Application Manual

Product description:
See Technical Data Sheet TRIOFLAME AK 7000

TRIOFLAME AK 7000

Fire retardant intumescent coating

CONTENTS:

The instruction gives instructions for surface preparation; preparing the material for application; the technological process of application and the equipment used; storage conditions; safety precautions; fire prevention measures; environmental protection; first aid measures.

SURFACE PREPARATION:

The fire retardant is applied to the pre-primed surface. A typical surface preparation process is determined by the condition of the primer surface.

The surface of the primer before applying the flame retardant must be clean, free of dirt, dust, uniform and even. Remove impurities with drinking water at a pressure of 35 MPa, remove oil and fat contamination with a solvent in accordance with GOST 9.402 - 2004.

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

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

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

Do not apply flame retardant beyond the primer overcoat time as recommended by the primer manufacturer. If the overcoating interval is exceeded, then in order to ensure interlayer adhesion of the fire retardant coating to the primer, it is necessary to roughen the surface by sweeping (light abrasive blasting, carried out at an angle of 30 ° to the surface to be cleaned and a pressure of ½ from the worker) before applying the flame retardant composition.

Acceptance of the preparation of the primed surface is carried out with the preparation of an act of hidden work.

PREPARATION FOR THE APPLICATION OF FIRE PROTECTION COATING:

TRIOFLAME AK 7000 is a one-component fire-retardant intumescent composition based on an aqueous acrylic dispersion with a dry residue of 70±5%, does not require additional dilution during application.

The material is supplied ready for use in plastic buckets (net weight - 22 kg); in metal euro buckets (net weight - 25 kg); in plastic barrels (net weight - 50 kg).

After opening the container, it is necessary to mix the material for 3-5 minutes until homogeneous with a pneumatic, electric or other low-speed mixer.

APPLICATION OF FIRE PROTECTION COATING:

Application method: Airless spray / Manual application.

Thinner: Thinning is not recommended.

Nozzle diameter (recommended): .019” – .027”

Cleaning tools: Drinking water.

Recommended application conditions:

- air temperature not lower than plus 5°C;
- relative air humidity not higher than 85%;
- the temperature of the surface to be painted is at least 3°C above the dew point;
- no direct precipitation.

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

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

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

Before starting the application of the material, pass drinking water through the painting machine to clean the equipment from previously used paintwork materials. It is also recommended to clean the equipment at the end of the work shift.

Apply the composition by airless spraying; application by brush or roller is acceptable when applied in hard-to-reach places or on small surfaces.

The recommended application equipment is Wagner HC 960 paint sprayers; Wagner HC 970; GRACO XTREME X70; GRACO XTREME X90, GRACO DUTYMAX EH 675 DI or equivalent.

Recommended parameters for electrically driven/combustion engine driven machines:
• working pressure 220-250 bar;
• engine power not less than 5.5 kW;
• productivity of the device not less than 10 l/min;
• material supply hose with an inner diameter greater than 3/8” (9.5 mm) and a length not exceeding 15 m;
• connection of the spray gun to the hose through a swivel is permissible;
• Nozzle diameter .019” – .027”.

Recommended parameters for devices with a pneumatic drive and a compressor for them:
• working pressure 220-250 bar;
• productivity of the device not less than 10 l/min;
• pressure at the inlet to the apparatus is not less than 3 bar;
• maximum pressure at the inlet to 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;
• productivity of the feeding compressor 1500 l/min;

• material supply hose with an inner diameter of more than 3/8” (9.5 mm) and a length of not more than 15m;
• connection of the spray gun to the hose through a swivel is permissible;
• Nozzle diameter .019” – .027”.
All work should be done without filters.

When applied by airless spray, the recommended wet film thickness (WFT) per pass is 1300 µm, which corresponds to a dry film thickness (DFT) of 910 µm. When applied to internal corners with a small rounding radius (less than 5 mm), the first layer of material should be applied with a wet film thickness of 600-700 microns, which corresponds to a DFT of 420-490 microns.

Drying time at a dry film thickness TRIOFLAME AK 7000 - 910 microns is given in table 1.

Table 1

Substrate temperature	5°C	10°C	20°C	30°C
To touch hours	8 hours	6 hours	3 hours	1,5 hours
To recoat the next layer	4 day	2 day	14 hours	9 hours
To recoat the finishing layer	6 day	4 day	48 hours	20 hours

The drying time is determined by the actual DFT. The drying times given in this section are guidelines only. When estimating the actual drying time, the presence of air currents and the relative humidity of the air must also be taken into account.

Wet layer thickness control is carried out by a "comb" on the last tooth that touches the coating. Above each comb tooth, the value of its gap 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 coating must be carefully wiped with a clean rag.

Wet film thicknesses shall be recorded.

The quality control of the finished coating is carried out according to the following characteristics:

- appearance (there should be no streaks, cracking, peeling, etc.) - uniform coating;
- thickness (measurement of the coating thickness is carried out at least at ten points per 1 m^2 from every 10 m^2 of the surface of the structure to be painted; the result is the arithmetic mean of the results of all measurements, while the standard deviation S ($\bar{X}$) should be no more than 20% of test results).

IMPORTANT: Do not allow the application of the next layer until the required thickness of this coating is achieved.

To measure the dry film thickness of coatings, it is recommended to use thickness gauges with a measurement range of 0 to 5000 µm.

