Application Manual

Product description:
See Technical Data Sheet TRIOTHERM 3800

TRIOTHERM 3800

Acrylic thermal insulation material

CONTENTS:

The instruction gives instructions on surface preparation; preparation for application; application and equipment; storage; safety; fire-fighting measures; environmental protection; first aid measures.

SURFACE PREPARATION:

The heat-insulating material is applied to the pre-primed surface. The typical surface preparation process is determined by the condition of the primer surface.

The surface of the primer before applying the insulating material must be clean, free of dirt, dust, uniform and even. Remove contamination with drinking water under pressure up to 35 MPa, remove fat-and-oil contamination with solvent according to GOST 9.402.

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

The heat-insulating material is applied to a dry, clean primed surface after its preparation. The interval between surface preparation and the application of thermal insulation material is determined by the 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 procedure of its preparation.

Do not allow the application of thermal insulation material when the primer overlap period is exceeded in accordance with the recommendations of the primer manufacturer. If the overlap interval is exceeded, in order to ensure surface roughness and ensure interlayer adhesion, it is necessary to perform swiping (light abrasive blasting, 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 insulating material.

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

PREPARATION FOR THE APPLICATION OF THERMAL INSULATION COATING:

TRIOTHERM 3800 is a one–component acrylic thermal insulation material with a volume fraction of non-volatile substances - (70 ± 5)%.
The thermal insulation material is supplied ready for use in containers (net weight -13.7 kg).

Before use, the material must be kept for at least 24 hours at a temperature not lower than plus 15 ° C and not higher than plus 25 ° C. Before application, mix the material to a homogeneous consistency throughout the volume: using mechanical means of mixing, at low speeds - from 150 to 300 rpm, for (3-5) minutes. Application should begin immediately after mixing.

APPLICATION OF THERMAL INSULATION COATING:

Method of application: Airless spraying / Manual application.

Diluent: Dilution is not recommended.

Equipment flushing: TRIOSOLV 0003 (it is allowed to use other solvents in agreement with the company "O3-Coutings")

Recommended application conditions:

• the air temperature is not lower than minus 10 ° C, not higher than plus 35 ° C
• relative humidity is not higher than 85%;
• the temperature of the painted surface is at least 3 °C above the dew point;
• absence of direct precipitation.

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

Before the start of each work shift and every 4 (four) hours, the following parameters must be checked with entry in the operational control log:

• environmental conditions (air temperature, relative humidity);
• dew point temperature;
• surface temperature;
• absence of moisture and oil contamination on the surface of the primer prepared for the application of thermal insulation material;
• no dust on the surface of the primer prepared for the application of thermal insulation material.

Before painting, pass a cleaner through the paint machine to clean the equipment from previously used coatings. The cleaner directly depends on the type of materials previously used. The equipment cleaning procedure should also be carried out at the end of the shift and with breaks in work for more than 1 hour.

The composition is applied by airless spraying; it is allowed to apply with a brush or roller when painting hard-to-reach places or small surfaces.

When applied by airless spraying, the recommended wet film thickness (WFT) in one pass is 2000 microns, which corresponds to a dry film thickness (DFT) of 1320 microns.

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:
• operating 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:
• 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 inlet pressure:
➢ 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;

• feed compressor capacity 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 15m;
• the connection of the spray gun to the hose through the swivel is permissible;
• nozzle diameter .019” – .025”.

Work should be performed without the use of filters.

The drying time at a dry film thickness of TRIOTHERM 3800-1320 microns is shown in Table 1.

Table 1 – Drying time

Temperature of the painted surface	5°C	10°C	20°C	30°C
Before applying the next layer	48 h	32 h	24 h	16 h

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.

The thickness of the wet layer is controlled by a "comb" on the last tooth touching the coating. The value of its gap in microns from the "base" teeth (from 0) is marked above each tooth of the comb. When making 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 thoroughly wiped with a clean rag.

The thickness of the wet layer of the thermal insulation coating should be recorded in the operational control log/ work log.

