

Protect
the future
together

# Book of technical description

# O3 COMPANY

Production and sale of anti-corrosion and fire-resistant materials. Our solutions have been passed all necessary tests, have Russian and international certificates and can provide long-term protection of our customers' assets.

The company is a member of the O3 GROUP, which allows us to offer comprehensive ready-made solutions: from design of protective systems and supply of materials to servicing follow-up of works and inspection control by unified quality standards. O3 COMPANY manufactures materials of the TRIOCOR™ and TRIOFLAME™ product lines.

The solutions offered by O3, have Russian and international certificates. and can ensure a long-term protection of our cuctomers assets.

## Main Industries:

O3 COMPANY has significant supply experience for major industry facilities:

### Oil & gas and chemistry

PJSC Gazpromneft refineries, PJSC SIBUR Holding petrochemical facilities, JSC Yamal LNG infrastructure, Amur GPP facilities, PJSC Gazprom gas pumping stations, PJSC Transneft tanks.

### Power generation

CCGT-TPP for PJSC Nizhnekamskneftekhim, The first stage of construction Sakhalin TPP–2, Reconstruction of Voronezh TPP–1, Amur TPP for the needs of the Amurskiy GPP, Yamal LNG gas turbine power plant.

### Infrastructure

Bridges for Russian Railways, The FIFA World Cup stadiums 2018, transfer hubs for LSC MRR and SUE Moscow Metro, Olympic facilities for the Olympic Games in Sochi 2014.

### Marine projects

Ice-resistant platform LSP–1 — Filanovsky field. V. Filanovsky Field, Block Conductor. Development of the Yu. Korchagin field-PJSC LUKOIL, facilities of LLC NOVATEK-Murmansk Large-Scale Offshore Facilities Construction Centre.

# 1. HOW TO CHOOSE COATING SYSTEM

To ensure maximum savings and efficiency, several factors are to be taken in consideration when making a choice of a suitable system of coatings for protection from corrosion:

## A. Environmental corrosivity

When selecting a paint system it is vitally important to work out the conditions in which the structure, facility or installation is to operate. To establish the effect of environmental corrosivity, the following factors must be taken into account:

- humidity and temperature (service temperature and temperature gradients),
- the presence of UV radiation,
- chemical exposure (e.g. specific exposure in industrial plants),
- mechanical damage (impact, abrasion etc.).

In the case of buried structures their porosity must be considered and the ground conditions which they are subject to. The dampness and pH of the terrain and biological exposure to bacteria and micro-organisms are of critical importance. In the case of water, the type and chemical composition of the water present is also significant.

The corrosive aggressiveness of the environment will have an effect on:

- the type of paint used for protection,
- the quantity of coats and the total thickness of a paint system,
- the surface preparation required,
- minimum and maximum recoating intervals.

The more corrosive the environment, the more thorough the surface preparation required. The recoating intervals must also be strictly observed.

Part 2 of GOST 34667 standard gives the corrosion classifications for atmospheric conditions, soil and water. This standard is a very general evaluation based on the corrosion time for carbon steel and zinc. It does Not reflect specific chemical, mechanical or temperature exposure. However the standard specification may still be accepted as a good indicator for paint system projects as a whole.

| ISO 12944 distinguishes 6 basic atmospheric corrosivity categories: | | | |
|---|---|---|---|
| C1 | very low | C4 | high |
| C2 | low | C5 | very high |
| C3 | medium | CX | extreme |

**Atmosferic corrosive activity categories by ISO 12944 Standard:**

| Corrosivity categories: | Environment examples | | O3's coating systems |
|---|---|---|---|
| | Exterior | Interior | |
| C1<br>very low | - | Heated buildings with a clean atmosphere such as offices, shops, schools, hotels. | Page 11 |
| C2<br>low | Atmosphere contaminated to a small extent, mainly rural regions. | Buildings which are not heated, where condensation may occur e.g. storehouses, sports halls. | Page 11 |
| C3<br>medium | Industrial and urban atmosphere with an average sulphur oxide (IV) contamination level. Inshore areas of low salinity. | Production space of high humidity and certain air contamination e.g. foodstuff plants, laundries, breweries, dairies.W | Page 12 |
| C4<br>high | Industrial areas and inshore areas of medium salinity. | Chemical plants, swimming pools, ship repair yards. | Page 13 |
| C5<br>very high | Industrial areas of high humidity and aggressive atmosphere, inshore areas of high salinity. | Buildings and areas of almost constant condensation and high contamination. | Page 14 |
| CX<br>extreme | Offshore areas with high salinity and industrial areas with extreme humidity and aggressive, subtropical or tropical atmosphere. | Industrial buildings with high humidity and aggressive atmosphere. | |

| Water and soil categories in accordance with GOST 34667standard: | |
|---|---|
| Im1 | submersion in freshwater |
| Im2 | marine or saltish water immersion without cathode corrosion protection |
| Im3 | digging-in the ground |
| Im4 | permanent marine immersion with cathode corrosion protection |

**The categories for water and soil according to the GOST 34667 standard:**

| Corrosivity categories: | Environment | Examples of environment and structures | O3's coating systems |
|---|---|---|---|
| Im1 | Freshwater | River installations, hydroelectric power plants, possible usage of cathode protection from corrosion. | Page 15 |
| Im2 | Marine or saltish water | Seaports with the following structures: sluice gate, locks (water steps), water stilts, piers, offshore structures. | |
| Im3 | Soil | Underground tanks, steel stilts, pipelines. possible usage of cathode protection from corrosion. | |
| Im4 | Marine water | Constant immersion in marine water. Submerged structures with cathodic protection (e.g. marine structures). | |

## B. Type of protected surface

The issue of choosing a system of coatings involves dealing with constructional materials such as carbon steel, hot dipped galvanized steel, metal-spray steel, aluminium, or stainless steel. The surface preparation, the paint products used (particularly the primer) and the total system thickness will depend mainly on the constructional material.

## C. Service life of coating system

Service life of coating system means the period of time from the moment of application of coating and until the moment when the first maintenance of painted surface is required. On the basis of this principle, GOST 34667 (ISO 12944) defines 4 time interwals for service
life of coating system:

| | |
|---|---|
| LOW – L | up to 7 years |
| MEDIUM – M | from 7 to 15 years |
| HIGH – H | from 15 to 25 years |
| VERY HIGH – VH | over 25 years |

## D. Planning the paint application process

The building schedule and the various stages of construction of any particular project determine how and when the paint system needs to be applied. Consideration needs to be given to materials at their prefabrication stage, when components are being prefabricated both off and on site and when building stages are complete.

It is necessary to plan the job so that surface preparation and the drying/curing time of paint products in relation to temperature and humidity are considered. Also recoating intervals must also be taken into account.

# 2. SURFACE PREPARATION

## 2.1 Degrees of surface preparation

There are many ways to classify steel surface preparation grades but this document focuses on those outlined below.

### A. Standart degrees of surface preparation during primary treatment by the method of abrasive blast cleaning

| Standard surface preparation grades for primary surface preparation by abrasive blasting methods | |
|---|---|
| Sa 3 | **Blast cleaning to visually clean steel**<br>When viewed without magnification, the surface shall be free from visible oil, grease and dirt, and shall be free from mill scale, rust, paint coatings and foreign matter[1]. It shall have a uniform metallic colour. |
| Sa 2½ | **Very thorough blast cleaning**<br>When viewed without magnification, the surface shall be free from visible oil, grease and dirt, and from mill scale, rust, paint coatings and foreign matter[1]. Any remaining traces of contamination shall show only as slight stains in the form of spots or stripes. |
| Sa 2 | **Thorough blast cleaning**<br>When viewed without magnification, the surface shall be free from visible oil, grease and dirt, and from most of the mill scale, rust, paint coatings and foreign matter[1]. Any residual contamination shall be firmly adhering[2]. |
| Sa 1 | **Light blast cleaning**<br>When viewed without magnification, the surface shall be free from visible oil, grease and dirt, and from poorly adhering mill scale, rust, paint coatings and foreign matter[1]. |

[1] The term 'foreign matter' may include water-soluble salts and welding residues. These contaminants can not always be completely removed from the surface by dry blast cleaning, hand and power tool cleaning or flame cleaning; Wet blast cleaning may be necessary.

[2] Mill scale, rust or a paint coating is considered to be poorly adhering if it can be removed by lifting with a blunt-edged spatula.

| Standard preparation grades for primary surface preparation by blast cleaning in accordance with ISO 8501-1 standard | |
|---|---|
| St 3 | **Very thorough hand and power tool cleaning**<br>As for St 2, but the surface shall be treated much more thoroughly to give a metallic sheen arising from the metallic substrate. |
| St 2 | **Thorough hand and power tool cleaning**<br>When viewed without magnification, the surfaces shall be free from visible oil, grease and dirt, and from poorly adhering mill scale, rust, paint coatings and foreign matter. |

**Notice:** Preparation grade St 1 is not included as it corresponds to a surface unsuitable for painting.

### B. Degrees of surface preparation in accordance with ISO 8501-4 Standard

Surface preparation grades by high pressure water cleaning should not only include the cleanliness grade but also the flash rust grade, since flash rusting may occur on cleaned steel during the drying period.

There are several ways to classify the degree to which a steel surface is prepared after high pressure water cleaning.

This guide has used the ISO 8501-4 surface preparation grade standard using high pressure water jetting: "Initial surface conditions, preparation grades and flash rust grades in connection with high pressure water jetting". The standard applies to surface preparation by high pressure water cleaning for a paint coating. It distinguishes three levels of cleanliness with reference to visible contaminants (Wa 1 – Wa 2½) such as rust, mill scale, old paint coatings and other foreign matter coatings and other foreign matter.

| Description of the surface after cleaning | |
|---|---|
| Wa 2½ | **Very thorough high-pressure water jetting**<br>When viewed without magnification, the surface shall be free from all visible rust, oil, grease, dirt, previous paint coatings and, except for slight traces, all other foreign matter. Discolouration of the surface can be present where the original coating was not intact. The grey or brown/black discolouration observed on pitted and corroded steel can not be removed by further water jetting. |
| Wa 2 | **Thorough high-pressure water jetting**<br>When viewed without magnification, the surface shall be free from visible oil, grease and dirt and most of the rust, previous paint coatings and other foreign matter. Any residual contamination shall be randomly dispersed and can consist of firmly adherent coatings, firmly adherent foreign matter and stains of previously existent rust. |
| Wa 1 | **Light high-pressure water jetting**<br>When viewed without magnification, the surface shall be free from visible oil and grease, loose or defective paint, loose rust and other foreign matter. Any residual contamination shall be randomly dispersed and firmly adherent. |

| Description of the surface appearance relating to three grades of flash rust | |
|---|---|
| FRA | **Light flash rust**<br>A surface which, when viewed without magnification, exhibits small quantities of a yellow/brown rust layer through which the steel substrate can be seen. The rust, (seen as a discolouration) can be evenly distributed or present in patches, but it will be tightly adherent and not easily removed by gentle wiping with a cloth. |
| FRB | **Medium flash rust**<br>A surface which, when viewed without magnification, exhibits a layer of yellow/brown rust that obscures the original steel surface. The rust can be evenly distributed or present in patches, but it will be reasonably well adherent and it will lightly mark a cloth that is gently wiped over the surface. |
| FRC | **Heavy flash rust**<br>A surface which, when viewed without magnification, exhibits a layer of red yellow/brown rust that obscures the original steel surface and is loosely adherent. The rust layer can be evenly distributed or present in patches and it will readily mark a cloth that is gently wiped over the surface. |

## 2.2 Types of surfaces

### A. Steel surfaces

To guarantee that a coating system delivers long lasting protection, it is essential to ensure that the right surface preparation is carried out before any paint is applied.
For this reason the initial surface condition of the steel needs to be evaluated.
Generally speaking, the condition of a steel surface prior to painting falls into one of the three following categories:
1) a bare steel structure with no previous protective paint coatings;
2) a steel surface coated with a shopprimer;
3) a steel surface coated with a paint system which needs to be maintained.

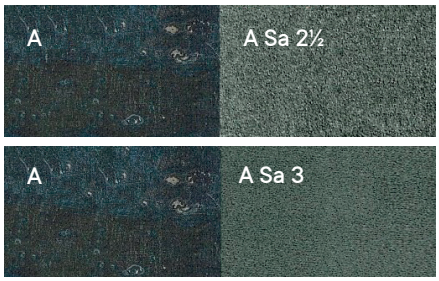
These categories are described more particularly below.

### a) Steel structure with no previous protective coatings

Steel surfaces which have never been protected by paint coatings may be covered to a varying extent by rust, mill scale or other contaminants (dust, grease, ionic contamination/soluble salts, residues etc.).
The initial condition of such surfaces is defined by ISO 8501–1 standard: “Preparation of steel substrates before application of paints and related products. Visual assessment of surface cleanliness”.

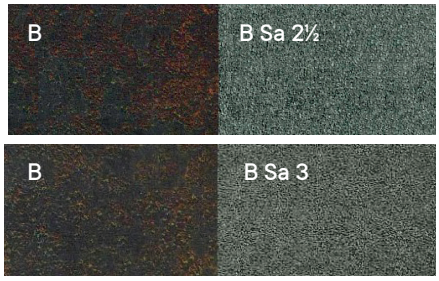
**Стандарт ИСО 8501–1 определяет четыре первоначальных состояния: A, B, C, D**

A



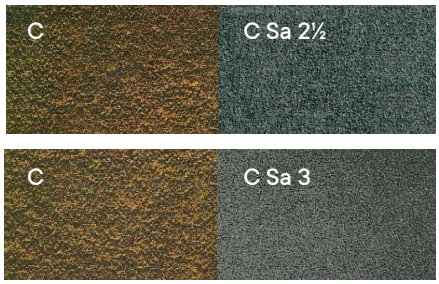

A — Steel surface largely covered with adherent mill scale but little, if any, rust.

B



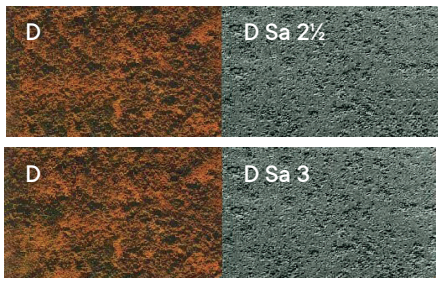

B — Steel surface which has begun to rust and from which the mill scale has begun to flake.

C




C — Steel surface on which the mill scale has rusted away or can be removed by scraping, but with slight pitting visible under normal vision.

D




D — Steel surface on which the mill scale has rusted away and on which general pitting is visible under normal vision.

The corresponding photographs show levels of corrosion, preparation grades of unprotected steel substrates and steel substrates after completely removing previous coatings.

