TRIOFLAME EP 8800

Fire-retardant epoxy compound

PRODUCT DESCRIPTION: See Technical Data Sheet for TRIOFLAME EP 8800.

CONTENTS: The instruction provides guidance on surface preparation; preparation for application; application and equipment; storage; safety precautions; fire safety measures; environmental protection; first aid measures.

SURFACE PREPARATION: The fire-retardant compound is applied to a previously primed surface. A typical surface preparation process is determined by the condition of the primer surface.

The primer surface before applying the fire-retardant compound must be clean, free of contamination, dust, uniform and even. Contaminants must be removed with drinking water under a pressure of 35 MPa; oil and grease contaminants must be removed with a solvent according to GOST 9.402.

If the surface of the primer has damages, defects, chips, it is necessary to restore the coating in accordance with the technology approved by the primer manufacturer.

The fire-retardant compound is applied to a dry, clean primed surface after its preparation. The interval between surface preparation and application of the fire-retardant compound is determined by environmental conditions and the characteristics of the materials used.

In case of direct exposure to atmospheric precipitation, it is necessary to wait for the surface to dry completely and repeat the surface preparation procedure.

Do not apply the fire-retardant compound if the primer overcoating interval is exceeded in accordance with the primer manufacturer's recommendations. If the overcoating interval is exceeded, then to ensure surface roughness and intercoat adhesion, it is necessary to perform sweeping (light abrasive blast cleaning, carried out at an angle of 30° to the surface to be cleaned and a pressure of ½ of the working pressure) before applying the fire-retardant compound.

Acceptance of the prepared primed surface is carried out with the drawing up of a hidden works certificate.

The material is supplied in kits in euro pails: component A (base) — 20 l euro pail; component B (hardener) — 3.0 l or 3.2 l euro pail. The mixing ratio of the components is specified in the quality certificates for the material.

Recommended temperature of the components before use: not lower than plus 15 °C.

Heating of the base and hardener is carried out by pre-holding in a warm room.

APPLICATION:

IMPORTANT: It is PROHIBITED to use accelerated methods of heating the buckets with TRIOFLAME EP 8800, such as direct contact with any heater, blowing with heat guns, or heating in a water bath. This may lead to overheating of the outer layers of TRIOFLAME EP 8800 in the bucket, which may cause undesirable changes in the properties of the material (including reduced pot life).

Before use, both components must be held for at least 24 hours at a temperature not lower than plus 15 and not higher than plus 30 °C. Before application, the base is stirred for 2–3 minutes; the hardener is added to the container with the base and both components are thoroughly mixed for 3–5 minutes.

Pot life of the mixed composition: 45 minutes at T = plus 15 °C and 30 minutes at T = plus 20 °C.

The polymerization reaction of the material begins from the moment the two components are mixed.

APPLICATION OF THE FIRE-RETARDANT COMPOUND:

Application method:

Airless spraying / Manual application.

Thinner:

According to the recommendations of the technological regulations for the respective project.

Recommended equipment for application:

Spraying units Wagner HC 960; Wagner HC 970; GRACO XTREME X70; GRACO XTREME X90; GRACO DUTYMAX EH 675 DI or similar equipment.

Recommended parameters for units with electric drive / internal combustion engine drive:

- working pressure 220–250 bar;
- engine power not less than 5.5 kW;
- unit capacity not less than 10 l/min;
- material supply hose with an inner diameter greater than 3/8" (9.5 mm) and length not more than 15 m;
- connection of the spray gun to the hose via a swivel is allowed;
- nozzle diameter .019"–.025".

Recommended parameters for units with pneumatic drive and compressor to them:

- working pressure 220–250 bar;
- unit capacity not less than 10 l/min;
- inlet pressure to the unit not less than 3 bar;
- maximum inlet pressure to the unit:
  - with a compression ratio up to 70:1 — 7 bar;
  - with a compression ratio up to 80:1 — 6.2 bar;
  - with a compression ratio up to 90:1 — 5.5 bar;
- capacity of the feeding compressor 1500 l/min;
- material supply hose with an inner diameter greater than 3/8" (9.5 mm) and length not more than 15 m;
- connection of the spray gun to the hose via a swivel is allowed;
- nozzle diameter .019"–.025".

All works must be performed without the use of filters.

Equipment cleaning:

Solvent 646 (thinner TRIOSOLV 0003 or technical xylene may be used). If spraying is stopped for more than 10 minutes, the equipment must be flushed without fail.

Coating thickness and drying time:

The thickness of the fire-retardant coating layer depends on the required fire resistance limit and temperature regime (see "Table of thicknesses and consumption of TRIOFLAME EP 8800"). For more detailed information, contact O3-Coatings. When applied by airless spraying, the thickness of one wet film layer (WFT) of the coating must not exceed 3000 µm, which corresponds to a dry film thickness (DFT) of 2940 µm.