STORAGE CONDITIONS:

It is recommended to store TRIOFLAME AK 7000 material in a well-ventilated dry room at a temperature from plus 5°C to plus 30°C in sealed original packaging, indoors, to avoid direct exposure to UV rays.

The shelf life of TRIOFLAME AK 7000 is 12 months, subject to storage conditions. The material should be used within the expiration date recommended by the manufacturer. The decision to use material with a shelf life of more than 12 months is made by the commission.

OCCUPATIONAL SAFETY:

General rules:

During the performance of work, the requirements of GOST 12.3.002, GOST 12.3.005, GOST 12.3.016 must be observed.

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

When organizing and performing painting work, it is necessary to provide for physiologically justified modes of work and rest.

Qualification requirements:

Persons not younger than 18 years of age who have passed:

- occupational safety training - in accordance with 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 the requirements of labor protection and industrial safety in the course of work.

Workers should know:

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

Safety requirements for preparing and painting surfaces:

All work related to the use of paints and varnishes in the premises must be carried out with the general exchange supply and exhaust and local exhaust ventilation operating in accordance with GOST 12.4.021. Ventilation should ensure that the content of harmful substances in the air of the working area does not exceed the maximum permissible concentrations in accordance with the requirements of GOST 12.1.005, GN 1.2.3685.

Workers engaged in surface degreasing, preparation and application of paints and varnishes should be provided with the following PPE:
- disposable or reusable protective suits for painting, having a zipper that runs along the length of the product for ease of putting on and taking off, elastic bands on the wrists, ankles and waist, a hood;
- technical rubber gloves according to GOST 20010-93;
- goggles in accordance with GOST 12.4.253-2013 (EN 166:2002), symbol 3 or similar with the same functional purpose;

- filtering respirators with an insulating front part in the form of a half mask in accordance with GOST 12.4.296-2015 with a combined RPE filter that simultaneously provides protection against gases, vapors and aerosols in accordance with GOST 12.4.235-2012 A3P3 (brown-white), AHR3 or similar same functional purpose;
- shoes made of leather, with a hard toe to avoid injury to the feet in the event of a heavy object falling; the sole is protected by a metal plate.

IMPORTANT: work without PPE is prohibited!

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

When working with solvents, observe the following safety requirements:
• use respiratory and eye PPE;
• work with the ventilation system turned on, providing the required air exchange rate.

When preparing the surface, the sandblaster must work in overalls made of dust-proof fabric and a helmet of the MIOT 49 type, use PRB-5 respirators with forced air supply.

Requirements for handling toxic substances:

TRIOFLAME AK 7000 material is produced in accordance with TU 2316-025-20654749-2016 and is recommended for use for passive fire protection of various engineering structures, facilities, building structures for residential and civil and industrial purposes.

The container containing the TRIOFLAME AK 7000 material must have a label with the exact name and designation of the material contained in it. The container must be intact and have a tight-fitting lid.

In case of accidental spillage, cover the spillage with sawdust or sand, after protecting the respiratory organs. Contaminated solvents, sawdust, sand, rags, rags are collected in buckets and removed to specially designated places in accordance with the requirements of GOST 30772, GOST 30773, GOST 30774, GOST R 52107.

Eating and smoking is allowed only in designated areas.

FIRE PRECAUTION MEASURES:

Fire safety measures during painting work must be carried out in accordance with the technical regulations on fire safety requirements (dated July 22, 2008 No. 123 FZ) and other regulatory documents.

The applied paint and varnish materials belong to fire-hazardous materials, in this regard, fire-fighting measures are carried out at the workplace in accordance with the requirements of GOST 12.1.004 and RF Decree No. 1479 of 16.09.2020 "Rules of fire protection in the Russian Federation".

IMPORTANT: It is forbidden to use water to extinguish a fire.

When carrying out work on surface preparation for painting and painting work is not allowed:

• smoke, light a fire, conduct welding work within a radius of 25 m from the place of work, as well as along the entire vertical in this area;
• heat production facilities and protected objects with electrical appliances in the usual design.

If a fire occurs, people should be taken out of the danger zone, report the occurrence of a fire to the fire service, remove paint and varnish materials from the work area, start extinguishing the fire with available means in strict accordance with the approved plan.

ENVIRONMENTAL PROTECTION:

In the process of painting works, solid and liquid waste is formed, as shown in Table 2.

Table 2

Name of waste	Waste disposal method
Solid waste: Containers from flame retardant – eurovedro	Dispose of containers as household waste. Eurovedra can be used for technical purposes after the material has dried on the inner walls.
Liquid waste: -Water contaminated after washing the painting equipment - Remnants of the composition	It is disposed of by the manufacturer in accordance with GOST 30772, GOST 30773, GOST 30774, GOST R 52107

FIRST AID MEASURES:

General information: If poisoning is suspected, it is necessary to seek medical help.

After inhalation: If the product is inhaled, the victim must be taken out into fresh air, ensure rest and seek medical help.

After eye contact: If the product gets into the eyes, it is necessary to rinse them with plenty of clean running water and seek medical help.

After skin contact: При попадании на кожу необходимо снять загрязненную одежду и тщательно вымыть место контакта с мылом и водой. Использовать растворители или разбавители запрещается.

After swallowing: In case of contact with the skin, remove contaminated clothing and thoroughly wash the place of contact with soap and water. It is forbidden to use solvents or thinners.

IMPORTANT: Do not induce vomiting .