## b) Steel surface covered with shopprimers

The main purpose of applying shopprimers is to protect steel plates and structural components used in the prefabrication stage, or in storage before a main paint system is applied. A shopprimer film thickness normally equals 20–25 µm (these figures are quoted for a smooth test panel). Steel plates and structural components coated with shopprimers can be welded.

Surfaces coated with a shopprimer must be prepared correctly prior to the application of a finishing paint system; this is termed, 'second surface preparation'. A shopprimer may need to be partially or completely removed.

The second surface preparation will be determined, by the finishing paint system and two key factors need to be taken into account:

- the compatibility of an applied shopprimer and a finishing paint system;
- the surface profile achieved during preparation prior to a shopprimer application, i.e. whether the profile is suitable for a finishing paint system.

A surface coated with a shopprimer should always be thoroughly washed with water and detergent at 15–20 MPa pressure and then rinsed carefully prior to a paint system application. Corrosion and damage due to welding spots must be cleaned to the preparation grade as specified in the ISO 8501–1 standard.

### c) A steel surface coated with a paint system which needs to be maintained

The condition of an existing paint system must be assessed using the degradation grade according to the standard and this must be done each time maintenance work is carried out. It will need to be determined whether the system should be completely removed or whether parts of the coating can remain. For the different amounts of surface preparation required refer to ISO 8501–2 standard: "Preparation of steel substrates before application of paints and related products. Visual assessment of surface cleanliness. Preparation grades of previously coated steel substrates after localised removal of previous coatings".

### B. Hot dipped galvanised steel, aluminium and stainless steel surfaces

In addition to standard steel, other non-iron materials can be used in construction such as hot dipped galvanised steel, aluminium or high-alloy steels. All of them require a separate approach in terms of surface preparation and the selection of a paint system.

### a) Hot dipped galvanised steel

When galvanised steel is exposed to the atmosphere, zinc corrosion products form on its surface. These products vary in their composition and adhesion and influence therefore the adhesive properties of applied paint systems.
It is generally considered that the best surface for painting is one of pure, (within hours of the galvanisation process) or seasoned zinc. For stages in between it is recommended that the zinc corrosion products are removed by washing the surface with alkaline cleaner. If necessary, washing should be combined with scrubbing using a special hard nylon bristle brush, abrasive paper or the surface cleaned by an abrasive, (glass balls, sand, etc.). For coating systems in lower corrosion classes, special adhesion primers are recommended. For coating systems in higher corrosion classes, surface preparation should include mechanical preparation of the surface, preferably by abrasive sweep blasting with a mineral abrasive.

### b) Aluminium and stainless steel surfaces

In the case of aluminium and stainless steel, the surface should be cleaned with fresh water and a detergent, then rinsed off thoroughly by pressure washing with fresh water. To obtain better adhesion for the paint system, it is recommended that abrasive blasting is carried out with a mineral abrasive or special brushes are used.

## 3. O3's PROTECTIVE COATINGS

O3 COMPANY offers the following types of coatings:

ONE COMPONENT COATINGS:
a) acrylic
b) based on synthetic film-forming agent
c) silicon-acrylic
d) ethyl silicate

TWO COMPONENT COATINGS:
a) epoxy
b) acryl polyurethane

## 4. USEFUL DEFINITIONS AND FORMULAS

Definitions of basic terms related to the technology of applying protective coatings are below. We introduce several necessary terms and formulas that you should familiarize yourself with when working with paints:

**WFT** – wet film thickness, µm
**DFT** – dry film thickness, µm
**VS** – volume solid, %
**LF** – loss factor

### A. Coating layer thickness calculation

Wet film thickness calculation:

$$\text{WFT (µm)} = \frac{\text{DFT (µm)} \times 100}{\text{VS (\%)}}$$

Dry film thickness calculation:

$$\text{DFT (µm)} = \frac{\text{WFT (µm)} \times \text{VS (\%)}}{100}$$

Diluting of the material affects on volume solids. The larger diluting, the lower residue in paint, that is for application. The volume solids new value can be calculated as follows:

$$\textbf{VS from Technical Data Sheet} \times \frac{100\%}{100 + \%\ \text{dilution}} = \%$$

Volume solids changing results relative to conventional dilution ratios are given below:

| DRY BALANCE BY VOLUME (%) according to technical product description | DILUTING, % | | | | | |
|---|---|---|---|---|---|---|
| | 2,5 | 5 | 7,5 | 10 | 12,5 | 15 |
| | RECEIVED DRY BALANCE BY VOLUME (%) | | | | | |
| 45 | 44 | 43 | 42 | 41 | 40 | 39 |
| 50 | 49 | 48 | 47 | 45 | 44 | 43 |
| 55 | 54 | 52 | 51 | 50 | 49 | 48 |
| 60 | 59 | 57 | 56 | 55 | 53 | 52 |
| 65 | 63 | 62 | 60 | 59 | 58 | 57 |
| 70 | 68 | 67 | 65 | 64 | 62 | 61 |
| 75 | 73 | 71 | 70 | 68 | 67 | 65 |
| 80 | 78 | 76 | 74 | 73 | 71 | 70 |
| 85 | 83 | 81 | 79 | 77 | 76 | 74 |
| 90 | 88 | 86 | 84 | 82 | 80 | 78 |
| 95 | 93 | 90 | 88 | 86 | 84 | 83 |
| 100 | 98 | 95 | 93 | 91 | 89 | 87 |

DO NOT FORGET TO TAKE INTO ACCOUNT THE DILUTION WHEN CALCULATING WFT AND DFT

## B. Theoretical spreading rate

Material's theoretical spreading rate with a given dry film thickness on a perfectly smooth surface is calculated by:

$$\frac{DFT(\mu m)}{VS\ (\%) \times 10} = l/m^2$$

## C. Practical spreading rate

Material's practical spreading rate is calculated by multiplying the theoretical flow rate by the corresponding coefficient of loss factor:

$$\text{Theoretical spreading rate } (l/m^2) \times LF = l/m^2$$

Painting work's loss factor is calculated by work developer depending on a number of factors:

### The complexity of the painted surface

Difficult and small surfaces are almost impossible to paint without loss. This will lead to an increase in spreading rate compared to the calculated.

### Surface roughnesses

Surface roughnesses assumes the presence of a “dead volume”, for filling of which more paint is used than on a smooth surface. In the case of an interoperable primer with a thin film, this creates the effect of a larger surface, which leads to a greater consumption of paint, since the film of such a primer is evenly distributed over the cavities and peaks of the surface roughnesses.

### Methods and conditions of painting

Losses due to atmospheric conditions, paint residues in pumps and hoses, insufficient painter skills, etc. lead to increased paint spreading rate.

Example. If material loss is 30%, then 70% applied to the surface.

$$LF = \frac{100}{100-30} = \frac{100}{70} = 1{,}43$$

# 5. O3 COMPANY'S COATING SYSTEMS

Below are the recommended coating systems for various corrosivity category of the atmosphere and other media in accordance with the requirements of ISO 12944-5: 2019

## C1/C2 CORROSIVITY CATEGORIES

| Lifetime | Medium (7–15 years) | | High (15–25 years) | | Extra High (over 25 years) | |
|---|---|---|---|---|---|---|
| System number | 1 | | 2 | | 3 | |
| | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ PRIMER 1100 | 70 | TRIOCOR™ MASTIC 4500 | 80 | TRIOCOR™ MASTIC 4500 | 100 |
| Intermediate coat | | | - | | - | |
| Top coat | TRIOCOR™ FINISH 5100 | 60 | TRIOCOR™ FINISH 5500 | 50 | TRIOCOR™ FINISH 5500 | 60 |
| Total | 2 layers, 120 µm | | 2 layers, 130 µm | | 2 layers, 160 µm | |
| **Surface preparation** | | | | | | |
| Dry abrasive blasting (ISO 8501–1:2007) | Sa 2½ | | Sa 2½ | | Sa 2½ | |
| Hydro-blasting (ISO 8501–4:2006) | Not recommended | | Not recommended | | Not recommended | |
| Hand and power tool cleaning (ISO 8501–1:2007) | St 3 | | St 3 | | St 3 | |
| **Environmental and Surface Conditions** | | | | | | |
| Surface profile | 40–60 µm | | 50–75 µm | | 50–75 µm | |
| Surface condition | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | |
| Atmosphere relative humidity | < 80% | | < 80% | | < 80% | |
| Air temperature | +5 °C ÷ +30 °C PRIMER<br>–30 °C ÷ +30 °C FINISH | | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | |

## C3 CORROSIVITY CATEGORY

| Lifetime | Low (less than 7 years) | | | | Medium (7–15 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 1 | | 2 | | 3 | | 4 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ Primer 1100 | 70 | TRIOCOR™ Top Primer 2100 | 60 | TRIOCOR™ Primer 1100 | 60 | TRIOCOR™ MASTIC 4500 | 70 |
| Intermediate coat | - | | - | | TRIOCOR™ Primer 1100 | 60 | - | |
| Top coat | TRIOCOR™ FINISH 5100 | 50 | TRIOCOR™ TOP Primer 2100 | 60 | TRIOCOR™ FINISH 5100 | 40 | TRIOCOR™ FINISH 5500 | 50 |
| Total | 2 layers, 120 µm | | 2 layers, 120 µm | | 3 layers, 160 µm | | 2 layers, 120 µm | |

### Surface preparation

| | | | | |
|---|---|---|---|---|
| Dry abrasive blasting (ISO 8501–1:2007) | Sa 2½ | Sa 2½ | Sa 2½ | Sa 2½ |
| Hydro-blasting (ISO 8501–4:2006) | Not recommended | Not recommended | Not recommended | Not recommended |
| Hand and power tool cleaning (ISO 8501–1:2007) | St 3 | St 3 | St 3 | St 3 |

### Environmental and Surface Conditions

| | | | | |
|---|---|---|---|---|
| Surface profile | 40–60 µm | 40–60 µm | 50–75 µm | 50–75 µm |
| Surface condition | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C |
| Atmosphere relative humidity | < 80% | < 80% | < 80% | < 80% |
| Air temperature | +5 °C ÷ +30 °C Primer –30 °C ÷ +30 °C Finish | –25 °C ÷ +30 °C | +5 °C ÷ +30 °C Primer –30 °C ÷ +30 °C Finish | –10 °C ÷ +40 °C |

| Lifetime | High (15–25 years) | | | | Extra High (over 25 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 5 | | 6 | | 7 | | 8 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ MASTIC 4500 | 100 | ТРИОКОР™ Цинк 1700 | 40 | TRIOCOR™ MASTIC 4500 | 100 | TRIOCOR™ ZINK 1700 | 60 |
| Intermediate coat | - | | TRIOCOR™ MASTIC 4500 | 80 | - | | TRIOCOR™ MASTIC 4500 | 80 |
| Top coat | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 |
| Total | 2 layers, 160 µm | | 3 layers, 180 µm | | 2 layers, 160 µm | | 3 layers, 200 µm | |

### Surface preparation

| | | | | |
|---|---|---|---|---|
| Dry abrasive blasting (ISO 8501–1:2007) | Sa 2½ | Sa 2½ | Sa 2½ | Sa 2½ |
| Hydro-blasting (ISO 8501–4:2006) | Not recommended | Not recommended | Not recommended | Not recommended |
| Hand and power tool cleaning (ISO 8501–1:2007) | St 3 | St 3 | St 3 | St 3 |

### Environmental and Surface Conditions

| | | | | |
|---|---|---|---|---|
| Surface profile | 50–75 µm | 50–75 µm | 50–75 µm | 50–75 µm |
| Surface condition | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C |
| Atmosphere relative humidity | < 80% | < 80% | < 80% | < 80% |
| Air temperature | –10 °C ÷ +40 °C Finish | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C |

## O3 COATING SYSTEMS FOR C4 CORROSIVITY CATEGORY

### C4 CORROSIVITY CATEGORY

| Lifetime | Low (less than 7 years) | | | | Medium (7–15 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 1 | | 2 | | 3 | | 4 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ PRIMER 1100 | 100 | TRIOCOR™ MASTIC 4500 | 70 | TRIOCOR™ MASTIC 4500 | 100 | TRIOCOR™ ZINK 1700 | 40 |
| Intermediate coat | - | | - | | - | | TRIOCOR™ MASTIC 4500 | 80 |
| Top coat | TRIOCOR™ FINISH 5100 | 60 | TRIOCOR™ FINISH 5500 | 50 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 |
| Total | 2 layers, 160 µm | | 2 layers, 120 µm | | 2 layers, 160 µm | | 3 layers, 180 µm | |

### Surface preparation

| | | | | |
|---|---|---|---|---|
| Dry abrasive blasting (ISO 8501-1:2007) | Sa 2½ | Sa 2½ | Sa 2½ | Sa 2½ |
| Hydro-blasting (ISO 8501-4:2006) | Not recommended | Not recommended | Not recommended | Not recommended |
| Hand and power tool cleaning (ISO 8501-1:2007) | St 3 | St 3 | St 3 | St 3 |

### Environmental and Surface Conditions

| | | | | |
|---|---|---|---|---|
| Surface profile | 50–75 µm | 50–75 µm | 50–75 µm | 50–75 µm |
| Surface condition | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C |
| Atmosphere relative humidity | < 80% | < 80% | < 80% | < 80% |
| Air temperature | +5 °C ÷ +30 °C Primer<br>–30 °C ÷ +30 °C Finish | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C |

| Lifetime | High (15–25 years) | | | | Extra High (over 25 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 5 | | 6 | | 7 | | 8 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ MASTIC 4500 | 100 | ТРИОКОР™ Цинк 1700 | 60 | TRIOCOR™ MASTIC 4500 | 200 | TRIOCOR™ ZINK 1700 | 50 |
| Intermediate coat | - | | TRIOCOR™ MASTIC 4500 | 80 | - | | TRIOCOR™ MASTIC 4500 | 160 |
| Top coat | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 50 | TRIOCOR™ FINISH 5500 | 60 |
| Total | 2 layers, 160 µm | | 3 layers, 200 µm | | 2 layers, 250 µm | | 3 layers, 270 µm | |

### Surface preparation

| | | | | |
|---|---|---|---|---|
| Dry abrasive blasting (ISO 8501-1:2007) | Sa 2½ | Sa 2½ | Sa 2½ | Sa 2½ |
| Hydro-blasting (ISO 8501-4:2006) | Not recommended | Not recommended | Not recommended | Not recommended |
| Hand and power tool cleaning (ISO 8501-1:2007) | St 3 | St 3 | St 3 | St 3 |

### Environmental and Surface Conditions

| | | | | |
|---|---|---|---|---|
| Surface profile | 50–75 µm | 50–75 µm | 50–75 µm | 50–75 µm |
| Surface condition | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C |
| Atmosphere relative humidity | < 80% | < 80% | < 80% | < 80% |
| Air temperature | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C | –10 °C ÷ +40 °C |