Drying time at dry film thickness of TRIOFLAME EP 8800 — 2940 µm				
Surface temperature	**5 °C**	**10 °C**	**20 °C**	**30 °C**
Drying to touch	9 h	6 h	3 h	2 h
Drying to application of the next coat	14 h	10 h	5 h	4 h

Drying time is determined by the actual DFT. The drying times given in this section are for guidance only. When assessing the actual drying time, it is also necessary to take into account the presence of air flows and relative air humidity.

Recommended application conditions:

- air temperature not lower than minus 10 °C;
- relative air humidity not higher than 85 %;
- temperature of the surface to be painted at least 3 °C above the dew point;
- absence of direct atmospheric precipitation.

IMPORTANT: Work is prohibited if the above parameters do not meet the requirements.

Before the start of each work shift and every 4 (four) hours, it is recommended to check and record in the operational control log the following parameters:

- environmental conditions (air temperature, relative humidity);
- dew point temperature;
- surface temperature;
- absence of moisture and oil contamination on the primer surface prepared for application of the fire-retardant coating;
- absence of dust on the primer surface prepared for application of the fire-retardant coating.

Before starting painting, pass a cleaner through the spray equipment to clean it from previously used paints and coatings. The cleaner depends directly on the type of materials used earlier. Equipment cleaning should also be carried out at the end of the shift and during breaks in work of more than 1 hour.

After applying the material and completing the work, it is mandatory to flush the unit with the recommended solvent. After general flushing, the gun, nozzle, and gun filter (if any) must be dipped in solvent; the gun filter must be additionally cleaned with a brush; the unit filter must be removed and the unit must be flushed again in "recirculation" (mixing) mode; if such a mode is not available, flush the entire unit with hoses without the filter.

APPLICATION NOTES:

The compound should be applied by airless spraying; manual application is allowed when painting hard-to-reach places or small surfaces.

Dry spray and its ingress onto already painted and cured coatings intended for further overcoating is not allowed.

In case of dry spray ingress onto a painted surface, before applying the next coat, the surface must be thoroughly cleaned with abrasive materials (sandpaper) until the overspray is removed, dedusted, and if necessary degreased with a solvent.

If the product has joint areas not intended for painting and covered with masking tape, then after completion of painting and curing of the coating, removal of the tape by simple tearing off from the surface is not allowed. Tape removal must be performed only after cutting the material down to the metal along the boundaries of the area being removed.

Wet film thickness is controlled with a "comb" gauge using the last tooth touching the compound. Above each tooth of the comb, its gap value in microns from the "base" teeth (from 0) is marked.

When performing measurements, the comb must be installed perpendicular to the plane of the painted surface. After each measurement, the surface of the comb in contact with the compound must be thoroughly wiped with a clean cloth.

The wet film thicknesses of the fire-retardant coating must be recorded in the operational control log / work production log.

Quality control of the finished fire-retardant coating is performed according to the following characteristics:

- appearance — a continuous, uniform, smooth coating without sags (influxes), blisters, peeling, cracking, pores, etc.;
- thickness (coating thickness measurement is carried out at not less than ten points per 1 m² of every 10 m² of the surface of the structure being painted; the arithmetic mean of the results of all measurements is taken as the result, while the standard deviation S (X) must be not more than 20 % of the test results).

IMPORTANT: Do not apply the next coat until the required coating thickness is achieved.

To measure the dry film thickness of coatings, it is recommended to use thickness gauges with a measuring range from 0 to 10000 μm.

STORAGE:

It is recommended to store the fire-retardant compound TRIOFLAME EP 8800 in a well-ventilated dry room at a temperature from plus 5 to plus 30 °C in sealed factory packaging, indoors, avoiding direct exposure to UV rays.

The shelf life of TRIOFLAME EP 8800 is 24 months for the base and 12 months for the hardener when stored in the specified temperature range. The material should be used within the shelf life recommended by the Manufacturer. The decision on the use of material with a shelf life of more than 24 months for the base and more than 12 months for the hardener is taken by a commission.

SAFETY PRECAUTIONS:

General provisions:

During work, the requirements of GOST 12.3.002, GOST 12.3.005, GOST R 12.3.052 must be observed.

Hazardous and harmful production factors must be eliminated or reduced to acceptable levels.

When organizing and performing painting work, physiologically justified work and rest regimes should be provided.

Personnel requirements:

Persons not younger than 18 years of age who have completed the following are allowed to perform fire-retardant works:

- occupational safety training — according to GOST 12.0.004, industrial sanitation, fire and electrical safety;
- vocational training.

Officials, in accordance with the requirements of SNiP 12-03 and SNiP 12-04, are responsible for compliance with labour protection and industrial safety requirements during work.

