

Application Manual

Product description:

See Technical Data Sheet TRIOFLAME 8800



TRIOFLAME 8800

Fire protection weather-resistant coating

CONTENTS:

The Manual describe the surface preparation; preparation for the application; application process and equipment; storage conditions; occupational safety; fire precaution measures; environmental protection; first aid measures.

SURFACE PREPARATION:

Fire protection coating is applied to primed surface. The process of the surface preparation is determined by the condition of the surface of the primer surface.

The primer surface should be clean, without dirt, without dust, uniform and smooth before the fire protection coating is applied. The surface should be cleaned with pressure 35 MPa drinking water treatment, and oils and fats should be removed with a thinner in accordance with GOST 9.402 – 2004.

In case of the primer surface damage, defects, chips, it is necessary to restore it in accordance with the coating manufacturer approved methods.

The fire protection coating is applied to a clean dry primed surface after its preparation. The time interval between the surface preparation and the application of the fire protection coating is determined by the environmental conditions and the characteristics of the materials.

If the surface is exposed to precipitation, make sure it is completely dry and repeat the surface preparation procedure before applying the coating.

Avoid applying the fire protection coating after exceeding the primer recoat timeframe recommended by the manufacturer of that product. If the recoat timeframe is exceeded, to ensure the adhesion of the fire protection coating to the primer, roughen the surface by sweep blasting (light abrasive blast cleaning conducted at an angle of 30° to the surface and under half of the operating pressure) before applying the fire protection coating.

Acceptance of preparation of the primed surface is carried out with drawing up of the concealed works act.

PREPARATION FOR THE APPLICATION:

TRIOFLAME 8800 is two-pack material, which is supplied in containers: the base – 20 L; the hardener – 3,0 L or 3,2 L. After opening the container and before applying mix separately the base and the hardener. Mixing Ratio is given in product certificates of quality.

The recommended temperature of the components before use is not below + 15 °C.

The base and hardener are heated by pre-conditioning in a warm room.

It is **PROHIBITED** to use accelerated ways of heating the containers with **TRIOFLAME 8800**, such as direct contact with any heater, blowing with heat guns or heating in a water bath. This can lead to overheating of the outer layers of **TRIOFLAME 8800** in the container, which can cause undesirable changes in material properties (including a decrease in viability).

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

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The viability of the mixed composition is: 45 minutes at T = 15°C and 30 minutes at T = 20°C.

The polymerization reaction of the material starts from the moment of mixing the two components.

APPLICATION:

Application method: Airless spray / Manual application (spatula).

Thinner: For more information, contact O3-Coatings.

Cleaning of tools: Solvent 646 (thinner TRIOSOLV 0003 or xylene technical may be used).

Do all the work without using filters.

Clean equipment immediately if stop spraying for more than 10 minutes.

Recommended application conditions:

- air temperature is at least - 10°C;
- relative humidity no more than 85%;
- surface temperature at least 3°C above the dew point;
- absence of direct precipitation.

IMPORTANT: It is prohibited to perform work if the above parameters do not meet the required ones.

Before the beginning of each working shift and every 4 (four) hours the following parameters must be checked and documented in the operations log:

- 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 fire protection coating;
- absence of dust on the primer surface prepared for application of fire protection coating.

Fire protection coating's thickness is required fire resistance rating dependent. (see separate sheet of TRIOFLAME 8800 loading requirements). Contact your O3-Coatings representative for additional data. Recommended wet film thickness (WFT) 2040 microns per one airless spray coat, that is equal to 2000 microns dry film thickness (DFT).

Drying times for 2040 microns DFT				
Substrate temperature	5 °C	10 °C	20 °C	30 °C
To touch	9 hours	6 hours	3 hours	2 hours
To overcoat by TRIOFLAME 8800	14 hours	10 hours	6 hours	4 hours

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

Recommended equipment for application – painting machines Wagner HC 960; Wagner HC 970; GRACO XTREME X70; GRACO XTREME X90, GRACO DUTYMAX EH 675 DI or similar equipment.

Recommended parameters for devices with electric drive/driven by an internal combustion engine:

- working pressure 220-250 bar;
- engine power not less than 5.5 kW;
- the capacity of the device is not less than 10 l/min;
- material supply hose with an internal diameter of more than 3/8" (9.5 mm) and a length of no more than 15 m;
- the connection of the spray gun to the hose through the swivel is permissible;
- nozzle diameter .019" – .025".