## C5 CORROSIVITY CATEGORY

| Lifetime | Low (less than 7 years) | | | | Medium (7–15 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 1 | | 2 | | 3 | | 4 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ MASTIC 4500 | 120 | TRIOCOR™ ZINK 1700 | 40 | TRIOCOR™ MASTIC 4500 | 180 | TRIOCOR™ ZINK 1700 | 60 |
| Intermediate coat | - | | TRIOCOR™ MASTIC 4500 | 80 | - | | TRIOCOR™ MASTIC 4500 | 80 |
| Top coat | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 50 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 60 |
| Total | 2 layers, 180 µm | | 2 layers, 170 µm | | 3 layers, 240 µm | | 2 layers, 200 µm | |
| **Surface preparation** | | | | | | | | |
| Dry abrasive blasting (ISO 8501-1:2007) | Sa 2½ | | Sa 2½ | | Sa 2½ | | Sa 2½ | |
| Hydro-blasting (ISO 8501-4:2006) | Not recommended | | Not recommended | | Not recommended | | Not recommended | |
| Hand and power tool cleaning (ISO 8501-1:2007) | St 3 | | St 3 | | St 3 | | St 3 | |
| **Environmental and Surface Conditions** | | | | | | | | |
| Surface profile | 50–75 мкм | | 50–75 мкм | | 50–75 мкм | | 50–75 мкм | |
| Surface condition | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | |
| Atmosphere relative humidity | < 80% | | < 80% | | < 80% | | < 80% | |
| Air temperature | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | |

| Lifetime | High (15–25 years) | | | | Extra High (over 25 years) | | | |
|---|---|---|---|---|---|---|---|---|
| System number | 5 | | 6 | | 7 | | 8 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ MASTIC 4500 | 200 | TRIOCOR™ ZINK 1700 | 60 | TRIOCOR™ MASTIC 4500 | 140 | TRIOCOR™ ZINK 1700 | 60 |
| Intermediate coat | - | | TRIOCOR™ MASTIC 4500 | 140 | TRIOCOR™ MASTIC 4500 | 140 | TRIOCOR™ MASTIC 4500 | 200 |
| Top coat | TRIOCOR™ FINISH 5500 | 50 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 80 | TRIOCOR™ FINISH 5500 | 60 |
| Итого | 2 layers, 250 µm | | 3 layers, 260 µm | | 3 layers, 360 µm | | 3 layers, 320 µm | |
| **Surface preparation** | | | | | | | | |
| Dry abrasive blasting (ISO 8501-1:2007) | Sa 2½ | | Sa 2½ | | Sa 2½ | | Sa 2½ | |
| Hydro-blasting (ISO 8501-4:2006) | Not recommended | | Not recommended | | Not recommended | | Not recommended | |
| Hand and power tool cleaning (ISO 8501-1:2007) | St 3 | | St 3 | | St 3 | | St 3 | |
| **Environmental and Surface Conditions** | | | | | | | | |
| Surface profile | 50–75 µm | | 50–75 µm | | 50–75 µm | | 50–75 µm | |
| Surface condition | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | |
| Atmosphere relative humidity | < 80% | | < 80% | | < 80% | | < 80% | |
| Air temperature | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | | –10 °C ÷ +40 °C | |

## CORROSIVE ACTIVITY CATEGORY CX

| Lifetime | Medium (15–25 years) | |
|---|---|---|
| | Material | DFT |
| Primer | TRIOCOR™ MASTIC 4500 | 145 |
| Intermediate coat | TRIOCOR™ MASTIC 4500 MIO | 145 |
| Top coat | TRIOCOR™ FINISH 5500 | 60 |
| Total | 3 layers, 350 µm | |

| Environmental and Surface Conditions | |
|---|---|
| Surface profile | 50–70 µm |
| Surface condition | Must be dry,<br>t > dew point +3 °C |
| Atmosphere relative humidity | < 80% |
| Air temperature | +5 °C ÷ +40 °C |

| Surface preparation | |
|---|---|
| Dry abrasive blasting<br>(ISO 8501-1:2007) | Sa 2½ |
| Hydro-blasting<br>(ISO 8501-4:2006) | Not recommended |
| Hand and power tool cleaning<br>(ISO 8501-1:2007) | St 3 |

## IMMERSED STRUCTURES (CARBON STEEL) / SEAWATER / FRESHWATER / SOIL

| Lifetime | Medium (15–25 years) | | High (over 25 years) | |
|---|---|---|---|---|
| System number | Anti-slip flooring | | 2 | |
| | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ ABRASIV 4400 | 500 | TRIOCOR™ ABRASIV 4400 | 175 |
| Abrasive filler | Micromarble fraction 0.5–2 mm | | | |
| Intermediate coat | TRIOCOR™ ABRASIV 4400 | 500 | - | |
| Top coat | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ ABRASIV 4400 | 175 |
| Total | 3 layers, 1060 µm | | 3 layers, 350 µm | |

| Environmental and Surface Conditions | |
|---|---|
| Surface profile | 40–70 µm |
| Surface condition | Must be dry,<br>t > dew point +3 °C |
| Atmosphere relative humidity | < 90% |
| Air temperature | +5 °C ÷ +40 °C |

| Surface preparation | |
|---|---|
| Dry abrasive blasting<br>(ISO 8501-1:2007) | Sa 2½ |
| Hydro-blasting<br>(ISO 8501-4:2006) | Wa 2½ |
| Hand and power tool cleaning<br>(ISO 8501-1:2007) | St 3 |

## INTERNAL SURFACES OF FUEL TANKS/RESERVOIRS for storing oil, petroleum products, brine solutions, etc.

| Lifetime | 10 years | | 15 years (Operating temperature range: up to +150 °C.) | |
|---|---|---|---|---|
| System number | 1 | | 2 | |
| | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ RVS 9510 | 100 | TRIOCOR™ RVS 9510 | 160 |
| Intermediate coat | - | - | - | - |
| Top coat | TRIOCOR™ RVS 9510 | 100 | TRIOCOR™ RVS 9510 | 160 |
| Total | 2 layers, 200 µm | | 2 layers, 320 µm | |

| Environmental and Surface Conditions | |
|---|---|
| Surface profile | 40–70 µm |
| Surface condition | Must be dry,<br>t > dew point +3 °C |
| Atmosphere relative humidity | < 80% |
| Air temperature | +5 °C ÷ +40 °C |

| Surface preparation | |
|---|---|
| Dry abrasive blasting<br>(ISO 8501-1:2007) | Sa 2½ |
| Hydro-blasting<br>(ISO 8501-4:2006) | Wa 2½ |
| Hand and power tool cleaning<br>(ISO 8501-1:2007) | St 3 |

## SYSTEMS WITH INCREASED HEAT RESISTANCE

| Operation temperatures | From 101 °C to 400 °C | | From 401 °C to 600 °C | |
|---|---|---|---|---|
| | Material | DFT | Material | DFT |
| Primer | TRIOTEMP™ 400 | 60 | TRIOTEMP™ 600 | 25 |
| Intermediate coat | TRIOTEMP™ 600 | 25 | - | - |
| Top coat | TRIOTEMP™ 600 | 25 | TRIOTEMP™ 600 | 25 |
| Total | 3 layers, 110 µm | | 2 layers, 50 µm | |

### Surface preparation

| | |
|---|---|
| Dry abrasive blasting (ISO 8501–1:2007) | Sa 2½ |

### Environmental and Surface Conditions

| | | |
|---|---|---|
| Surface profile | 60–100 µm (ISO 8503–4) | 30–50 µm (ISO 8503–4) |
| Surface condition | Must be dry, t > dew point +3 °C | Must be dry, t > dew point +3 °C |
| Atmosphere relative humidity | 50–90 % | < 80% |
| Air temperature | +5 °C ÷ +30 °C | +5 °C ÷ +30 °C |

## SYSTEM FOR PROTECTION OF CONCRETE AND REINFORCED-CONCRETE STRUCTURES

| Corrosive activity | Category C4 | | | | | | Category C5 | |
|---|---|---|---|---|---|---|---|---|
| Lifetime | Medium (15–25 years) | | | | | | Medium (15–25 years) | |
| System number | 1 | | 2 | | 3 | | 4 | |
| | Material | DFT | Material | DFT | Material | DFT | Material | DFT |
| Primer | TRIOCOR™ BETON 4700 | 60 | TRIOCOR™ TOP PRIMER 2100 | 60 | TRIOCOR™ MASTIC 4500 | 100 | TRIOCOR™ MASTIC 4500 | 120 |
| Top coat | TRIOCOR™ BETON 4700 | 60 | TRIOCOR™ TOP PRIMER 2100 | 60 | TRIOCOR™ FINISH 5500 | 60 | TRIOCOR™ FINISH 5500 | 80 |
| Total | 2 layers, 120 µm | | 2 layers, 120 µm | | 2 layers, 160 µm | | 2 layers, 200 µm | |
| **Surface preparation** | | | | | | | | |
| Air temperature | –30 °C ÷ +30 °C | | –25 °C ÷ +30 °C | | Not below –10 °C | | Not below –10 °C | |
| Surface condition: Humidity, % | Not over 4 | | Not over 4 | | Not over 4 | | Not over 4 | |
| Alcalinity, pH | Not less 7 | | Not less 7 | | Not less 7 | | Not less 7 | |
| Break-down point, MPa | Not less 15 | | Not less 15 | | Not less 15 | | Not less 15 | |
| Surface condition | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | | Must be dry, t > dew point +3 °C | |
| Atmosphere relative humidity | < 80% | | < 80% | | < 80% | | < 80% | |

| | | |
|---|---|---|
| Metallic components and rebars | Surface profile | 50–75 µm |
| Concrete | Roughness of concrete | 3SH |

| | Metallic components and rebars |
|---|---|
| Dry abrasive blasting (ISO 8501–1:2007) | Sa 2½ |
| Очистка ручным и механизированным инструментом (ИСО 8501–1:2007) | St 3 |

| Concrete |
|---|
| Surfaces to be free of cement slurry, blooms, dirt in the form of fat and oil, old coatings. Treatment types recommended: hydro-abrasive, abrasive blast, mechanized, highpressure water cleaning, allowing to ensure roughness of concrete. |

## 6. THE CONTROL OF THE FORMED PAINT COATING

After complete formation, the coating is subject to visual inspection for the presence of staining defects.
The list of the most common defects, their causes and methods of elimination are given below:

| Defects | Reasons | Prevention |
|---|---|---|
| Sags | Viscosity below normal | Use materials with standard viscosity |
| | Too thick the material layer | Reduce material consumption |
| | The distance from the airbrush to the surface is shorter than normal, the sprayer incorrectly oriented | Keep the airbrush perpendicular to the surface at a 200–400 mm distance |
| | The airbrush moves slow on the surface | Speed up the sprayer |
| | Too high surface temperature (in case use two-pack materials) | Reduce material temperature |
| | To fix the sags: until the material began to dry, remove it with a brush. After drying the film, the defective areas must be cleaned and coated again. | |
| Orange peel | Poor dispersion of particles caused by low pressure at the nozzle exit | Regulate the pressure |
| | Low air temperature during the material application | Stop the painting before establishment permissible temperature |
| | Increased material viscosity | Use materials with standart viscosity |
| | Too fast thinner evaporation | Use according with regulatory documentation thinner |
| | Remove the coating and then re-apply | |
| Peeling | Poor surface preparation | Carefully supervise the preparation surface |
| | Incompatibility with the bottom coating | Make the right selection of the coating system |
| | Contamination of the intermediate coating layer | Carefully control surface cleanliness |
| | Application material on the overdried lower layers | Sand the surface. Observe the terms of drying layers |
| | Application at low temperature and high humidity | Stop painting to establish permissible temperature and humidity |
| | Remove the coating and then re-apply | |
| Dry spray | Spray distance to surface is too large | Keep the airbrush on the right distance from the painted surface |
| | Too large spray angle | Keep the airbrush on the right angle |
| | The thinner evaporates too quickly | Use correct solvent |
| | Too high air temperature | Stop the painting to reduce the temperature to acceptable values |
| | Remove the coating and then re-apply | |
| Bleeding | Invasion of the coloring pigments from the previous layer to the next | Change the coating system |
| Cratering | Porosity of the painted surface or the previous coating layer | Control the surface preparation and application of each coating layer |
| | The paint is applied at higher air temperatures or on a dirty surface | Comply with technological requirements documentation |
| | Water and air bubbles in the paint | Change the material |
| | Remove the coating and then re-apply | |

| | | |
|---|---|---|
| Bubbling | Using of thinners not covered by the documentation | Use of thinners, covered by the documentation |
| | Insufficient cleaning of the surface from soluble salt, moisture, oils, and other pollutants | Thorough washing or degreasing of the surface |
| | Material's pollution by water and mineral oils | Change the material |
| | Presence of air bubbles in paintwork material | Change the material |
| | Remove the coating and then re-apply | |
| Cracking | Paint application to uneven by thickness layer | Paint application evenly in thickness |
| | Application material on the overdried lower layers | Observe the terms of drying layers |
| | Increased temperature of painted surface | Stop painting to establish permissible temperature |
| | Applying too thick paint coat | Apply paint coat with necessary thickness |
| | Applying paint on undiluted previous layer | Observe the terms of drying layers |
| | Remove the coating and then re-apply | |
| Uneven gloss, different shades of color | Low temperature and high humidity paint application | Stop painting until temperature and humidity reach required levels |
| | Moisture in the material | Change the material |
| | Bad stirring of paint before application | Stir paint thoroughly |
| | Smooth out the coating then apply an extra layer of paint | |
| Dust contamination | Surface contamination by mechanical impurities, poor filtration | Filter the paint |
| | Surface contamination by mechanical particles | Closely monitor the cleanliness surfaces before painting |
| | Smooth out the coating then apply an extra layer of paint | |

DESCRIPTION:

**A two-pack epoxy zinc rich primer with high zinc dust content.**

TYPE AND RECOMMENDED USE:

As a primer to give protection of steel as part of an anti-corrosive coating system in severely corrosive environments up to C5 as defined in ISO 12944–2 including industrial, oil&gas and infrastructure facilities. It has good resistance to splashes from sea water, fresh water, oil and refined products. May be used at temperature up to +150 °C. May be used as a repair primer for galvanised surfaces.

PHYSICAL CONSTANTS:

Colour:

Grey

Volume solids:

62±5%

Theoretical spreading rate:

0,097 l/m$^2$ - DFT 60 µm

Film thicknesses:

**Typical thicknesses:**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 65 | 40 |
| Maximum | 161 | 100 |

Drying times:

**Drying times for DFT 60 µm**

| Surface temperature | 0 °C | 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C |
|---|---|---|---|---|---|---|---|---|
| To touch | 35 min | 15 min | 14 min | 12 min | 10 min | 9 min | 7 min | 5 min |
| To recoat | | | | | | | | |
| TRIOCOR™ MASTIC 4500 | 8 h | 4 h | 3 h | 2,5 h | 2 h | 1,5 h | 1 h | 0,5 h |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

If TRIOCOR™ ZINC 1700 is exposed to the weather, there is a risk of the formation of zinc salts on the surface, which must be removed by flash blasting or washing down prior to overcoating, otherwise intercoat adhesion may be adversely affected. The rate of zinc salt formation will vary from one location to another. Under severe conditions e.g. marine coastal, offshore or heavy industrial areas, it is strongly recommended that overcoating takes place within 7 days.

