      | 35°C      |
|-----|-----------|-----------|-----------|
| Min | 8 hours   | 6 hours   | 4 hours   |
| Max | 240 hours | 168 hours | 144 hours |

**Obs** If the maximum interval indicated for applying the subsequent coat is exceeded, it is necessary to proceed with superficial sanding. This procedure is necessary to obtain adhesion between the coats.

**SURFACE PREPARATION**

The performance of this product is related to the degree of surface preparation.

The surface must be clean, dry and free of any contaminants. Completely remove oils, greases and fats, as described in the SSPC-SP 1 standard.

The accumulated dirt must be removed using a dry brush, clean and dry cloth, compressed air blow, vacuum cleaner and/or with the combination of such items, and the soluble salts must be removed

through wash with a great quantity of fresh water, preferably with low pressure (up to 5,000 psi) according to SSPC-SP 12/NACE No. 5.

### Surface treatment by the layer conversion process (phosphating)

Execute the layer conversion process, phosphatization using zinc phosphate or tricationic, with mass between 2.0 g/m<sup>2</sup> and 4.0 g/m<sup>2</sup>. Following the sequential steps: degrease, wash, pickling, wash, refining, phosphate conversion, wash, passivation, wash with deionized water and drying.

**NOTE:** The surface preparation must be executed according to all the sequential steps relevant to a phosphate conversion process, observing the recommendations of the pre-treatment manufacturer.

### Surface treatment through Abrasive Blasting process

Execute the abrasive blasting to near white metal, Sa 2 ½ grade of the ISO 8501-1 visual standard (A Sa 2 ½, B Sa 2 ½, C Sa 2 ½ and D Sa 2 ½) or according to SSPC-SP 10/NACE No. 2, SSPC-VIS 1 visual standard (A SP 10, B SP 10, C SP 10, D SP 10, G1 SP 10, G2 SP 10, G3 SP 10).

It is recommended a roughness profile between 40 and 85 µm.

Inspect the newly blasted surface observing the presence of surface flaws that could become apparent after this stage, adopting appropriate actions to mitigate such defects through grinding, weld filling and/or epoxy putty.

In case of oxidation on the substrate from the end of the abrasive blasting to the beginning of the coating application, the surface must be blasted again until reaching the specified visual standard.

For areas close to sea air, it is necessary to wash the surface with fresh water at low pressure (minimum 3,000 psi) before the abrasive blasting. And in some cases it is necessary to repeat the washing procedure after the abrasive blasting to remove possible soluble contaminants settled on the surface proceeding with a new abrasive blasting.

The maximum content of soluble impurities on the blasted surface according to the test described in ISO 8502-6 and distilled water must not exceed a measured conductivity according to ISO 8502-9 corresponding to a maximum content of 20 mg/cm<sup>2</sup> (2 µg/cm<sup>2</sup>) in immersed or buried areas.

### Application over primer

**NOTE:** Observe the product overcoating interval to apply the next coat. In case the maximum overcoating interval has been exceeded, it is necessary to manually/mechanically sand the surface to break the gloss of the previous coat and clean the sanding residues so as to provide better adhesion between the coats.

### Treatment of Steel Carbon Surfaces

Hard superficial layers (for example, layers resulting from flame cut) must be removed by grinding it before beginning the abrasive blasting.

All the welds must be inspected e, if necessary, be repaired before the ending of the abrasive blasting. Porosity, cavities, weld splashes, etc. must be repaired by means of proper mechanical treatment or weld repair; in the other areas, round the sharp edges ( $r \geq 2$  mm, ISO 8501-3).

**For further information, consult WEG Technical Department.**

## PREPARATION FOR APPLICATION

### Mixture

Homogenize the contents of each component by means of mechanical or pneumatic stirring (A and B). Ensure that no sediment is settled at the bottom of the package. Add component B to component A, at the recommended proportion (volume), under stirring, until complete homogenization, observing the mixing ratio.

### Mixing ratio (Volume)

1 A X 1 B.

### Diluent

Gun:

**Diluent SL 35/SL 40**

Para temperaturas inferiores a 25°C.

Gun:

**Diluent SL 42/SL 30**

For temperatures above 25°C

Flooding:

**Diluent SL 42/SL 30**

### Dilution

Depending on the application method, dilute at most 10%

Only add the diluent after the complete mixing of components A + B.

The quantity of diluent may vary depending on the type of equipment used and the ambient conditions

during the application.

Excessive dilution of the coating may affect the formation of the film and appearance and hinder the attainment of the specified thickness.

**Pot life of the mixture (25°C)**

6 h

The pot life is reduced with a higher room temperature.

The pot-life test is performed according to the Brazilian standard ABNT NBR 15742; however, different volumes of coating prepared at once combined with different ambient and coating temperatures will influence the pot life, and different results than those mentioned in this data sheet may be found.

**Induction time (25°C)**

Wait 20 minutes before application.

In hot areas, we recommend consulting WEG Technical Department.

**APPLICATION FORMS**

The data below is a guide, and similar equipment may be used.

In the spray application, make a 50% overlap in each gun pass, concluding with a cross pass. This technique is used to avoid uncovered and unprotected areas and to obtain a suitable aesthetic finish.

