# Application Manual

Product description:
See Technical Data Sheet TRIOCOR ABRASIVE 4400

# TRIOCOR ABRASIVE 4400

## Modified epoxy material

**CONTENTS:**

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

**SURFACE PREPARATION:**

The product is applied to a prepared and dry metal surface with a temperature at least 3 °C above the dew point. Required grade of preparation of surface depends on projected conditions and exploration period, project requirements.
Typical process includes the following stages: remedy imperfections to P2 (in operating conditions from C1 to C4 according to ISO 12944-2) or P3 (in operating conditions C5 according to ISO 12944-2) in accordance with ISO 8501-3; remove oil and grease (if necessary); blast clean to Sa 2,5 in accordance with ISO 8501-1 with average surface profile in the range 50–75 microns, using hand and mechanized cleaning method to St 3 in accordance with ISO 8501-1; remove salt (if necessary); the surface is dedusting to degree 2 with particle size do not exceed rating 2 of ISO 8502-3.

**PREPARATION FOR THE APPLICATION:**

**TRIOCOR ABRASIVE 4400** A two-pack epoxy material cured by polyamine pigmented with "Glassflakes, with Volume Solid of (85±5) %

The product is supplied in containers: Base – 20 L, Additive– 5 L.

After opening containers and before applying mix separately Base and Additive. Mixing Ratio:
- 5 parts of Base to 1 part of Additive by volume;
- 100 parts of Base to 13,3 parts of Additive by weight.

**APPLICATION:**

Application method: Airless spraying / Manual application.

Thinner: TRIOSOLV 0002 (if necessary), up to 10 % by volume at airless spraying.
For detailed information, contact «O3-Coatings».

Nozzle size (recommended): .019 "– .025"

Operating pressure (recommended): Not less than 150 bar.

Cleaning of tools: TRIOSOLV 0002. (Can be to use other solvents in agreement with the company "O3-Coutings").

Table 1 – Recommended application conditions

| | |
|---|---|
| Air temperature | From plus 5 to plus 30 °C |
| Relative humidity | 10–85 % |
| - In closed rooms it is necessary to provide supply-and-exhaust ventilation during application and drying to the extent necessary. | |

**IMPORTANT:** The application is prohibited when the above-mentioned conditions are not met.

Before the beginning of each working shift 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 surface;
- absence of dust on the surface.

Before the application, use a thinner to clean the painting sprayer from previously used paint materials. 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.

The product is applied with an airless sprayer; it can be applied with a brush or roller when applicating hard to reach or small areas.

Recommended thickness of one coat for **TRIOCOR ABRASIVE 4400** is shown in Table 2.

Table 2 – Recommended thickness of one coat for TRIOCOR ABRASIVE 4400

| Film thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 120 | 100 |
| Maximum | 350 | 300 |

It is recommended to obtain a thickness of 2 or 3 coats

Pot life – 1 h at plus 20 °C

When used as a floor anti-slip coating, the composition of the coating system is as follows:

| Name of the material | WFT, microns | DFT, microns |
|---|---|---|
| TRIOCOR ABRASIVE 4400 | 590 | 500 |
| Abrasive filler* | – | – |
| TRIOCOR ABRASIVE 4400 | 590 | 500 |
| TRIOCOR FINISH 5500 | 110 | 50 |

Note: * – Feniks micromramor (0,5–2,0) mm (TU 08.12.12-001-45665168-2019) can be applied or other in agreement with O3-Coutings LLC.

The consumption of the recommended abrasive filler micromramor Phoenix is (1,35±0,10) kg/m$^2$. The actual consumption is determined by the requirements of the project and the type of filler used, but not less than 0,5 kg/m$^2$.
The application procedure consists of the following operations:
1) Manually, evenly distribute the abrasive filler over the surface of the first layer of TRIKON ABRASIVE 4400, immediately after applying the paint, with the completion of the process for 0,5 h. Do not roll the abrasive filler;
2) If it is necessary to move on the coating, it is recommended to move using specialized shoes for working on self-leveling floors equipped with spikes (paint shoes).
The formation of the TRIOCOR ABRASIVE 4400 layer with an abrasive filler at plus (20±2) °C is 24 hours. After this time, before applying the second layer of TRIOCOR ABRASIVE 4400, excess abrasive filler, loose in the first layer of paintwork, is removed from the surface using an industrial vacuum cleaner.

The drying times for **TRIOCOR ABRASIVE 4400** is shown in Table 3.

Table 3 – TRIOCOR ABRASIVE 4400 drying time at DFT 200 microns

| Surface temperature | 5 °C | 20 °C | 30 °C | 40 °C |
|---|---|---|---|---|
| Drying to degree 3 (GOST standard 19007) | 24 h | 8 h | 6 h | 4 h |
| Drying to degree 6 (GOST standard 19007) | 72 h | 24 h | 16 h | 10 h |
| Recoating time | | | | |
| minimum | 26 h | 9 h | 7 h | 5 h |
| maximum | 6 months | | | |

After drying the coating to a degree of 3, the coating can be immersed in fresh water; after drying to a degree of 6 – in fresh and sea water

Drying times presented in this section have recommendatory character. It is necessary to take into account the presence of air flows and relative humidity when assessing actual drying time.
The wet film thickness control is determined by the last notch of a wet film thickness gauge that touched the film surface. Above each notch of the 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.

Wet film thicknesses of the coating must be recorded.

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

- appearance (no sagging, cracking, peeling, etc.) – uniform, grey-colored coating;
- dry film thickness is determined by the 80–20 rule: 80 % of all measurements must not be below the thickness given in a specification (nominal thickness), 20 % of the measurements must be at least 80% of the nominal thickness.

**STORAGE CONDITIONS:**

Epoxy coating **TRIOCOR ABRASIVE 4400** should be stored in dry, dark space at temperatures between 0 to plus 30 °C in the original sealed packaging, avoiding direct exposure to UV-rays and other sources of heat.

Shelf life **TRIOCOR ABRASIVE 4400** is 24 months from date of manufacture.

**TRANSPORTATION:**

It is recommended to transport at a temperature between 0 and plus 30 °C, avoiding direct exposure to UV-rays and other sources of heat. This material can be transported at negative temperatures up to minus 40 °C for a duration of 14 days.

## OCCUPATIONAL SAFETY:

**General rules:**

Works is carried out in accordance with the requirements of GOST 12.3.002, GOST 12.3.005, GOST R 12.3.052.

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 corrosion resistant coating can be conducted only by adults who are at least 18 years old that have undertaken:

- safety training in accordance with Resolution of the Russia Federation № 2464 of 24.12.2021, 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.

**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, SanPiN 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;
- safety glasses according to GOST 12.4.253 (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 equipped with combined filter, which provides the protection from gases, vapors and aerosols according to GOST 12.4.235 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 with forced air supply.

**Requirements for handling toxic substances:**

Material **TRIOCOR ABRASIVE 4400** is produced in accordance with TU 2312-017-20654749-2015.

The packaging of material **TRIOCOR ABRASIVE 4400** 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.

**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 Resolution of the Russia Federation № 1479 of 16.09.2020 "Rules of the Fire Fighting Regime in the Russian Federation" are carried out at the workplace.

**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 4**.

Table 4

| Type of waste | Method of waste management |
|---|---|
| Solid waste:<br>Packaging of the product – Containers | The packaging can be disposed of as domestic waste.<br>Containers can be reused for technical purposes after the product remaining on the inner walls of the container has dried. |
| Liquid waste:<br>- Thinner / flushing liquid for cleaning the painting sprayer<br>- 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, remove 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.