SURFACE PREPARATION:

Apply only on a dry and clean surface with a temperature at least 3 °C above the dew point. There are following surface preparation stages: remedy imperfections to P2 in accordance with ISO 8501–3; remove oil and grease (if necessary; recommended solvent — P4); remove salt if necessary; blast clean to Sa 2½ in accordance with GOST R ISO 8501–1–2014 with average surface profile in the range 50–75 microns, if maintenance clean damaged areas thoroughly to minimum P St 3; dust, blast abrasives shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

A two component material. Before mixing with the Additive stir the Base and the Additive separately. Mixing Ratio: 4 parts Base to 1 part Additive by volume, maintain stirring to have the wet paint as a homogeneous mixture.

| | |
|---|---|
| Pot life: | 10 h — 15 °C; 8 h — 20 °C; 4 h — 35 °C |
| Application method: | Airless spray / Manual application |
| Thinner: | Thinner TRIOSOLV™ 0002 (if necessary), up to 5% by volume for airless spray. Contact your O3 Company representative for additional data. |
| Nozzle size (recommended): | .009”-.017” |
| Operating pressure (recommended): | (120–160) bar |
| Cleaning of tools: | Thinner TRIOSOLV™ 0002 (other solvents may be used in consultation with O3 Company). |
| Application conditions: | Should be applied at temperatures above –10 °C;<br>Relative humidity: 85% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | |
| Preceding coat: | None |
| Subsequent coat: | TRIOCOR™ MASTIC 4500. Contact your O3 Company representative for additional data. |
| STORAGE: | 18 months from date of manufacture. Store in dry, shaded conditions at temperature between 0 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Base – 10 L container;<br>Additive – 3 L container. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ ZINC 1700?

**Quick dry epoxy zinc reach primer**
This type of primer is widely used for protection of industrial facilities, where durability and speed of application of coating system are the principal requirements.
Dry to touch: 10 minutes at 20 °C.
Curing down to minus 10 °C.
Offers exceptional anti-corrosion protection.
May be used as a repair primer for galvanised surfaces.
No induction time. Independently tested and certified as part of a three coat systems to provide corrosion protection in N1, NF1, F1 environments in accordance with GOST 15150–69.

Updated: September 2025
This Technical Description replaces all those issued earlier. If there are any non-compliances between this document and the Technical Description published at o3.com, then the latter shall have priority

DESCRIPTION:

**A two-pack high-build modified epoxy zinc phosphate primer.**

TYPE AND RECOMMENDED USE:

Multi-functional epoxy coating is suitable for the protection of steelwork, including industrial, oil&gas and infrastructure facilities exposed up to C5 as defined in ISO 12944. May be used at temperature up to +120 °C. Not for immersion service.

PHYSICAL CONSTANTS:

Colour:

Grey

Volume solids:

70±5%

Theoretical spreading rate:

0,107 l/m² - DFT 75 µm

Film thicknesses:

**Typical thicknesses**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 107 | 75 |
| Maximum | 367 | 275 |

Drying times:

**Drying times for DFT 75 µm:**

| Surface temperature | 0 °C | 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C |
|---|---|---|---|---|---|---|---|---|
| To touch | 9 h | 5 h | 2 ½ h | 1 ½ h | 1¼ h | 1 h | 55 min | ¾ h |
| To recoat | | | | | | | | |
| TRIOCOR™ MASTIC 4500 | 32 h | 16 h | 8 h | 5 h | 4 h | 3 h | 2½ h | 2 h |
| TRIOCOR™ FINISH 5500 | 32 h | 16 h | 8 h | 5 h | 4 h | 3 h | 2½ h | 2 h |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

Surface preparation:

Apply only on a dry and clean surface with a temperature at least 3 °C above the dew point. There are following surface preparation stages: remedy imperfections to P2 in accordance with ISO 8501–3; remove oil and grease (if necessary; recommended solvent — P4); remove salt if necessary; blast clean to Sa 2½ in accordance with GOST R ISO 8501–1–2014 with average surface profile in the range 50–75 microns, if maintenance clean damaged areas thoroughly to minimum P St 3; dust, blast abrasives shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

A two component material. Before mixing with the Additive stir the Base and the Additive separately. Mixing Ratio is given in product certificates of quality.

Pot life:

2½ h — 15 °C; 1 ½ h — 20 °C; 1 h — 35 °C

Application method:

Airless spray / Manual application

Thinner:

Thinner TRIOSOLV™ 0002 (if necessary), up to 7,5% by volume for airless spray. Contact your O3 Company representative for additional data.

| | |
|---|---|
| Nozzle size (recommended): | .013”-.019” |
| Operating pressure (recommended): | Not less than 150 bar |
| Cleaning of tools: | Thinner TRIOSOLV™ 0002 (other solvents may be used in consultation with O3 Company). |
| Application conditions: | Should be applied at temperatures above –10 °C;<br>Relative humidity: 90% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | |
| Preceding coat: | The primer is applied directly to the prepared metal surface. It can be used as an intermediate layer in coating systems for other primers: epoxy, epoxy with zinc addition, zinc silicate, etc. For more information, please contact O3 Company. |
| Subsequent coat: | TRIOCOR™ FINISH 5500. Contact your O3 Company representative for additional data. |
| STORAGE: | 24 months from date of manufacture. Store in dry, shaded conditions at temperature between 0 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Set “Base – Additive” 20 L |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ MASTIC 4500?

**Multi-functional epoxy primer /intermediate coating/ top coat zinc phosphate material**
Multi-functional epoxy coating is suitable for the protection of steelwork in a range of exposure environments from C1 to C5 as defined in ISO 12944. Not for immersion service

Shows excellent weathering performance. Contains zinc phosphate.
Broad application thickness range: 75 microns to 275 microns dft.
Fast drying: to touch – 1 hour 15 minutes, to recoat – 4 hours at 20 °C.
Curing down to minus 10 °C.
Indefinitely overcoatable by itself. The first layer can be shop applied, the second layer – on site applied. Adapting to project schedules without risking performance.
No induction time.

DESCRIPTION:

**A two-pack high-build modified epoxy MIO-pigment primer.**

TYPE AND RECOMMENDED USE:

Multi-functional epoxy coating is suitable for the protection of steelwork in a range of exposure environments from C1 to C5 as defined in ISO 12944, including industrial, oil&gas and infrastructure facilities exposed up to C5, as defined in ISO 12944–2. Not for immersion service.

PHYSICAL CONSTANTS:

Colour:

Grey

Volume solids:

70±5%

Theoretical spreading rate:

0,107 l/m² for DFT 75 µm

Толщина покрытия:

**Typical thicknesses:**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 107 | 75 |
| Maximum | 393 | 275 |

Drying times:

**Drying times for DFT 75 µm:**

| Surface temperature | 0 °C | 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C |
|---|---|---|---|---|---|---|---|---|
| To touch | 9 h | 5 h | 2½ h | 1½ h | 1¼ h | 1 h | 55 min. | ¾ h |
| To recoat | | | | | | | | |
| TRIOCOR™ MASTIC 4500 (MIO) | 32 h | 16 h | 8 h | 5 h | 4 h | 3 h | 2½ h | 2 h |
| TRIOCOR™ FINISH 5500 | | | | | | | | |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

Surface preparation:

Apply only on a dry and clean surface with a temperature at least 3 °C above the dew point. There are following surface preparation stages: remedy imperfections to P2 in accordance with ISO 8501–3; remove oil and grease (if necessary; recommended solvent — P4); remove salt if necessary; blast clean to Sa ½ in accordance with GOST R ISO 8501–1–2014 with average surface profile in the range 50–75 microns, if maintenance clean damaged areas thoroughly to minimum P St 3; dust, blast abrasives shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

A two component material. Before mixing with the Additive stir the Base and the Additive separately. Mixing Ratio is given in product certificates of quality.

| | |
|---|---|
| Pot life: | 2½ h — 15 °C; 1½ h — 20 °C; 1 h — 35 °C |
| Application method: | Airless spray / Manual application |
| Thinner: | Thinner TRIOSOLV™ 0002 (if necessary), up to 5% by volume for airless spray. Contact your O3 Company representative for additional data. |
| Nozzle size (recommended): | .013”-.019” |
| Operating pressure (recommended): | Not less than 150 bar |
| Cleaning of tools: | Thinner TRIOSOLV™ 0002 (other solvents may be used in consultation with O3 Company). |
| Application conditions: | Should be applied at temperatures above –10 °C;<br>Relative humidity: 90% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | |
| Preceding coat: | TRIOCOR™ ZINC 1700. Contact your O3 Company representative for additional data. |
| Subsequent coat: | TRIOCOR™ FINISH 5500. Contact your O3 Company representative for additional data. |
| STORAGE: | 24 months from date of manufacture. Store in dry, shaded conditions at temperature between 0 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Set “Base – Additive” 20 L |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ MASTIC 4500 (MIO)?

**A two-pack high-build modified epoxy MIO-pigment primer.**
Multi-functional epoxy primer / intermediate coating / top coat (does not applied as an independent coating) suitable for the protection of steelwork in a range of exposure environments from C1 to C5 . Not for immersion service.

Shows excellent weathering performance. Contains MIO-pigment primer.
Broad application thickness range: 75 microns to 275 microns DFT
Indefinitely overcoatable by itself. The first layer can be shop applied, the second layer – on site applied
Combines thick layer application with fast drying

DESCRIPTION:

**A one-pack quick-drying enamel based on synthetic film forming substance and alkyd resin.**

TYPE AND RECOMMENDED USE:

For anticorrosion protection of metal structures which have various functional use, industrial objects and infrastructure objects exploited in conditions of atmospheric corrosive activity from very low C1 to high C4 (ISO 12944–2).

PHYSICAL CONSTANTS:

Colour:

Grey. Tinting according to RAL.

Volume solids:

43±5%

Theoretical spreading rate:

0,189 kg/m², for DFT 60 µm

Film thicknesses:

**Typical thicknesses**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 90 | 40 |
| Maximum | 190 | 80 |
| Recommended | 140 | 60 |

Drying times and recoating intervals:

**Drying times for DFT 60 µm:**

| Surface temperature | –30 °C | –20 °C | –10 °C | 0 °C | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|---|---|---|---|
| Drying to degree 3 (allows to recoat) | 24 h | 18 h | 12 h | 6 h | 3 h | 2 h | 45 min | 30 min |
| Drying to degree 6 | 5 days | 3,5 days | 2,5 days | 24 h | 12 h | 8 h | 2,5 h | 2 h |

The maximum recoating interval is unlimited.
Period of full formation of coating (possible to operate) – 3 days at 20 °C.
Drying time is thickness dependent. Drying times specified in this section are given as a guide only. It is necessary to take into account the presence of air flows and relative humidity when assessing actual drying time.

Surface preparation:

The product is applied to a prepared surface. Prepared surface should be dry, clean and uniform, its temperature should be at least 3 °C above the dew point. Typical preparation process of the primed surface includes cleaning, oil and grease removing (if necessary), salt removing (if necessary), roughening (if necessary) and dust removing.

APPLICATION DETAILS:

Material preparation:

Material is one-packaged; stir thoroughly for 3–5 minutes before application.

Application method:

Airless spraying / Pneumatic spraying / Manual application.

Thinner:

Thinner TRIOSOLV™ 0003. Make the dilution in increments of 1 vol. %.
The dilution value amounts:
– When using airless spraying – (0–5) vol. %;
– When using pneumatic spraying – (5–15) vol. %;
– When using brush or roller (strip painting, complex shape products, areas up to 1 m²) – (5–15) vol. %.

Nozzle size (recommended):

– When using airless spraying – .013”-.019”.
– When using pneumatic spraying – (1,5–2,0) mm.

| | |
|---|---|
| Operating pressure (recommended): | – When using airless spraying – (150–180) bar.<br>– When using pneumatic spraying – (2,0–2,5) bar. |
| Cleaning of tools: | Xylene, TRIOSOLV™ 0003 |
| Application conditions: | Air temperature from –30 °C to +30 °C;<br>Relative humidity no more than 80%;<br>(In closed rooms it is necessary to provide supply-and-exhaust ventilation during application and drying to the extent necessary). |
| RECOMMENDED SYSTEMS: | To be used as an enamel for alkyd, alkyd-modified and acrylic primer layers. During repair material is applied as an independent coating. For detailed information, contact O3 Company. |
| STORAGE: | 12 months from the date of manufacturing. Product should be stored in dry, dark space at temperatures between –40 °C to +40 °C in the original sealed packaging, away from heat and ignition sources, avoiding direct exposure to UV-rays and ingress of moisture. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Container (net weight 20 kg). |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ FINISH 5100?

**A one-pack quick-drying enamel**
For anticorrosion protection of metal structures which have various functional use, industrial objects and infrastructure objects exploited in conditions of atmospheric corrosive activity from very low C1 to high C4.

Fast dry: to touch 45 minutes at 20 °C, to degree 6–2,5 hours at 20 °C
Available in a wide range of colors (via RAL catalogue)
Offers good gloss and color retention

DESCRIPTION:

**A two-pack acrylic polyurethane topcoat.**

TYPE AND RECOMMENDED USE:

As a topcoat to give protection of steel as part of an anti-corrosive coating system in severely corrosive environments up to C5 as defined in ISO 12944–2 including industrial and infrastructure facilities. It has high-performance decorative properties and very good gloss and colour retention under UV rays. May be used at temperature up to +120 °C.

PHYSICAL CONSTANTS:

Colour:

Via RAL catalogue.

Volume solids:

58±5%

Theoretical spreading rate:

0,086 l/m$^2$, for DFT 50 µm

Film thicknesses:

Normal range of dry film thicknesses (DFT) is 50–80 µm, maximum sag tolerance with overlap typically 100 µm

Film thicknesses:

**Typical thicknesses:**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Recommended | 86 | 50 |

Drying times:

**Drying times for DFT 50 µm:**

| Substrate temperature | 0 °C | 5 °C | 10 °C | 15 °C | 20 °C | 25 °C | 30 °C | 35 °C |
|---|---|---|---|---|---|---|---|---|
| To touch | 6 h | 3 h | 2 h | 1 h | 50 min | 45 min | 35 min | 30 min |
| To recoat: | | | | | | | | |
| TRIOCOR™ FINISH 5500 | 24 h | 16 h | 12 h | 8 h | 7 h | 6 h | 5 h | 4 h |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

Surface preparation:

This material should be applied on prior prepared and primed surface. Ensure surfaces to be coated are clean, dry and free from all surface contamination, with a temperature at least 3 °C above the dew point. Typical surface preparation includes degreasing (if necessary), salt removing (if necessary) and dust removing from primed surface.
If the maximum overcoating interval of primed surface is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.