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

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- operating pressure 220-250 bar;
- the capacity of the device is not less than 10 l/min;
- inlet pressure of at least 3 bar;
- maximum pressure at the inlet of the device:
 - with compression ratio up to 70:1- 7 bar;
 - with compression ratio up to 80:1- 6.2 bar;
 - with compression ratio up to 90:1- 5.5 bar;
- the capacity of the feeding compressor is 1500 l/min;
- material supply hose with an internal diameter of more than 3/8" (9.5 mm) and a length of no more than 15 m;
- the connection of the spray gun to the hose through the swivel is permissible;
 - nozzle diameter .019" – .025".

Before the application, use a thinner to clean the painting sprayer from previously used coatings. The choice of the thinner directly depends on the type of the previously used materials. The equipment cleaning procedure must be also conducted at the end of each working shift and when the equipment is not used for more than 1 hour.

After applying the material and finishing the work, it is mandatory to wash the device with the recommended solvent. After the general washing, the gun, nozzle, gun filter (if available) should be lowered into the solvent, the gun filter should be additionally cleaned with a brush, remove the installation filter and rinse the device again in the "recirculation" (mixing) mode, if there is no such mode, then rinse the entire device with hoses without a filter.

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

It is not allowed to dry spray and get it on already painted and cured coatings intended for further overlap.

If the spray gets on the painted surface, before applying the next layer, the surface should be thoroughly cleaned with abrasive materials (sandpaper) before removing the spray, dust-free, if necessary, degrease with solvent.

If the product has docking pads that are not intended for painting and are closed with masking tape, then after the completion of the painting and curing of the coating, removing the tape by simply tearing it from the surface is not allowed. To remove the tape only after cutting through the material to the metal along the boundaries of the area to be removed.

The wet film thickness control is determined by the last notch of a coating thickness gauge that touched the film surface. Above each notch of coating thickness gauge the difference between its length and the length of the outside base notches (zero datum reference) is indicated.

When conducting measurements, the gauge should be set perpendicular to the coated surface. After each measurement, the parts of the gauge that were in contact with the coat must be carefully wiped with a clean cloth.

The wet film thickness of the coating must be recorded in operations log / sit diary.

The quality control of the finished coating is done using the following characteristics:

- appearance – continuous, uniform, smooth coating without sagging, swelling, peeling, cracking, pores, etc.;
- thickness (the coating thickness is measured at a minimum of ten points per 1 m² for each 10 m² area of the object; the result is the arithmetic mean value of the results of all the measurements, and the standard deviation of the average $S(\bar{X})$ should not exceed 20% of the test results).

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IMPORTANT: Do not apply the next coat before reaching the required thickness of fire protection coating.

It is recommended to use coating thickness gauges with a measuring range from 0 to 10000 microns to measure the dry film thickness of the coating.

STORAGE CONDITIONS:

Fire protection coating **TRIOFLAME 8800** should be stored in a well-ventilated dry confined space at temperatures between plus 5°C to plus 30°C in the original sealed packaging, avoiding direct exposure to UV rays.

The shelf life of **TRIOFLAME 8800** is 24 months for the base and 12 months for the hardener when stored in the specified temperature range. The product should be used within the recommended shelf life indicated by the manufacturer. The decision to use material that is over 24 months old for the base and 12 months old for the hardener is made by a committee.

OCCUPATIONAL SAFETY:

General rules:

Works is carried out in accordance with the requirements of GOST 12.3.002, GOST 12.3.005, GOST 12.3.016.

Occupational hazards and harmful should be eliminated or reduced to acceptable levels.

When organizing and carrying out painting works, a physiologically justified work-rest schedule should be provided.

Qualification requirements:

The application of the fire protection works can be conducted only by adults who are at least 18 years old that have undertaken:

- safety training in accordance with GOST 12.0.004, including occupational hygiene, fire and electrical safety;
- professional training.

The executive officers are held responsible for complying with the occupational and industrial safety

requirements when conducting the application works, in accordance with the requirements of SNiP 12-03 and SNiP 12-04.

Workers must know about:

- hazards, harmful occupational factors, harmful substances in the materials that affect the air in the workplace and how they can affect the human body;
- application instructions and procedures, and requirements for the workplace maintenance;
- workplace safety guidelines, fire safety, industrial health;
- personal hygiene requirements;
- requirements for using personal protective equipment (PPE); first aid procedures

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Safety requirements for preparing and painting surfaces:

For any work related to the application of coatings in confined spaces, the general supply-exhaust ventilation and local exhaust ventilation are a prerequisite in accordance with GOST 12.4.021. The ventilation must ensure that the content of harmful substances in the air of the workplace does not exceed the maximum allowable concentrations, in accordance with the requirements of GOST 12.1.005, GN 1.2.3685.