Workers must know:

- hazardous and harmful production factors, harmful substances in the composition of the materials used in the air of the working zone and the nature of their effect on the human body;
- instructions on the procedure for performing work and maintaining the workplace;
- instructions on labour protection, fire safety, industrial sanitation;
- personal hygiene rules;
- rules for the use of personal protective equipment (PPE);
- rules for providing first aid.

Safety requirements for surface preparation and painting:

All work related to the use of paints and coatings in rooms must be carried out with operating general supply-and-exhaust and local exhaust ventilation according to GOST 12.4.021. Ventilation must ensure that the content of harmful substances in the air of the working zone does not exceed the maximum permissible concentrations in accordance with the requirements of GOST 12.1.005, SanPiN 1.2.3685.

Workers engaged in surface degreasing, preparation and application of paints and coatings must be provided with the following PPE:

- protective painting suits, disposable or reusable, with a zipper running along the length of the garment for ease of putting on and taking off, elastic bands at the wrists, ankles and waist, and a hood;
- technical rubber gloves according to GOST 20010;
- safety glasses according to GOST 12.4.253 (EN 166:2002), symbol 3, or equivalent with the same functional purpose;
- filtering respirators with an insulating face piece in the form of a half-mask according to GOST 12.4.296 with a combined RPE filter providing simultaneous protection against gases, vapours and aerosols according to GOST 12.4.235 AZRZ (brown-white), AKhRZ or equivalent with the same functional purpose;
- footwear made of leather, with a hard toe to avoid injury to the feet in case of falling heavy objects; the sole is protected by a metal plate.

IMPORTANT: Working without PPE is PROHIBITED!

Storage of organic solvents at the workplace is allowed in hermetically sealed containers in an amount not exceeding the two-shift norm.

When working with solvents, observe the following safety requirements:

- use respiratory and eye PPE;
- work with the ventilation system turned on, providing air exchange at the required rate.

During surface preparation, the sandblaster must work in special clothing made of dust-proof fabric and a helmet of the MIOT-49 type, and use PRB-5, RPM-62 respirators with forced air supply.

Rules for handling toxic substances:

The material TRIOFLAME EP 8800 is manufactured in accordance with TU 20.30.22-029-40141638-2025 and is recommended for use for passive fire protection of various engineering structures, facilities, building structures for residential, civil and industrial purposes.

The container in which the fire-retardant compound TRIOFLAME EP 8800 is located must have a label with the exact name and designation of the material contained in it. The container must be intact and have a tightly closing lid.

In case of accidental spillage of the compound, cover the spill area with sawdust or sand, having previously protected the respiratory organs. Contaminated solvents, sawdust, sand, rags, cloths should be collected in buckets and removed to specially designated places in accordance with the requirements of GOST 30772, GOST R 52107.

Eating and smoking is allowed only in specially designated places.

FIRE SAFETY MEASURES:

Fire safety measures during painting work must be carried out in accordance with the Technical Regulation on Fire Safety Requirements (No. 123-FZ of 22 July 2008) and other regulatory documents.

The paints and coatings used are classified as flammable materials; therefore, fire safety measures are taken at the workplace in accordance with the requirements of GOST 12.1.004 and Decree of the Government of the Russian Federation No. 1479 of 16 September 2020.

IMPORTANT: The use of water to extinguish a fire is prohibited.

When performing surface preparation for painting and painting works, it is not allowed to:

- smoke, light fires, or carry out welding works within a radius of 25 m from the work site, as well as along the entire vertical in this zone;
- heat production rooms and protected objects with electrical appliances of standard design.

In the event of a fire, people should be evacuated from the danger zone, the fire service should be notified, paints and coatings should be removed from the work zone, and fire extinguishing should be started with the available means in strict accordance with the approved plan.

ENVIRONMENTAL PROTECTION:

During painting work, solid and liquid wastes are generated, as shown in Table 1.

Table 1

Waste name	Waste disposal method
Solid waste: container from the fire-retardant compound — euro pails	Dispose of containers as household waste. Euro pails can be used for technical purposes after the material has dried on the inner walls.
Liquid waste: solvent for flushing painting equipment; compound residues	Disposed of by the work manufacturer in accordance with GOST 30772, GOST R 52107.

FIRST AID MEASURES:

General:	If poisoning is suspected, seek medical help.
In case of inhalation:	If the product is inhaled, move the victim to fresh air, ensure rest and seek medical help.
In case of contact with eyes:	If the product gets into the eyes, rinse them with plenty of clean running water and seek medical help.
In case of contact with skin:	If the product gets on the skin, remove contaminated clothing and wash the contact area thoroughly with soap and water. The use of solvents or thinners is prohibited.
In case of contact with food:	If the product enters the body with food, ensure rest for the victim and immediately seek medical help.
Important:	Do not induce vomiting.