APPLICATION DETAILS:

Material preparation:

A two component material. Before mixing with the Additive stir the Base and the Additive separately. Mixing Ratio: 9 parts Base to 1 part Additive by volume, maintain stirring to have the wet paint as a homogeneous mixture.

Pot life:

3½ h – 15 °C  2½ h – 20 °C  1 h – 35 °C

Application method:

Airless spray / Manual application

Thinner:

Thinner TRIOSOLV™ 0003 (if necessary), up to 10% by volume.
Contact your O3 Company representative for additional data.

| | |
|---|---|
| Nozzle size (recommended): | .011" - .015" |
| Operating pressure (recommended): | 150–200 bar |
| Cleaning of tools: | Thinner TRIOSOLV™ 0003 (other solvents may be used in consultation with O3 Company). |
| Application conditions: | Should be applied at temperatures above –10 °C;<br>Relative humidity: 85% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | |
| Грунтовка: | TRIOCOR™ MASTIC 4500. Contact your O3 Company representative for additional data. |
| STORAGE: | For base: 24 months from date of manufacture, for additive: 12 months from date of manufacture. Store in dry, shaded conditions at temperature between +0 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Base – 20 L container;<br>Additive – 3 L container. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ FINISH 5500?

**Acrylic polyurethane coating**
For epoxy coatings and fire protection systems, when durable and high-quality top coat is required, that can withstand to severely corrosive environment and UV rays.
Available in a wide range of colors via RAL catalogue
Excellent gloss and color retention
Curing down to –10 °C
No induction time
Indefinitely overcoatable by itself. That is important for logo's application

DESCRIPTION:

**A one-pack quick-drying primer based on synthetic film forming substance.**

TYPE AND RECOMMENDED USE:

For anticorrosion protection of metal structures which have various functional use, industrial objects and infrastructure objects exploited in conditions of atmospheric corrosive activity from very low C1 to high C4 (ISO 12944–2).

PHYSICAL CONSTANTS:

Colour:

Red brown, grey. Tinting according to RAL.

Volume solids:

56±5%

Theoretical spreading rate:

0,149 kg/m², for DFT 60 µm

**Typical thicknesses**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 70 | 40 |
| Maximum | 180 | 100 |
| Recommended | 110 | 60 |

The recommended number of layers – 1–2.

Film thicknesses:

**Drying times for DFT 60 µm:**

| Surface temperature | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To touch | 3 h | 1,5 h | 20 min | 10 min |
| To recoat | 4 h | 2 h | 30 min | 15 min |

The maximum recoating interval is unlimited.

Drying time is thickness dependent. Drying times specified in this section are given as a guide only. It is necessary to take into account the presence of air flows and relative humidity when assessing actual drying time.

Film thicknesses:

The product is applied to a prepared metal surface. The preparation process includes the following stages: remedy imperfections to P2 in accordance with ISO 8501–3; remove oil and grease (if necessary; recommended solvent – R4); blast clean to Sa 2½ in accordance with ISO 8501–1, local P St 3 cleaning is allowed; remove salt (if necessary); dust, blast abrasives shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

Prepared surface should be dry, it' temperature should be at least 3 °C above the dew point. Recoating interval of prepared metal surface should not exceed 6 hours in accordance with ISO 8502–4.

APPLICATION DETAILS:

Material preparation:

Material is one-packaged; stir thoroughly for 3–5 minutes before application.

Pot life:

Airless spraying / Manual application.

Application method:

Thinner TRIOSOLV™ 0003 TRIOSOLV™ 0003 (in case of necessary). Make the dilution in increments of 1 vol. %.
For airless spraying: (0–5) vol. %.
For application with a brush or roller (strip painting, complex shape products, areas up to 1 m²): (5–15) vol. %.

Thinner:

.013"-.019"

| | |
|---|---|
| Operating pressure (recommended): | 150–180 bar |
| Cleaning of tools: | Xylene, TRIOSOLV™ 0003. |
| Application conditions | Air temperature from plus 5 °C to plus 30 °C;<br>Relative humidity no more than 80%;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | To be used as a primer for alkyd, alkyd-modified and acrylic top layers. Recommended material for recoating: TRIOCOR™ FINISH 5100. For detailed information, contact O3 Company. |
| | 12 months from the date of manufacturing. Product should be stored in dry, dark space at temperatures between –40 °C to +40 °C in the original sealed packaging, away from heat and ignition sources, avoiding direct exposure to UV-rays and ingress of moisture.<br><br>Numerical values quoted for physical data may vary slightly from batch to batch. |
| STORAGE: | Container (net weight 20 kg). |
| ADDITIONAL NOTE: | Refer to the Safety Data Sheet before use. |
| PACKAGE: | Container (net weight 20 kg). |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ PRIMER 1100?

**A one-pack quick-drying primer**
For anticorrosion protection of metal structures which have various functional use, industrial objects and infrastructure objects exploited in conditions of atmospheric corrosive activity from very low C1 to high C4.

Fast dry: to touch 20 minutes at 20 °C, to recoat 30 minutes at 20 °C.
To be used as a primer for alkyd, alkyd-modified and acrylic top layers.
Available in a wide range of colors (via RAL catalogue).

DESCRIPTION:

**A one-pack quick-drying primer-enamel based on synthetic film forming substance**

TYPE AND RECOMMENDED USE:

Primer-enamel is used for corrosion protection of metal structures, concrete structures, communications and equipment operated in moderate, moderately cold and cold climates and atmospheric corrosion activity from very low C1 to high C4 (ISO 12944–2). Primer-enamel is tolerant to surface preparation (the degree of preparation Sa 2, St 2 is allowed). It is applied and cured at temperatures from –25 °C. It can be used as a repair material, compatible with most types of old paint coatings. The operating temperature of the coating is from –60 °C to +40 °C.

PHYSICAL CONSTANTS:

Appearance of the coating, colour: Matte, semi-matte coating. Tinting according to RAL

Volume solids: 42±5%

Theoretical spreading rate: 0,200 kg/m², at DFT of 60 microns

Film thickness:

**Wet and dry film thickness table**

| Film thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 120 | 50 |
| Maximum | 190 | 80 |
| Recommended | 143 | 60 |

Drying times:

**Drying times at DFT of 60 microns**

| temperature of environment | –25 °C | –20 °C | –10 °C | 0 °C | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|---|---|---|---|
| to recoat | 48 h | 36 h | 18 h | 9 h | 6 h | 2 h | 1 h | 30 min |

The maximum recoating interval is unlimited.
The drying time of the coating at a temperature of (20±2) °C before transportation is possible is at least 12 hours. The time of complete curing of the coating at a temperature of (20±2) °C is at least 7 days.

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

SURFACE PREPARATION:

The material is applied to a pre-prepared surface.
– Steel surface:
The surface to be painted must be dry, clean and uniform with a temperature at least 3 °C above the dew point. A typical surface preparation scheme includes the elimination of metal surface defects to the degree of P2 according to ISO 8501–3 (at the same time, sharp edges and corners must be rounded with a radius of at least 2 mm), abrasive blasting to the degree of Sa 2 according to ISO 8501–1 (local application of cleaning by hand or mechanical tools to the degree of St 2 is allowed), degreasing to the degree of 1 according to GOST 9.402, desalination (if necessary), roughness assessment (must correspond to the average (G) profile according to ISO 8503–1) and dedusting with compressed air of group 2 according to GOST 9.010 to a degree of no more than 2 with a particle size of no more than class 2 (according to ISO 8502–3).

– Concrete surface: the surface to be painted must be dry, solid, durable, have no cracks, potholes, protruding fittings, sinks, surges, have the required roughness class, must be free from contamination – cement milk, dirt, dust, oil contamination.

– Old compatible coatings: must be dry, free of foreign inclusions, dust, dirt, and have the appropriate roughness. A more detailed description of the preparation of surfaces of various types is given in the instructions for applying primer enamel.

APPLICATION DETAILS:

| | |
|---|---|
| Material preparation: | The material is one-pack, before application it is required to mix thoroughly for 5–7 minutes until a homogeneous state. |
| Application method: | Airless spraying / pneumatic spraying / manual application |
| Thinner: | TRIOSOLV™ 0002. Make the dilution in increments of 1 vol. %.<br>The recommended dilution value is:<br>– For airless spraying – (0–5) vol. %;<br>– For pneumatic spraying – (0–15) vol. %;<br>– For application with a brush or roller (strip painting, complex shape products, areas up to 1 m²) – (0–5) vol. %. |
| Nozzle size (recommended): | – For airless spraying – .013”-.019”.<br>– For pneumatic spraying – (1,5–2,0) mm |
| Operating pressure (recommended): | – For airless spraying – (150–180) bar.<br>– For pneumatic spraying – (2,0–3,5) bar |
| Cleaning of tools: | TRIOSOLV™ 0002. |
| Application conditions: | – Air temperature from +25 °C to +30 °C.<br>– Relative humidity no more than 80%;<br>– Prepared surface should be dry, it’ temperature should be at least 3 °C above the dew point.<br>In closed rooms it is necessary to provide supply-and-exhaust ventilation during application and drying to the extent necessary. |
| RECOMMENDED SYSTEMS: | It is used as an independent coating, and also as an enamel for alkyd, alkyd-modified and acrylic primer layers., as well as compatible coatings of other types. For detailed information, contact «O3 Company». |
| STORAGE: | 12 months from the date of manufacturing. Product should be stored in dry, dark space at temperatures between –40 °C to +40 °C in the original sealed packaging, away from heat and ignition sources, avoiding direct exposure to UV-rays and ingress of moisture. |
| ADDITIONAL NOTE: | Small deviations of numerical values of physical quantities are acceptable. |
| PACKAGE: | Container (net weight 20 kg). |
| HEALTH ANDSAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ PRIMER 2100?

**Quick-drying primer-enamel.**
A one-pack quick-drying primer-enamel based on synthetic film forming substance
Primer-enamel is tolerant to surface preparation (the degree of preparation Sa 2, St 2 is allowed).

It is applied and cured at temperatures from –25 °C.
It can be used as a repair material, compatible with most types of old paint coatings.
Available in a wide range of colors (via RAL catalogue).

DESCRIPTION:

**A two-pack epoxy material cured by polyamine pigmented with Plate-Like pigments**

TYPE AND RECOMMENDED USE:

The coating is abrasive resistant, resistant to spills of oil and petroleum products, non-concentrated solutions of acids, alkalis, salts, designed for corrosion protection of metal structures. For industrial and marine atmospheres, variable wetting zones and immersion zones, petrochemical facilities, ports, offshore and offshore projects. The coating can be hardened under water therefore, the coating can be immersed in water after application.
Applies:
- as an independent coating;
- with the overlap of polyurethane paint and varnish materials in complex systems of anticorrosive protection;
- as part of a special anti-slip coating, as a floor covering, on the ways of moving people and goods. Operating temperature from –60 °C to +120 °C

PHYSICAL CONSTANTS:

Appearance of the coating, colour: Grey.

Volume solids: 85±5%

Theoretical spreading rate:

Recommended thickness of one coat:

**Wet and dry film thickness table:**

| Film thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 120 | 100 |
| Maximum | 350 | 300 |
| It is recommended to obtain a thickness of 2 or 3 coats | | |

**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 ABRASIV™ 4400 | 590 | 500 |
| Abrasive filler* | - | - |
| TRIOCOR ABRASIV™ 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 Company LLC. The abrasive filler should be evenly distributed over the surface of the first layer of TRIKON ABRASIVE™ 4400.The application technology is according to TI №. 2413/68.

Drying and recoating times:

Drying times:

**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.

SURFACE PREPARATION

The product is applied to a prepared metal surface. 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 from 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, 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. Prepared surface should be dry, it' temperature should be at least 3 °C above the dew point.

APPLICATION DETAILS::

| | |
|---|---|
| Material preparation: | A two-component material. Mix the base and component separately before mixing.<br>Mixing Ratio:<br>– 5 parts of Base to 1 part of Additive by volume;<br>– 100 parts of Base to 13,3 part of Additive by weight. |
| Pot life: | 1 h at 20 °C |
| Application method: | Airless spraying / Manual application. |
| Thinner: | Thinner TRIOSOLV™ 0002 (if necessary), up to 10% by volume at airless spraying.<br>For detailed information, contact «O3 Company». |
| Nozzle size (recommended): | .019”-.025” |
| Operating pressure (recommended): | No less than 150 bar. |
| Cleaning of tools: | TRIOSOLV™ 0002. (Can be to use other solvents in agreement with the company "O3 Company”) |

Application conditions:

| | |
|---|---|
| Air temperature | From +5 °C to +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). | |

| | |
|---|---|
| RECOMMENDED SYSTEMS: | Preceding coat: none.<br>Subsequent coat: none or PU materials, for example TRIOCOR™ FINISH 5500<br>Note: This material chalk during operation outdoors without finish coating. |
| STORAGE: | 24 months from date of manufacture. Product should be stored in dry, dark space at temperatures between +5 °C to +30 °C in the original sealed packaging, avoiding direct exposure to UV-rays and other sources of heat. |
| TRANSPORTATION: | It is recommended to transport at a temperature between 0 °C and +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. |
| PACKAGE: | Base – 20 L container;<br>Additive – 5 L container; |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ ABRASIV 4400?

**A two-pack epoxy material cured by polyamine pigmented**

Can be used as a standalone coating for immersion and burial (i.e., in operational areas without UV exposure).
For industrial and marine atmospheres, variable wetting zones and immersion zones, petrochemical facilities, ports, offshore and offshore projects.
Allows for various surface preparation levels. After the coating has cured to level 3, it is permissible to immerse painted structures in freshwater, and after curing to level 6, in both freshwater and seawater.

DESCRIPTION:

**A one-pack quick-drying anticorrosive enamel primer based on organic solution of complex synthetic film forming substance, which forms weather-resistant and keeping color and appearance coating.**

TYPE AND RECOMMENDED USE:

Material for using as a weather-resistant anticorrosive coating for metal, concrete and reinforced concrete intended for exploitation in conditions of atmospheric corrosive activity from C1 to C4 according to ISO 12944–2, in moderate, moderately cold and cold climate. Application to the old coatings based on alkyd, acrylic, epoxy and other film forming substances is allowed.

PHYSICAL CONSTANTS:

Colour:

Tinting according to RAL.