Reinforce all sharp edges, cracks and weld beads with a brush to prevent premature failures in these areas.

Changes in nozzle sizes and pressures may be necessary to improve the spraying characteristics.

Before the application, make sure the equipment and its components are clean and in the best condition.

Purge the compressed air line to prevent contamination of the coating.

After mixing the 2-pack products, if there are stops in the application, and the pot life is exceeded (the coating presents variation in its fluidity), it can no longer be diluted for further application.

The data below is a guide, and similar equipment may be used.

**Conventional gun:**

|                       |                                   |
|-----------------------|-----------------------------------|
| Gun:                  | JGA 502/3 Devilbiss or equivalent |
| Fluid nozzle:         | EX                                |
| Air cap:              | 704                               |
| Atomization pressure: | 50 - 70 psi                       |
| Pressure in the tank: | 10 - 30 psi                       |
| Dilution:             | 10%                               |

**Airless Gun:**

|                 |                         |
|-----------------|-------------------------|
| Use Airless:    | Use at least pump 60: 1 |
| Fluid pressure: | 2000 – 3000 psi         |
| Hose:           | ¼" internal diameter    |
| Nozzle:         | 0,015" - 0,021"         |
| Filter:         | Mesh 60                 |

|           |         |
|-----------|---------|
| Dilution: | Max. 5% |
|-----------|---------|

**Flooding:**

Application viscosity varies according to the ambient temperature and equipment height.

**Brush:**

Only recommended for retouching small areas or stripe coat (screws, nuts, weld beads, sharp edges and retouching). Use a brush 75 to 100 mm wide for larger surfaces and 25 to 38 mm for retouching.

**Roller:**

Use a thin nap, seamless sheepskin or microfiber roller for epoxy coatings.

For application with brush and/or roller, application in two or more passes may be necessary to obtain a uniform layer according to the recommended film thickness per coat.

**Cleaning the equipment:**

Clean all equipment immediately after use.

**NOTE:**

Do not leave the catalyzed product in contact with the equipment used in the application, because the coating will present variations in fluidity at temperatures above the specification in the pot life and will harden, making the cleaning difficult.

Furthermore, it is a good working practice to periodically wash the spray equipment along the day. The cleaning frequency will depend on the amount sprayed, temperature and elapsed time, including all delays.

## PERFORMANCE IN THE APPLICATION

For a good performance of the product, we recommend following the directions below:

Minor variations in color, appearance and gloss (more noticeable in dark colors) may occur, as well as delay in curing and impairment of surface performance, when applied during periods of high air relative humidity, rainy days, low temperatures or in case the coated parts are put to dry outdoors.

In paintings executed on the seafront, if exposed to the action of sea air, we recommend to wash with fresh water between coats eliminating the settled impurities.

During the initial cure (first 24 hours), the humidity should not exceed 70%, at the risk of compromising the appearance.

It should not be applied in adverse conditions, such as air relative humidity above 70% or on condensed surfaces. Small variations in color, appearance and gloss of the coated parts may occur in periods of high air relative humidity, rainy days, at low temperatures or in situations where the coated parts are placed to dry outdoors.

Epoxy systems may have longer curing time when exposed to low temperatures. For temperatures below 10 °C, consult WEG Technical Department.

We recommend coating only if the measured surface temperature is at least 3 °C above the dew point temperature.

Do not apply the product after the pot life has expired.

For better application properties, the coating temperature should be between 21 - 27 °C prior to the mixing and application.

In coatings with variation in the application method in the same job, the final appearance and gloss of the painted surfaces may present differences.

The temperature of the substrate, the weather and environmental conditions during the application and during the curing of the product, and the thickness of the applied film may interfere with the product drying time.

For further information, consult WEG Technical Department.

## SAFETY PRECAUTIONS

Product developed for industrial use intended for handling by qualified professionals.

Please read carefully all the information contained in the MSDS of this product, available at: [www.weg.net](http://www.weg.net).

Store in a covered, well-ventilated area. Keep the container tightly closed and away from sources of heat or ignition.

Use only in well-ventilated areas avoiding the accumulation of flammable vapors. Keep the product away from heat and sources of ignition.

Do not inhale mists / vapors / aerosols generated during handling and / or application.

Wear protective gloves / protective clothing / eye protection / face protection.

Avoid release of the product and its packaging, as well as materials used during handling and application in the environment.

## NOTE:

The information contained in this technical datasheet is based upon the experience and knowledge acquired in the field by the technical team of WEG.

If using the product without prior inquiry to WEG Coating concerning its suitability for the customer's intended purpose, the customer is aware that the use shall be its exclusive responsibility, WEG not being responsible for the behavior, safety, suitability or durability of the product.

Certain information contained in this datasheet is merely an estimate, and can undergo variances arising from factors outside the manufacturer's control. Thus, WEG does not guarantee and does not assume any responsibility regarding the yield, performance or any other material or personal damage resulting from the incorrect use of the products concerned or the information contained in this Technical datasheet.

The information contained in this technical datasheet is subject to periodic modification, without prior notice, due to the policy of evolution and continuous improvement of our products and services, providing



solutions with quality to satisfy our customers' requirements.