Workers engaged in degreasing the surface, preparing and applying paintwork materials should be provided with the following personal protective equipment:

- disposable or reusable protective suit for painting which has zipper runs for length of the product, elastics at wrists, ankles and at the waist, and hood;
- rubber technical gloves according to GOST 20010-93;
- safety glasses according to GOST 12.4.253-2013 (EN 166:2002), symbol 3 or similar which has similar functional purpose;
- filter respirators which have isolating front part in form of half-mask according to GOST 12.4.296-2015 equipped with combined filter, which provides the protection from gases, vapors and aerosols according to GOST 12.4.235-2012 AZRZ (brown-white), AHRZ or similar which has similar functional purpose;
- shoes made from leather which has solid toes to avoid the injury of feet in case of the fall of a heavy object; sole must be protected with the metal plate.

IMPORTANT: Working without using the PPE is forbidden!

Storage of organic thinners in the workplace is permitted in hermetically sealed containers in amounts that don't exceed two working shift doses.

When working with thinners observe the following safety requirements:

- use PPE for respiratory and eye protection;
- work with the activated ventilation system that ensures sufficient air exchange.

When preparing the surface, workers conducting abrasive blasting must wear protective suits made from dust- proof material and helmets MIOT 49 type, use respirators PRB-5, PRM-62 with forced air supply.

Requirements for handling toxic substances:

Fire protection coating **TRIOFLAME 8800** is produced in accordance with TU 20.30.22-120-40141638-2018 and it is recommended for use for passive fire protection of various engineering structures, facilities, and housing, civil and industrial buildings.

The packaging of fire protection coating **TRIOFLAME 8800** must have a label with the exact name and designation of the product that it contains. Containers must be whole and have a tight-fitting lid.

In a case of an accidental spill, the spill area must be covered with sawdust or sand after ensuring respiratory protection. Contaminated thinners, sawdust, sand, rags, cloths must be collected in pails and removed to specially designated areas in accordance with the requirements of GOST 30772, GOST R 52107.

Eating and smoking are only allowed in designated areas.

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FIRE PRECAUTION MEASURES: Fire precaution measures during coating application works must be carried out in accordance with the technical regulations related to fire safety requirements (July 22, 2008 №123-FZ) and other regulatory documents.

The coating materials are considered to be fire-hazardous, therefore, fire precaution measures in accordance with GOST 12.1.004 and Decree of the Government of the Russian Federation No. 1479 dated September 16, 2020.

IMPORTANT: Do not use water to extinguish fires.

When preparing the surface for coating application and when applying coating, it is prohibited:

- to smoke, make a fire, conduct welding within a radius of 25 m from the workplace and along the vertical line below and above the area;
- to heat the production facilities and protected objects with electrical appliances in a conventional way.

In the event of a fire, evacuate all people from the area, report the fire to the fire service, remove coating materials from the workplace, and proceed to extinguish the fire with the available means in strict accordance with the approved plan.

ENVIRONMENTAL PROTECTION: Coating application produces solid and liquid waste described in **Table 1**.

Table 1

Type of waste	Method of waste management
<u>Solid waste:</u> Packaging of the fire protection coating – Containers	The packaging can be disposed of as domestic waste. Containers can be reused for technical purposes after the product remaining on the inner walls of the container has dried.
<u>Liquid waste:</u> - Thinner / flushing liquid for cleaning the painting sprayer - Remains of the product	The waste is disposed of by the product user in accordance with GOST 30772, GOST R 52107

FIRST AID MEASURES:

General information: In the case of a suspected poisoning, seek medical help.

After inhalation: In the case of inhalation of the product, take the affected person to fresh air, keep them at rest and seek medical help.

After eye contact: In the case of an eye contact with the product, flush the eyes with a lot of clean running water and seek medical help.

After skin contact: In the case of skin contact, removed contaminated clothes and thoroughly clean the area of contact with soap and water. Do not use thinners or diluents.

After swallowing: In case of swallowing, keep the affected person at rest and immediately seek medical help.

IMPORTANT: Do not induce vomiting.