Volume solids:

43±5%

Theoretical spreading rate:

120–240 g/m²

Film thicknesses:

**Recommended range of one-layer coating when applying by using airless spraying:**

| Film thickness | Minimum | Typical | Maximum |
|---|---|---|---|
| Dry film thickness, μm: | 40 | 60 | 80 |
| Wet film thickness, μm | 90 | 140 | 190 |

Drying times and recoating intervals:

**Drying times at (20±2) °C:**

| | |
|---|---|
| To recoat by next layer | 1,5 h |
| For canting | 6 h |
| For full curing and exploitation | 3 days |

Curing time specified for typical dry film thickness. Recoating interval is unlimited. It is necessary to take into account the presence of air flows and relative humidity when assessing actual drying time.

Surface preparation:

Steel surfaces should be cleared of oil and grease to grade 1 according to GOST 9.402, cleared by using blast cleaning to Sa 2 or mechanical methods to St 2 according to GOST R ISO 8501–1 or to grade 2 according GOST 9.402. Then removing dust and blast abrasives by using compressedair of group 2 to grade 2 according to GOST 9.402 is required.
Concrete surface should be dry, strong, have required class of roughness. It should not have cracks, potholes, protruding reinforcement, shells, influxes. Before applying of the material surface should be cleaned of dirt, dust, oil and laitance.
Previous compatible coating should be dry, cleaned from oil and grease, rough, cleaned from dust.

APPLICATION DETAILS:

Material preparation:

Material is one-packaged; stir thoroughly to homogeneous consistency before application.

Application method:

Airless spraying / Manual application

Thinner:

Thinner TRIOSOLV™ 0003.
Make the dilution in increments of 1 vol. %.
The dilution value amounts:
– When using airless spraying – (0–5) vol. %;
– When using brush or roller (strip painting, complex shape products, areas up to 1 m²) – (5–15) vol. %.

Nozzle size (recommended):

.013”-.019”

| | |
|---|---|
| Operating pressure (recommended): | 150–180 bar |
| Cleaning of tools: | Toluene, xylene, TRIOSOLV™ 0003. |
| Application conditions: | – Air temperature from –30 °C to +30 °C;<br>– Relative humidity no more than 80%;<br>– Temperature of the paintable surface is as minimum 3 °C above the dew point;<br>– Absence of moisture on the paintable surface.<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECOMMENDED SYSTEMS: | To be used as a single coating and as a topcoat. For detailed information, contact O3 Company. |
| STORAGE: | 12 months from the date of manufacturing. Product should be stored in dry, dark space at temperatures between –40 °C to +40 °C in the original sealed packaging, away from heat and ignition sources, avoiding direct exposure to UV-rays and ingress of moisture. |
| ADDITIONAL NOTE: | Numerical values quoted for physical data may vary slightly from batch to batch. |
| PACKAGE: | Container (net weight 20 kg). |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ BETON 4700?

**A one-pack quick-drying anticorrosive enamel primer**
Material for using as a weather-resistant anticorrosive coating for metal, concrete and reinforced concrete intended for exploitation in conditions of atmospheric corrosive activity from C1 to C4 according to ISO 12944–2, in moderate, moderately cold and cold climate.

Can be applied over old coatings based on alkyd, acryl, epoxy and others filming agents.
Available in a wide range of colors via RAL catalogue.
Fast drying to recoat – 90 minutes at 20 °C.

DESCRIPTION:

**Two-component epoxy coating of polyamide curing with high molecular weight.**

TYPE AND RECOMMENDED USE:

It can be used as a primer layer as part of a system operated under ambient conditions (with an operating temperature of up to 120 °C) or immersed in liquid (with an operating temperature of up to 50 °C). It can be used for qualitatively prepared surfaces made of carbon, stainless and galvanized steel, steel with applied interoperable primer, aluminum, concrete, as well as surfaces with zinc metallization. It can be used for surfaces and pipelines made of structural steel, operated in very aggressive environments and under water. Recommended for offshore environments, oil refineries, power plants, bridges, buildings and mining equipment.

PHYSICAL CONSTANTS

Colour: Gray, red-brown

Volume solids: 65±5%

Theoretical spreading rate: 0,138 л/м² – at 90 microns DFT

Film thicknesses:

**Table of wet and dry film thicknesses:**

| Film thicknesses | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 120 | 80 |
| Maximum | 380 | 250 |
| Recommended | 140 | 90 |

Drying and recoating times:

**Drying times at (85–90) microns DFT:**

| Surface temperature | 0 °C | 10 °C | 20 °C | 35 °C |
|---|---|---|---|---|
| Drying to degree 3 | 16 h | 9 h | 5 h | 2 h |
| Recoating time: | | | | |
| TRIOCOR™ NS 4511 primers or another layer of the coating system (Minimum) | 16 h | 9 h | 5 h | 2 h |
| Maximum | 6 months | | | |
| Drying to a hard film (up to degree 5, GOST 19007) | 24 h | 11 h | 7,5 h | 4 h |
| Drying "before tilting" (to degree 7, GOST 19007) | 29 h | 18 h | 12 h | 5 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.

SURFACE PREPARATION:

The material is applied to a prepared and dry metal surface with a temperature at least 3 °C above the dew point. The preparation process includes the following operations: elimination of surface defects up to P3 according to ISO 8501–3; degreasing of the surface (if necessary; recommended solvent – P4); cleaning of the carbon steel surface to the degree of Sa 2½ according to GOST R ISO 8501–1–2014 with a recommended roughness profile of 50–75 microns, local cleaning of P St 3 is allowed during repair, and desalting of the surface (if necessary); dedusting of the surface to a degree of 2 with a particle size of no more than Class 2 according to ISO 8502–3.

APPLICATION DETAILS:

Material preparation: The material is two-component, requires mixing separately of the base and hardener before application. Mixing in ratios: 4:1 (base: hardener) by volume with thorough mixing until smooth.

Pot life: 4 hours – 23 °C.

Application method: Airless spraying / Pneumatic spraying / Manual application.

| | |
|---|---|
| Thinner: | Thinner TRIOSOLV™ 0002 (if necessary), up to 5% by volume at airless spraying, up to 12% by volume at pneumatic spraying. For detailed information, contact «O3 Company» |
| Nozzle size (recommended): | – .015”-.019” at airless spraying;<br>– (1,7–2,0) mm at pneumatic spraying |
| Operating pressure (recommended): | – not less than 150 bar at airless spraying;<br>– (1,7–2,0) bar at pneumatic spraying |
| Cleaning of tools: | TRIOSOLV™ 0002. (Can be to use other solvents in agreement with the company «O3 Company»). |
| Application conditions: | Should be applied at temperatures above –10 °C; Relative humidity: 85% maximum.<br>(In closed rooms it is necessary to provide supply-and-exhaust ventilation during application and drying to the extent necessary). |
| RECOMMENDED SYSTEMS:<br>Previous layer: | Epoxy coating, epoxy mastic coating, epoxy coating with zinc addition, zinc silicate coating. For more information, please contact «O3 Company». |
| The following layer: | Acrylic coating, epoxy coating, polyurethane coating, polysiloxane. For more information, please contact «O3 Company». |
| STORAGE:: | 48 months for the base, 24 months for the hardener from date of manufacture. Product should be stored in dry, dark space at temperatures between 0 °C to +30 °C in the original sealed packaging, avoiding direct exposure to UV-rays and other sources of heat. |
| PACKAGE | Base – containers 20 L;<br>Hardener – containers 5 L |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ NS 4511?

**Epoxy coating.**
It can be used for qualitatively prepared surfaces made of carbon, stainless and galvanized steel, steel with applied interoperable primer, aluminum, concrete, as well as surfaces with zinc metallization. It can be used for surfaces and pipelines made of structural steel, operated in very aggressive environments and under water. Recommended for offshore environments, oil refineries, power plants, bridges, buildings and mining equipment.

DESCRIPTION:

**A two-pack epoxy phenolic coating.**

TYPE AND RECOMMENDED USE:

For protection the internal surface of tanks and tanks for storage of industrial water, salt solutions, mineral oil, crude oil, petroleum products; isolated pipelines and equipment from carbon and stainless. Suitable for operating temperatures in a dry environment from minus 196 to plus 200 °C.

PHYSICAL CONSTANTS:

Colour:

Grey, red

Volume solids:

73±3%

Theoretical spreading rate:

0,137 l/m$^2$ - DFT 100 µm

Film thicknesses:

**Recommended thickness of one coat:**

| Film thicknesses | WFT, µm | DFT*, µm |
|---|---|---|
| Minimum | 137 | 100 |
| Maximum | 340 | 250 |

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

Drying and recoating times:

**Drying times at 150 microns DFT:**

| Surface temperature | 5 °C | 20 °C | 30 °C | 40 °C |
|---|---|---|---|---|
| Drying to degree 3 | 14 h | 6 h | 4 h | 3 h |
| Recoating time | | | | |
| Minimum | 20 h | 8 h | 6 h | 5 h |
| Maximum | 1 months | | | |

The drying time depends on the thickness. These drying times are given as a guide only. Factors such as air movement and humidity must also be considered. If the maximum recoating interval is exceeded, roughening of the surface is necessary to ensure Intercoat adhesion.

SURFACE PREPARATION:

Apply only on a dry and clean surface from carbon, stainless steel, galvanized steel, concrete with a temperature at least 3 °C above the dew point.
There are following the surface of carbon preparation stages: remedy imperfections to P2 ISO 8501–3; remove oil and grease (if necessary; recommended solvent – P4); blast clean to Sa 2½ GOST P ISO 8501–1–2014 with average surface profile in the range 50–75 microns; remove salt if necessary; the surface is dedusting to degree 2 with particle size do not exceed rating 2 of ISO 8502–3. Preparation the surface of stainless, galvanized steel and concrete are given in application manual.

APPLICATION DETAILS:

Material preparation:

A two-component material. Mix the base and component separately before mixing.
Mixing Ratio: 8 parts of Base to 1 part of Additive by volume with careful mixing of the mixture

Pot life:

2,5 h — 15 °C; 2 h — 20 °C.

Application method:

Airless spraying / Manual application

Thinner:

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

Nozzle size (recommended):

.015”-.019”

| | |
|---|---|
| Operating pressure (recommended): | Not less than 200 bar. |
| Cleaning of tools: | TRIOSOLV™ 0002. (Can be to use other solvents in agreement with the company "O3 Company"). |
| Application conditions: | Should be applied at temperatures above +5 °C; Relative humidity: 85% maximum; (In closed rooms it is necessary to provide supply-and-exhaust ventilation during application and drying to the extent necessary). |
| STORAGE: | 12 months from date of manufacture. Product should be stored in dry, dark space at temperatures between +5 °C to +30 °C in the original sealed packaging, avoiding direct exposure to UV-rays and other sources of heat. |
| PACKAGE: | Supplied as a kit in separate containers. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOCOR™ RVS 9510?

**Epoxy phenolic coating**

For protection of the internal surface of tanks and tanks for storage of salt solutions, crude oil, petroleum products; isolated pipelines and equipment from carbon and stainless steel.

For use as part of a 2 coat system (2 layers each 100÷160 µm) for internal coating of storage tanks and vessels containing crude oil and refined products.

Withstands steaming.

Light color. Simplified and more thorough inspection.

The coating can be used as a primer under insulation (with a maximum temperature under insulation of 200 °C).

DESCRIPTION:

**A fast drying, two-component ethyl silicate based material with a zinc dust.**

TYPE AND RECOMMENDED USE:

A zinc dust content equal to or greater than 85% by weight in dry film, meeting the performance requirements of SSPC Paint 20 (Level 1, Type I) and ISO 12944–5: 2018. To protect the steel surfaces from atmospheric loads and high temperatures (up to +400 °C).

PHYSICAL CONSTANTS:

Colour:

Grey

Volume solids:

60±2%

Theoretical spreading rate:

0,100 l/m$^2$, with DFT 60 µm

Film thicknesses:

**Typical thicknesses**

| Film thicknesses | WFT, µm | DFT, µm |
|---|---|---|
| Minimum | 100 | 60 |
| Maximum | 133 | 80 |

Drying times and recoating intervals:

| Drying time at a DFT of (60–80) µm | | |
|---|---|---|
| The temperature of the surface to be painted | 5 °C | 23 °C |
| Drying to tack | 40 min | 20 min |
| Dry before applying the next layer | | |
| Minimum | after 7 days (at RH 90% or humidification of surfaces) | After 24 hours (at RH above 80% or humidification of surfaces) |

Before applying the next layer make sure that dried primer layer TRIOTEMP™ 400 withstands the light rubbing of the rag moistened in MEK (ASTM D4752, MEK resistance, (4–5) points). Materials for galvanized surfaces are recommended for further layers.

Surface preparation:

The material is applied to the prepared and dry metal surface. The process of preparation includes the following operations: elimination of surface defects to P2 ISO 8501–3; degreasing surface (if necessary; recommended solvent – P 4); surface cleaning to the extent Sa 2½ according to GOST R ISO 8501–1, the surface profile after cleaning should be medium roughness (comparator "G"), see ISO 8503–2, recommended surface roughness Rz – (40–100) microns.

APPLICATION DETAILS:

Material preparation:

The material is two-component. Mixing ratio: 1: 3 by weight (binder : zinc powder).
To avoid the formation of lumps when mixing the components – do not add a binder to the zinc powder!

Mix the binder thoroughly until complete uniformity is achieved. Gradually add the zinc powder to the binder container while constantly stirring the mixture with a mechanical mixer, maintaining a low mixing speed. At the end of the mixing process, thoroughly stir the zinc powder in the binder with a high-speed agitator until a homogeneous mixture is obtained. During application, it is necessary to constantly mix the working mixture at a low speed, for example, using a separate dedicated pump.

Pot life:

8 h at 20 °C.

Application method:

Airless spraying / pneumatic spraying. Brush – only for touch-up and repair

| | |
|---|---|
| Thinner: | TRIOSOLV™ 0002 – (0–10) % vol., depending on the required thickness and application conditions. For more information, please contact O3 Company LLC. |
| Nozzle size: | – For airless spraying – .011”-.019”.<br>– For pneumatic spraying – (1,7–2,0) mm. |
| Operation pressure: | – For airless spraying (at the pump outlet) – at least 150 bar.<br>– For pneumatic spraying (pressure at the inlet of the spray gun) – at least 2,0 bar. |
| Cleaning of tools | Thinner TRIOSOLV™ 0002 (you may use other thinners approved by the company LLC "O3 Company"). |
| Environmental conditions : | The air temperature is not below plus 5 °C;<br>The relative humidity of the air is within (60–90) %. At a relative humidity below 80%, it is recommended to moisten the surface to be painted approximately 1 hour after painting by pouring water under low pressure. Wetting should be repeated every hour for several hours.<br>. |
| STORAGE: | 6 months for binder and 24 months for zinc dust. It is recommended to store in a dry, dark place in the sealed factory packaging at temperature from 0 °C to +30 °C with no direct exposure to UV rays and other heat sources. |
| TRANSPORT PACKAGING: | 10 L containers. |
| HEALTH AND SAFETY: | Read the Safety Data Sheet for material. |

## REASONS TO CHOOSE TRIOTEMP™ 400?

**A fast drying, two-component ethyl silicate based material with a zinc dust.**
A zinc dust content equal to or greater than 85% by weight in dry film, meeting the performance requirements of SSPC Paint 20 (Level 1, Type I) and ISO 12944–5: 2018. To protect the steel surfaces from atmospheric loads and high temperatures (up to +400 °C).

