SYLPYL 3600/3480

PRODUCT DESCRIPTION:

It is an eco-friendly, multi-resin epoxy coating, solvent-free, that acts as a high-performance fire barrier for all types of steel structures. It is classified as PFP (Passive Fire Protection), with extremely high effectiveness against industrial fires such as hydrocarbon “pool fires” or “jet fires.” It is suitable for protecting gas or fuel storage tanks, equipment, steel structures, and firewalls in chemical and oil industry facilities in the event of a fire. It can also be used for fire protection of steel and concrete structures in commercial buildings and warehouses. Ideal for concrete protection in tunnels in case of fires and explosions.

RECOMMENDED USES:

It is applied to steel and concrete surfaces on structures such as columns, beams, tanks, and process tower supports, on pipe racks and piping itself, over a recommended primer when necessary, as well as on all types of high-risk installations. It can also be applied over galvanized surfaces, concrete, and wood.

CERTIFICATIONS AND APPROVAL:

It complies with the UL 1709 Standard (Rapid Rise Fire Tests of Protection Materials for Structural Steel) conducted at UL Laboratories (Underwriters Laboratories). It is also approved under the environmental requirements of the UL 1709 Addendum A Standard. Additionally, as required by the aforementioned standard, it is approved by Norner Laboratories in Norway (Report No.: SL 16177) under the NORSOK M-501, Revision 6, System 5A, in accordance with the ISO 20340 testing protocol. It is also approved under the UL 263 Fire Resistance Standard, which is similar or equivalent to international standards ISO 834 and ASTM E-119. This system complies with NORSOK M-501, System 5A.

Furthermore, as required by the aforementioned standard, this product is certified under the Jet Fire Test BS ISO 22899-1:2007 (Determination of the Resistance to Jet Fires of Passive Fire Protection Materials) conducted at the Health and Safety Laboratory in the United Kingdom (U.K.), with certification from Lloyd’s Register and Det Norske Veritas-GL.

This system meets the requirements of the API (American Petroleum Institute), specifically complying with API 2218 "Fireproofing Practices in Petroleum and Petrochemical Processing Plants," and meets the ASTM E-84 combustibility standard with a Class A flame spread index of 0 to 25. It also complies with the NRF-065-PEMEX-2014 standard.

PACKAGING:

Component	Content	Package	Unit of measurement
Component A	2,54	3,785	L
Component B	1,26	3,785	L

CHARACTERISTICS:

Color:	Gray
Gloss:	Matte
VOC content:	5,4 g/l
Volume solid:	99 ± 1% (ISO 3233).
Shelf-Life (25°C):	12 months
Thickness per coat (dry):	2.000 µm – 20.000 µm
Theoretical coverage:	0,47 m²/l without dilution in the thickness of 2.000 µm dry. Without considering loss factors in application.
Resistance to dry heat:	Maximum temperature 60 °C . The product retains its physical and chemical properties up to the temperature of 60 °C. From this temperature onward, variations may occur.

Drying:

	20 °C
Touch:	3 hours
Handling:	24 hours
Final:	168 hours

Overcoating Drying:

	20 °C
Min	3 hours
Max	24 days

SURFACE PREPARATION

The performance of this product is directly linked to the degree of surface preparation. Completely remove oils, grease, and other contaminants using a degreasing product or by following the solvent cleaning method described in SSPC-SP1.
Prepare the surface by abrasive blasting to near-white metal, SSPC-SP10 (ISO 8501-1 Sa 2½), with an anchor profile according to ISO 8503, medium Grade G, between 25 and 75 microns.
For small repairs, manual or power tool cleaning methods SSPC-SP2 or SSPC-SP3 may be used when appropriate.

Inspect the freshly blasted surface for any surface defects that may become visible after this step, and apply appropriate practices to minimize such defects through grinding, weld filling, and/or epoxy filler.
If oxidation occurs on the substrate between the end of the abrasive blasting and the beginning of the coating application, the surface must be re-blasted to achieve the specified visual standard.

ON CONCRETE: Prepare the concrete by abrasive blasting to remove the surface layer, curing compounds, release agents, and all contaminants, exposing sound concrete free of surface laitance or scaling. Repair any imperfections. When necessary, power tool cleaning may be used, provided it ensures the same level of cleanliness.

Application over primer

Apply one coat of SYLPYL 14 epoxy primer with zinc derivatives as corrosion inhibitors, at a thickness of 40 to 50 µm.

For exterior applications and enhanced chemical and UV resistance, it is recommended to apply 3 to 4 topcoats in the desired color using SYLPYL 2001 AS polyurethane, at a thickness of 150 to 200 µm.

Surface preparation; application of SYLPYL 14 primer; application of SYLPYL 3600/3480 fire barrier at the recommended thickness; placement of an intermediate reinforcement layer with SYLPYL 938 silica fiber; and application of the topcoat.

NOTE: Respect the product's recoat interval before applying the next coat. If the maximum recoat interval is exceeded, it is necessary to perform light manual or mechanical sanding to dull the gloss of the previous layer, followed by thorough removal of dust and sanding residue to ensure proper intercoat adhesion.

For further information, consult WEG Technical Department (tintas@weg.net).

PREPARATION FOR APPLICATION

Mixture

Homogenize the contents of each component (A and B) using mechanical or pneumatic agitation. Ensure that no sediment remains at the bottom of the container. Add component B to component A in the specified mixing ratio, under continuous agitation, until complete homogenization is achieved, strictly observing the recommended mix ratio.

Mixing ratio (Volume)

2 A **X** 1 B.

Diluent
Diluente epoxi 3012

Dilution

Depending on the application method, dilute by a maximum of 5%.

Do not dilute with solvents that are not permitted by local regulations, and do not exceed the specified dilution percentage.