Quality control of the finished thermal insulation coating is carried out according to the following characteristics:

- appearance (there should be no streaks, cracking, peeling, etc.) – a uniform matte coating of white or light gray color;
- thickness (the thickness of the coating is measured at at least 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 mean square deviation S (X) should be no more than 20% of the test results).

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

STORAGE CONDITIONS:

Thermal insulation material TRIOTHERM 3800 is recommended to be stored in a well-ventilated dry room at a temperature from minus 5 ° C to plus 40 ° C in sealed factory packaging, in a closed room, avoid direct exposure to UV rays.

The shelf life of TRIOTHERM 3800 is 12 months 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 a material with a shelf life of more than 12 months is made by the commission.

OCCUPATIONAL SAFETY:

General rules:

During the 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, physiologically sound work and rest regimes should be provided.

Qualification requirements:

Persons at least 18 years of age who have passed:

• occupational safety training – according to GOST 12.0.004, industrial sanitation, fire and electrical safety;
• professional training.

Officials in accordance with the requirements of SNiP 12-03 and SNiP 12-04 are responsible for compliance with labor protection and industrial safety requirements during 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 order of work and the content of the workplace;
• instructions on labor protection, fire safety, industrial sanitation;
• personal hygiene rules;
• rules for the use of personal protective equipment (PPE);
• rules of first aid.

Safety requirements for preparing and painting surfaces:

All work related to the manufacture, testing and application of the material in the premises must be carried out with general and local supply ventilation according to GOST 12.4.021. Ventilation must ensure the content of harmful substances in the air of the working area, not exceeding 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 paint and varnish materials should be provided with the following PPE:
- protective suits for painting are disposable or reusable, having a zipper running along the length of the product for ease of putting on and removing, elastic bands on the wrists, ankles and waist, hood;
- technical rubber gloves according to GOST 20010-93;
- safety glasses according to GOST 12.4.253-2013 (EN 166:2002), symbol 3 or similar with the same functional purpose;
- filter respirators with an insulating front part in the form of a half mask according to GOST 12.4.296-2015 with a combined SIZOD filter that provides protection against gases, vapors and aerosols at the same time according to GOST 12.4.235-2012 A3P3 (brown-white), AHP3 or similar with the same functional purpose;
- shoes made of leather, with a hard toe to avoid damage to the feet in the event of a heavy object falling; the sole is protected by a metal plate.

Storage of organic solvents at the workplace is allowed in hermetically sealed containers in an amount of no more than a two-shift norm.

When working with solvents, observe the following safety requirements

- use PPE of respiratory organs and eyes;
- work with the ventilation system switched on, ensuring the exchange of air of the required multiplicity.

When preparing the surface, a sandblaster worker must work in overalls made of dust–proof fabric and a helmet of the MIOT 49 type, use respirators PRB-5, RPM-62 with forced air supply.

Requirements for handling toxic substances:

TRIOTHERM 3800 material is produced in accordance with the technical specifications 20.30.12-274-40141638-2022 and it is recommended for use as part of anticorrosive coating systems and combined structural fire protection systems.

The container containing the thermal insulation material TRIOTHERM 3800 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 material, the place of the spill should be covered with sawdust or sand, having previously protected the respiratory organs. Collect contaminated solvents, sawdust, sand, rags, rags in buckets and remove to specially designated places in accordance with the requirements of GOST 30772, GOST 30773, GOST 30774, GOST R 52107.

Eating and smoking are allowed only in specially designated areas.

FIRE PRECAUTION MEASURES:

Fire-fighting measures during painting works 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 paint and varnish materials used are classified as 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 Decree of the Government of the Russian Federation No. 1479 of September 16, 2020.

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 zone;
- 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

Type of waste	Method of waste management
Solid waste: 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.
Liquid waste: - 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 30773, GOST 30774 GOST R 52107

FIRST AID MEASURES:

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

After swallowing: If the product enters the body with food, provide the victim with rest and immediately seek medical help.

IMPORTANT: Do not induce vomiting.