Drying to touch: 30 minutes at 23 degrees Celsius.
Resistant to solvents and oils when immersed.

DESCRIPTION:

**One-component silicone-acrylic coating, pigmented with aluminum.**

TYPE AND RECOMMENDED USE

The material can be used as a primer, intermediate or finishing layer when operating under ambient conditions. The coating can withstand temperatures up to 600 °C. The coating can be applied to the surface of carbon steel, galvanized steel, stainless steel and aluminum substrate.

PHYSICAL CONSTANTS:

Color:

Aluminium

Volume solids:

40±5%

Film thicknesses

**Table of Wet and Dry Film Thicknesses:**

| Film Thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 50 | 20 |
| Maximum | 75 | 30 |

Drying time and overlap interval:

**Drying timed for 20–30 microns:**

| Substrate temperature | 5 °C | 10 °C | 23 °C | 40 °C |
|---|---|---|---|---|
| Drying to tack | 1 h | 45 min | 30 min | 15 min |
| Drying before applying the next coat | 8 h | 5 h | 4 h | 3 h |

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

SURFACE PREPARATION:

The material is applied to the prepared and dry metal surface with temperature 3 °C above the dew point. The preparation process of carbon steel surface includes the following operations:
– elimination of surface defects to P2 ISO 8501–3;
– degreasing surface (if necessary; recommended solvent – P 4);
– surface cleaning to the extent Sa 2½ according to GOST R ISO 8501–1–2014 with a recommended roughness profile of 25–50 μm; during repair local cleaning P St 3 is allowed, and surface desalination (if necessary);
– dust removal of the surface to a power of 2 with a particle size of not more than 2 classes according to ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

The material is one-component, requires careful mixing before application.

Application method:

Brush, paint brush, airless spraying.

Thinner:

Thinner TRIOSOLV™ 0003 (other solvents may be used in consultation with LLC "O3 Company").

Nozzle diameter (recommended):

.015"-.017"

Operating pressure (recommended):

Not less than 100 bar.

Cleaning of tools:

Thinner TRIOSOLV™ 0003 (other solvents may be used in consultation with LLC "O3 Company").

| | |
|---|---|
| Environmental conditions: | The air temperature is not below plus 5 °C;<br>The relative humidity of the air below 85%. |
| Compatibility with other coatings: | Previous coat: zinc silicate coating, silicone-acrylic coating.<br>Subsequent layer: silicone-acrylic coating. |
| STORAGE: | 24 months from the date of manufacture. It is recommended to store in a dry dark place in a sealed original package at a temperature from +5 °C to +30 °C, avoid direct exposure to UV rays and other sources of heat. |
| TRANSPORT PACKAGING: | 5 or 10 ltr containers |
| HEALTH AND SAFETY: | Read the Safety Data Sheet for material. |

## REASONS TO CHOOSE TRIOTEMP™ 600?

**One-component silicone-acrylic coating, pigmented with aluminum.**
The material can be used as a primer, intermediate or finishing layer when operating under ambient conditions. The coating can withstand temperatures up to 600 °C.

The coating can be applied to the surface of carbon steel, galvanized steel, stainless steel and aluminum substrate.

DESCRIPTION:

**A one-component water based acrylic fire protection intumescent material.**

TYPE AND RECOMMENDED USE:

Thin film fire protection intumescent coating designed to be used on steelwork requiring protection from cellulosic fire; provides passive fire protection of different purpose steelwork of industrial and infrastructure facilities; to provide fire resistance on structural steel in a cellulosic fire in accordance with rules and regulations, fire resistance rating and fire danger class of a building.

PHYSICAL CONSTANTS:

Colour:

White

Volume solids:

70±5%

Film thicknesses:

Fire protection coating's thickness is required fire resistance rating dependent. (see separate sheet of TRIOFLAME™ AK 7000 loading requirements). Contact your O3 Company representative for additional data.

Recommended wet film thickness (WFT) 1300 microns per one airless spray coat, that is equal to 910 microns dry film thickness (DFT).

Drying times:

**Drying times for 910 microns DFT:**

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

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

SURFACE PREPARATION:

This material should be applied on prior prepared and primed surface. Ensure surfaces to be coated are clean, dry and free from all surface contamination, with a temperature at least 3 °C above the dew point. Typical surface preparation includes cleaning, degreasing (if necessary), salt removing (if necessary) and dust removing from primed surface.

APPLICATION DETAILS:

Material preparation:

A one-component material, stir thoroughly within 3–5 minutes before application.

Application method:

Airless Spray / Manual application

Thinner:

Not recommended. If necessary – no more than 4 % by volume.

Nozzle size:

.019"-.027"

Operation pressure:

200–225 bar

Cleaning of tools:

Potable water

Application conditions:

Should be applied at temperatures above +5 °C; Relative humidity: 85% maximum;
(In confined spaces provide adequate ventilation during application and drying).

RECOMMENDED SYSTEMS:

Primer:

TRIOCOR™ PRIMER 1100, TRIOCOR™ MASTIC 4500 or other primers, in accordance with Fire Safety Certificates.

Topcoat:

TRIOCOR™ FINISH 5500 or other topcoats, in accordance with Fire Safety Certificates.

| | |
|---|---|
| STORAGE: | 12 months from date of manufacture. Store in dry, shaded conditions at temperature between +5 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| PACKAGE: | Plastic container (13,2; 22 kg net)).<br>Metal container (25 kg net).<br>Plastic barrel (50 kg net). |
| HEALTH AND SAFETY: | Refer to the Safety data Sheet before use. |

## REASONS TO CHOOSE TRIOFLAME™ AK 7000?

**A one-component water based acrylic fire protection intumescent material.**
Used to enhance the fire resistance of metal structures in cellulose fire conditions. Water-based material - environmentally safe.
Wet film thickness per pass is 1500 µm, which corresponds to a dry film thickness of 1050 µm.
Short interlayer drying time.

DESCRIPTION:

**A one-component styrene-acrylic and solvent based fire protection intumescent material.**

TYPE AND RECOMMENDED USE:

Thin film fire protection intumescent coating designed to be used on steelwork requiring protection from cellulosic fire; provides passive fire protection of different purpose steelwork of industrial and infrastructure facilities, including food industry; to provide fire resistance on structural steel in a cellulosic fire in accordance with rules and regulations, fire resistance rating and fire danger class of a building. The coating can be used at operating temperatures as low as –40 °C and as high as +70 °C.

PHYSICAL CONSTANTS:

Colour:

White

Volume solids:

72±5%

Film thicknesses:

Fire protection coating's thickness is required fire resistance rating dependent. (see separate sheet of TRIOFLAME™ AK 7700 loading requirements). Contact your O3 Company representative for additional data.

Recommended wet film thickness (WFT) 2000 microns per one airless spray coat, that is equal to 1440 microns dry film thickness (DFT).

Drying times:

**Drying times for 1440 microns DFT:**

| Substrate temperature | 0 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To touch | 1 h | 40 min | 30 min | 20 min |
| To recoat | 12 h | 8 h | 6 h | 4 h |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered

SURFACE PREPARATION:

This material should be applied on prior prepared and primed surface. Ensure surfaces to be coated are clean, dry and free from all surface contamination, with a temperature at least 3 °C above the dew point. Typical surface preparation includes cleaning, degreasing (if necessary), salt removing (if necessary) and dust removing from primed surface.

APPLICATION DETAILS:

Material preparation:

A one-component material, stir thoroughly within 3–5 minutes before application.

Application method:

Airless Spray / Manual application

Thinner:

Not recommended

Nozzle size:

.019"-.025"

Operation pressure:

200–215 bar

Cleaning of tools:

TRIOSOLV™ 0003 (it is allowed to use other thinners after consultation with LLC O3 Company).

Application conditions:

Should be applied at temperatures above –10 °C; Relative humidity: 85% maximum; (In confined spaces provide adequate ventilation during application and drying).

| | |
|---|---|
| RECOMMENDED SYSTEMS: | |
| Primer: | TRIOCOR™ PRIMER 1100, TRIOCOR™ MASTIC 4500 or other primers, in accordance with Fire Safety Certificates. |
| Topcoat: | TRIOCOR™ FINISH 5500 or other topcoats, in accordance with Fire Safety Certificates. |
| STORAGE: | 24 months from the date of manufacture. It is recommended to store in a dry, dark place in a sealed factory packaging at a temperature of –30 °C to +30 °C, avoid direct exposure to precipitation, UV rays and other heat sources. |
| ПРИМЕЧАНИЕ: | The material is thermoplastic.<br>It is allowed to remain TRIOFLAME AK 7700 un-topcoated when exposed to heated internal areas if there are no intensive moisture condensation and temperature difference above and below 0 °C in C1–C2 environment (as defined in ISO 12944–2). |
| PACKAGE: | 20 kg net weight. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOFLAME™ AK 7700?

**A one-component styrene-acrylic and solvent based fire protection intumescent material.**
Thin film fire protection intumescent coating designed to be used on steelwork requiring protection from cellulosic fire; provides passive fire protection of different purpose steelwork of industrial and infrastructure facilities, including food industry; to provide fire resistance on structural steel in a cellulosic fire in accordance with rules and regulations, fire resistance rating and fire danger class of a building.

A high thickness of a single-layer coating (up to 2000 µm wet film) reduces labor and time requirements. Low-temperature curing down to –10 °C extends the working season.

DESCRIPTION:

**A two-pack fire protection weather-resistant material.**

TYPE AND RECOMMENDED USE:

Thick film fire protection coating increases its own fire resistance rate of steel structures in standard temperature conditions in accordance with GOST 30247.0.
The operating temperature range of the resulting coating is from –60 °C to +70 °C.

PHYSICAL CONSTANTS:

Color:

From white to beige.

Volume solids:

98±2%

Film thicknesses:

Fire protection coating's thickness is required fire resistance rating dependent. (see separate sheet of TRIOFLAME 8800 loading requirements). Contact your O3 Company 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:

**Drying times for 2000 microns DFT**

| Substrate temperature | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To touch | 9 h | 6 h | 3 h | 2 h |
| To recoat | 14 h | 10 h | 6 h | 4 h |

Drying time is film thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.

SURFACE PREPARATION:

Apply only on a dry and clean surface with a temperature at least 3°C above the dew point.

There are following surface preparation stages: remedy imperfections to P2 ISO 8501–3; remove oil and grease (if necessary); blast clean to Sa 21/2 GOST P ISO 8501–1–2014 with average surface profile in the range 50–75 microns, remove salt if necessary; dust shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

A two-component material supplied in separate containers to be mixed prior to use.
In cold conditions it will help mixing and application if the material can be stored in a warm environment for at least 24 hours prior to use. A temperature between plus 15 °C and plus 30 °C is recommended.
Before application mix Additive with Base and maintain stirring for 3–5 minutes.
Mixing Ratio is given in product certificates of quality.

Pot life

45 минут — 15 °C; 30 минут — 20 °C.

Application method:

Airless Spray / Manual Application (spatula).

Thinner:

For more information, contact O3 Company.

Nozzle size:

.019"-.025"

Operation pressure:

220–250 бар

Cleaning of tools:

Solvent 646 (thinner TRIOSOLV™ 0003 or xylene technical may be used).
Clean equipment immediately if stop spraying for more than 10 minutes.

| | |
|---|---|
| Application conditions: | Should be applied at temperatures above –10 °C. Relative humidity: 85% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| STORAGE: | Base – 24 months from date of manufacture. Additive – 12 months from date of manufacture.<br>Store in dry, shaded conditions at temperature between +5 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| RECCOMMENDED SYSTEMS: | |
| Primer: | TRIOCOR™ MASTIC 4500 or other primers, in accordance with fire safety certificates<br>. |
| Topcoat: | TRIOCOR™ FINISH 5500 or other topcoats, in accordance with fire safety certificates. |
| PACKAGE: | Part A (Base) – 20 L container.<br>Part B (Additive) – 3,0 L container or 3,2 L container |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOFLAME™ 8800?

Fire protection weather-resistant coating.
Thick film fire protection coating increases its own fire resistance rate of steel structures in standard temperature conditions in accordance with GOST 30247.0.
Volume solids: 98±2%.
The operating temperature range of the resulting coating is from –60 °C to +70 °C.

DESCRIPTION:

**A two-pack fire protection epoxy intumescent material.**

TYPE AND RECOMMENDED USE:

Thick film fire protection coating increases its own fire resistance rate of steel structures in standard temperature conditions in accordance with GOST 30247.0 and alternative temperatures ranging, including hydrocarbon temperature conditions, in accordance with GOST R EN 1363–2. The operating temperature range of the resulting coating is from –60 °C to +70 °C..

PHYSICAL CONSTANTS:

Color:

From white to beige.

Volume solids:

98±2 %

Film thicknesses:

Fire protection coating's thickness is required fire resistance rating dependent (see separate sheet of TRIOFLAME™ EP 8800 loading requirements). Contact your O3 Company representative for additional data.

Recommended wet film thickness (WFT) 3000 microns per one airless spray coat, that is equal to 2940 microns dry film thickness (DFT).

Drying times:

**Drying times at 2940 microns DFT**

| Substrate temperature | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To touch | 9 hours | 6 hours | 3 hours | 2 hours |
| To recoat | 14 hours | 10 hours | 5 hours | 4 hours |

Drying time is film thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.

SURFACE PREPARATION:

Apply only on a dry and clean surface with a temperature at least 3 °C above the dew point.

There are following surface preparation stages: remedy imperfections to P2 ISO 8501–3; remove oil and grease (if necessary); blast clean to Sa 2½ GOST R ISO 8501–1–2014 with average surface profile in the range 50–75 microns, remove salt if necessary; dust shall be removed from the surface after blast cleaning such that the particle quantity and particle size do not exceed rating 2 of ISO 8502–3.

APPLICATION DETAILS:

Material preparation:

A two-component material supplied in separate containers to be mixed prior to use.
In cold conditions it will help mixing and application if the material can be stored in a warm environment for at least 24 hours prior to use. A temperature between 15 °C and 30 °C is recommended. Before application mix Additive with Base and maintain stirring for 3–5 minutes. Mixing Ratio is given in product certificates of quality.

Pot life:

45 minutes — 15 °C; 30 minutes — 20 °C.

Application method:

Airless Spray / Manual Application (spatula).