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

The amount of diluent may vary depending on the type of equipment used and the environmental conditions during application.

Excessive dilution of the paint may affect film formation, appearance, and make it difficult to achieve the specified thickness.

Pot life of the mixture (25°C)

3 h

The pot life of the mixture is reduced with an increase in ambient temperature.

The pot life test is conducted according to the ABNT NBR 15742 standard; however, different paint volumes mixed at once, along with varying ambient and paint temperatures, will influence the pot life, potentially yielding results different from those mentioned in this technical data sheet.

Induction time (25°C

No induction time is required.

In hot areas, we recommend consulting WEG Technical Department.

APPLICATION FORMS

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

Changes in pressure and nozzle sizes may be necessary to improve spray characteristics.

Before application, ensure that the equipment and respective components are clean and in optimal condition.

After mixing the two-component products, if there is a pause in the application and the pot life is exceeded (resulting in a change in paint flow), it can no longer be re-diluted for subsequent application.

Reinforce all sharp corners, seams, and weld beads with a brush to avoid premature failures in these areas. When applying by spraying, overlap each pass of the spray gun by 50% to avoid uncovered and unprotected areas, finishing with a cross pass.

Airless Gun:

GRACO M680 equipment with a 10:1 pressure ratio, using the HTX 680 spray gun with a number 4 air-assisted nozzle (1/4). For larger projects, use the GRACO XM PFP equipment.

Aplicação manual:

With a spatula, metal trowel, and leveling bar.

Cleaning the equipment:
Diluent epoxi 3012

NOTE:
Clean all equipment immediately after use.

Do not allow the catalyzed product to remain in contact with the application equipment, as temperatures higher than those specified in the pot life section will cause the paint to change its flow properties and harden, making cleaning more difficult.

It is also considered good practice to periodically wash the spray equipment throughout the day. The cleaning frequency will depend on the amount sprayed, temperature, and elapsed time, including any delays.

PERFORMANCE IN THE APPLICATION

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

It is easily applied in adequate thicknesses that ensure the integrity of the installations for a sufficiently prolonged period to allow fire fighting, while also preventing the fire from spreading to adjacent areas.
It develops excellent adhesion to steel and also exhibits outstanding corrosion-inhibiting properties. The formed film has extraordinary cohesion and hardness. These characteristics prevent the fire protection from deteriorating over time. It does not crack or detach during its service life, ensuring that the metal remains protected and not exposed to corrosion.

It functions as an intumescent coating, as it expands when exposed to direct fire, swelling and increasing several times its original thickness. However, unlike similar products, it is also sublimating, as the special resins and nanocomponents it contains transition directly from a solid state to the vapor phase, similar to dry ice— a phenomenon that absorbs a tremendous amount of heat from the fire. In this way, the necessary protection of steel against overheating is achieved, preventing it from losing its structural mechanical strength due to the high temperatures generated.

Throughout this process, it gradually transforms into an insulating layer of carbon that protects the substrate, keeping its temperature much lower than that of the flame. This prevents the risk of structural deformation or collapse of the installation, as well as the undesired overheating of storage tank contents or piping, thus minimizing the high risks of explosion. Additionally, FIRESYL SYLPYL 3600/3480 is an eco-friendly product, solvent-free, and free of asbestos, lead, and chromates. This product does not contain loose mineral fibers that could contaminate a building or work areas.

It withstands high temperatures from hydrocarbon-derived fires, exceeding 1100°C (2000°F), without allowing the flame to spread to other areas, thereby protecting steel from overheating.

Advantages of FIRESYL SYLPYL 3600/3480 in Case of Fire:

Its performance as passive fire protection has been tested and certified by UL laboratories, in accordance with UL 1709 and UL 263 standards.
It is also certified according to the European Jet Fire standard BS ISO 22899 for exposure to jet fire hazards at supersonic speeds (*Jet Fires*).
It acts as an effective anticorrosive, unlike other cementitious fire barriers (SFRM) that do not offer corrosion protection.
It prevents the overheating of products stored in tanks, reducing the risk of severe explosions and avoiding premature collapse of installations exposed to fire.
It maintains its properties for many years, even in highly aggressive industrial or marine environments (certified according to NORSOK M-501).
It forms a protective film that does not disintegrate and has high wear resistance.
It has excellent adhesion to steel and concrete, far exceeding the poor adhesion of cementitious materials.
An eco-friendly and environmentally safe product, non-polluting.
It develops extremely high resistance to corrosion, wear, and impact.
Its weather resistance is excellent, further enhanced when combined with high UV-resistant finishes such as Sylpyl polyurethane or polysiloxane.
It meets all environmental requirements of UL 1709 Addendum A, as tested by UL laboratories, including:

- Accelerated aging for 270 days;
- High humidity for 180 days;
- UV exposure for 135 days;
- Industrial atmosphere for 30 days;
- Salt spray chamber for 90 days;
- Humidity, freezing at -40°C, and drying at 60°C cycles;
- **No loss of performance under fire conditions after testing.**

For further information, please contact the WEG Technical Department.(tintas@weg.net).

SYSTEM COMPATIBILITY AND MAINTENANCE RECOATING

The primer recoat interval must be respected before applying the topcoat. If the maximum indicated recoat interval is exceeded, manual or mechanical sanding using abrasive paper is required to break the gloss. The primer surface should be dry and free of contaminants.

For further information, please contact the 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

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 this product and its packaging, as well as materials used during handling and application in the environment. Cuide do meio ambiente.

NOTA:

The information contained in this technical datasheet is based upon the experience and knowledge acquired in the field by the technical team of WEG
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If using the product without previous 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 behavior, safety, suitability or durability of the product

Some information contained in this datasheet are estimated, 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.

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