Thinner:

For more information, contact O3–COATINGS.

Nozzle size:

.019"-.025"

Operation pressure:

(220–250) bar

Cleaning of tools:

Solvent 646 (thinner TRIOSOLV™ 0003 or xylene technical may be used).
Clean equipment immediately if stop spraying for more than 10 minutes.

| | |
|---|---|
| Application conditions: | Should be applied at temperatures above –10 °C. Relative humidity: 85% maximum; (In confined spaces provide adequate ventilation during application and drying). |
| STORAGE: | Base – 24 months from date of manufacture. Additive – 12 months from date of manufacture. Store in dry, shaded conditions at temperature between +5 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| RECCOMMENDED SYSTEMS: Primer: | TRIOCOR™ MASTIC 4500, TRIOCOR™ MASTIC 4500 (MIO) or other primers, in accordance with fire safety certificates. |
| Thermal-insulating material: | TRIOTHERM™ 3500. |
| Topcoat: | TRIOCOR™ FINISH 5500 or other topcoats, in accordance with fire safety certificates. |
| PACKAGE: | Part A (Base) – 20 L container.<br>Part B (Additive) – 3,0 L container or 3,2 L container. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOFLAME™ EP 8800?

Increases its own fire resistance rate of steel structures in standard temperature conditions in accordance with GOST 30247.0 and alternative temperatures ranging, including hydrocarbon temperature conditions.

Provides fire protection of steelworks exposed to harsh conditions (exposure to low temperatures, aggressive environment, high humidity, etc.)
Low VOC: 98±2% high volume solid
High DFT – 2940 µm

DESCRIPTION:

**One-component water-based acrylic thermal insulation material.**

TYPE AND RECOMMENDED USE:

Weather-resistant, heat-saving coating with increased vapor permeability, used for thermal insulation of facades of residential and non-residential buildings and structures. It can be used
as part of combined structural fire protection systems. It is intended for application on surfaces
made of concrete, primed metal and brick.
The coating can be operated in the temperature range from –40°C to +70°C.

PHYSICAL CONSTANTS:

Color:

White.

Volume solids:

(80±5) %

Density, g/cm$^3$

0,70±0,10

Film thicknesses:

The thickness of the material layer depends on the requirements for thermal insulation. The recommended thickness of the resulting coating is from 1 to 2.5 mm.
Recommended wet film thicknesses (WFT) per pass depend on the application method:
- with a spatula - 1 mm, without dilution;
- with a brush with a soft bristle - 0.5 - 1 mm, without dilution;
- with a roller - 0.3 - 0.6 mm, with dilution with water from 25 to 35% of the weight;
- airless spraying - (0.6–1) mm, with dilution with water from 5 to 10% of the weight.

**Table of wet and dry film thicknesses of one coating layer:**

| Film thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 300 | 240 |
| Maximum | 1000 | 800 |

Drying time and overlap interval:

**Drying time at dry film thickness TRIOTHERM™ 3000 – (300–1000) microns:**

| Temperature of the painted surface | 10 °C | 20 °C | 30 °C | 40 °C |
|---|---|---|---|---|
| Drying before overlap | 24 h | 18 h | 12 h | 10 h |

The drying times given in this section are of a recommendatory nature. When estimating the actual drying time, the presence of air currents and relative humidity must also be taken into account. The recommended relative humidity of the air during application is no more than 65%.

SURFACE PREPARATION:

The material is applied to a pre-prepared and primed surface. The surface to be painted must be dry, clean and uniform with a temperature at least 3 °C above the dew point. A typical surface preparation scheme includes cleaning, degreasing (if necessary) and dedusting the primed surface.

APPLICATION DETAILS:

Material preparation:

The material is one-component, water-based. 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 method:

Spatula, brush, roller, airless spraying.

Thinner:

- The solvent is water. The amount of dilution depends on the application method:
- with a spatula – without dilution;
- brush with soft pile – without dilution;
- by roller – with dilution from 25 to 35% by weight;
- by airless spray – without dilution or with dilution from 5 to 10% by weight.

Nozzle size (recommended):

For airless spraying – .019“–.027“.
Apply without filters!

| | |
|---|---|
| Operating pressure (recommended): | At least 100 bar. |
| Cleaning of tools: | Water |
| Application conditions: | It is applied in layers at ambient temperatures from +10 °C to +45 °C.<br>The relative humidity of the air is not higher than 65%. |
| RECCOMMENDED SYSTEMS: | |
| Primer: | For concrete and brick surfaces – primer TRIOPRO™ PRIMER 1000, for metal – TRIOCOR™ PRIMER 1100; TRIOCOR™ MASTIC 4500 or other, agreed with LLC O3 Company. |
| Topcoat: | After drying, it does not require additional protection from mechanical stress and aggressive environmental factors. It is resistant to UV radiation, as well as the properties of high-quality façade paint. To give decorative and additional protective properties to the coating system, it is recommended to use finishing enamels in accordance with the certificates of compliance with the requirements of Federal Law №123 and TR EAEU 043 (for example, TRIOKOR™ FINISH 5100 or others). |
| STORAGE: | Shelf life is 24 months from the date of manufacture. It is recommended to store in a dry, dark place in an airtight factory package at a temperature of plus 5°C to plus 45°C, avoid direct exposure to UV rays and other heat sources. |
| PACKAGE: | Euro buckets: 2, 5, 10, 20 l |
| HEALTH AND SAFETY: | Read the Material Safety Data Sheet. |

## REASONS TO CHOOSE TRIOTHERM™ 3000?

Acrylic thermal insulation material.
Weather-resistant, heat-saving coating with increased vapor permeability, used for thermal insulation of facades of residential and non-residential buildings and structures. The coating after drying does not require additional protection from mechanical influences and aggressive environmental factors. It is intended for application on concrete, metal and brick surfaces. It can be used as part of combined structural fire protection systems.

DESCRIPTION:

**A two-pack epoxy thermal-insulating material.**

TYPE AND RECOMMENDED USE:

The material is intended for thermal insulation of pipelines, technological units and equipment to prevent heat leakage and / or for protection of personnel, as well as to protect steel and concrete constructions and elements of technological systems from the cryogenic strait. Can be used as an independent thermal insulation with soundproofing properties, and as part of anticorrosive coating systems and combined systems of constructive fire protection. The operating temperature range of the resulting coating is from –60 °C to +150 °C.

PHYSICAL CONSTANTS:

Color:

From white to beige.

Volume solids:

98±2 %

Coefficient of heat conductivity:

0,04 W / m ·K

Film thicknesses:

Coating's thickness of the material depends of requirements for thermal insulation. (Contact your O3 Company representative for additional data).

When applied by airless spraying, the maximum thickness of a wet film (WFT) per pass can reach 5400 µm, which corresponds to a dry film thickness (DFT) of 5290 µm.
The recommended thickness of wet film (WFT) in one pass is 5000 µm, which corresponds to the dry film thickness (DFT) of 4900 µm.

**Drying times TRIOTHERM™ 3500 – 4900 microns DFT:**

| Substrate temperature | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To recoat | 30 h | 22 h | 12 h | 11 h |

Drying times depend of film thickness. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

SURFACE PREPARATION:

The material is applied to a pre-prepared and primed surface. The surface to be painted must be dry, clean and uniform with a minimum temperature of 3 °C above the dew point.
A typical surface preparation scheme includes cleaning, degreasing (if necessary), desalting (if necessary) and dedusting the primed surface.

APPLICATION DETAILS:
Material preparation::

A two component material supplied in separate containers to be mixed prior to use.
In cold conditions, it will help mixing and application if the material can be stored in a warm environment for at least 24 hours prior to use. A temperature between 15 °C and 30 °C is recommended. Before application mix Additive with Base and maintain stirring for 3 minutes.
It is necessary to start application after immediately after mixing components.

Pot life:

40 minutes – 20 °C 30 minutes – 30 °C

Application method:

Airless Spray / Molding

Thinner:

TRIOSOLV™ 0003. It is allowed to dilute up to 2% by weight.

Nozzle size:

.019"-.025"

Operation pressure:

(220–250) bar

Cleaning of tools:

Thinner TRIOSOLV™ 0003 or xylene technical (TRIOSOLV™ 0002 may be used).
Clean equipment immediately if stop spraying for more than 10 minutes.

| | |
|---|---|
| Application conditions: | Should be applied at temperatures above –10 °C;<br>Relative humidity: 85% maximum;<br>(In confined spaces provide adequate ventilation during application and drying). |
| RECCOMMENDED SYSTEMS: | |
| Primer: | TRIOCOR™ MASTIC 4500, TRIOCOR™ MASTIC 4500 (MIO) or other primers in agreement with the company O3 Company LLC, in accordance with fire safety certificates.. |
| Fire protection material: | TRIOFLAME™ EP 8800, TRIOFLAME™ 8800. |
| Topcoat: | TRIOCOR™ FINISH 5500 or other topcoats, in agreement with the company O3 Company LLC, in accordance with fire safety certificates.. |
| STORAGE: | Base – 24 months from date of manufacture. Additive – 24 months from date of manufacture. Store in dry, shaded conditions at temperature between +5 °C and +30 °C in hermetic original package away from UV rays and other sources of heat. |
| PACKAGE: | Part A (Base) – 20 L container;<br>Part B (Additive) – 10 L container. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOFLAME™ 3500?

Epoxy thermal-insulating material.

High-quality epoxy thermal insulation: protection against cryogenic temperatures (down to –196 °C) and as a part of structural fire protection for hydrocarbon and reactive fire scenarios.

DESCRIPTION:

**One-component acrylic thermal insulation material.**

TYPE AND RECOMMENDED USE:

The material is intended for thermal insulation (prevention of heat leakage) of pipelines, technological units and equipment. It is used as part of combined structural fire protection systems operated at temperatures from minus 40 to plus 70 ° C.

PHYSICAL CONSTANTS:

Colour: White.

Volume solids: 75±5%

Coefficient of thermal conductivity: 0,08 W/m·K

Film thicknesses: The thickness of the material layer depends on the requirements for thermal insulation. (For more information, contact the company "O3–Coutings"). When applied by airless spraying, the maximum thickness of the wet film (WFT) in one pass is 2000 microns, which corresponds to a dry film thickness (DFT) of 1500 microns.

Drying times:

**Drying times for 1500 microns DFT**

| Substrate temperature | 0 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| To recoat | 12 h | 8 h | 6 h | 4 h |

Drying time is thickness dependent. These figures are given as a guide only. Factors such as air movement and humidity must also be considered.

SURFACE PREPARATION:

This material should be applied on prior prepared and primed surface. Ensure surfaces to be coated are clean, dry and free from all surface contamination, with a temperature at least 3 °C above the dew point. Typical surface preparation includes cleaning, degreasing (if necessary), salt removing (if necessary) and dust removing from primed surface.

APPLICATION DETAILS:

Material preparation: The material is one-component, supplied in Containers. Before use, the material must be kept for at least 24 hours at a temperature not lower than +15 °C and not higher than +25 °C. Before applying, mix the material to a homogeneous consistency. Application should begin immediately after mixing.

Application method: Airless Spray / Manual application.

Thinner: Not recommended.

Nozzle size: .019“-.025“

Operation pressure: (200–215) bar

Cleaning of tools: TRIOSOLV™ 0003 (it is allowed to use other thinners after consultation with LLC O3 Company).

Application conditions: Should be applied at temperatures above –10 °C; Relative humidity: 85% maximum;

(In confined spaces provide adequate ventilation during application and drying).

RECOMMENDED SYSTEMS:

Primer: TRIOCOR™ PRIMER 1100; TRIOCOR™ MASTIC 4500 or other primers in accordance with fire safety certificates.

Topcoat: TRIOCOR™ FINISH 5500 or other enamels in accordance with fire safety certificates.

| | |
|---|---|
| STORAGE: | 24 months from the date of manufacture. It is recommended to store in a dry, dark place in a sealed factory packaging at a temperature of –30 °C to +30 °C, avoid direct exposure to precipitation, UV rays and other heat sources. |
| PACKAGE: | 20 kg net weigh. |
| HEALTH AND SAFETY: | Refer to the Safety Data Sheet before use. |

## REASONS TO CHOOSE TRIOTHERM™ 3700?

**Acrylic thermal insulation material.**
One-component acrylic thermal insulation material.
The material is intended for thermal insulation of pipelines, technological units and equipment to prevent heat leaks and/or protect personnel, as well as to protect steel and concrete structures and elements of technological schemes from cryogenic spillage.

DESCRIPTION:

**One-component acrylic thermal insulation material.**

TYPE AND RECOMMENDED USE:

The material is intended for use as part of combined structural flame retardant coating systems operated at temperatures from –40 °C to +80 °C.

PHYSICAL CONSTANTS:

Colour:

White, light gray

Volume solids:

(70±5) %

Film thicknesses:

The thickness of the material layer depends on the requirements for thermal insulation. (For more information, contact O3 Company). 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.

**Table of wet and dry film thicknesses:**

| Film thickness | WFT, microns | DFT, microns |
|---|---|---|
| Minimum | 800 | 528 |
| Maximum | 3000 | 1980 |

Drying times:

**Drying time at dry film thickness TRIOTHERM 3800–1320 microns:**

| Temperature of the painted surface | 5 °C | 10 °C | 20 °C | 30 °C |
|---|---|---|---|---|
| Drying before overlap | 48 h | 32 h | 24 h | 16 h |

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

SURFACE PREPARATION:

The material is applied to a pre-prepared and primed surface. The surface to be painted must be dry, clean and uniform with a temperature at least 3 °C above the dew point. A typical surface preparation scheme includes cleaning, degreasing (if necessary), desalting (if necessary) and dedusting the primed surface.

APPLICATION DETAILS:

Material preparation:

The material is one-component. Before use, it must be kept for at least 24 hours at a temperature not lower than +15 °C and not higher than +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 method:

Airless spraying / Manual application.

Thinner:

Dilution is not recommended.

Nozzle size:

.019“-.025“

Operation pressure:

(220–250) bar

Cleaning of tools:

TRIOSOLV™ 0003 (it is allowed to use other solvents in agreement with O3 Company).

Application conditions:

The air temperature is not lower than –10 °C, not higher than +35 °C.
The relative humidity of the air is not higher than 85%;
(In closed rooms, provide adequate supply and exhaust ventilation for the period of application and drying).

| | |
|---|---|
| RECOMMENDED SYSTEMS: | |
| Primer: | TRIOCOR™ PRIMER 1100; TRIOCOR™ MASTIC 4500 or other primers in accordance with fire safety certificates. |
| Flame retardant coating: | TRIOFLAME™ AK 7700. |
| Topcoat: | TRIOCOR™ FINISH 5500 or other enamels in accordance with fire safety certificates. |
| STORAGE: | Shelf life is 12 months from the date of manufacture. It is recommended to store in a dry, dark place in a sealed factory packaging at a temperature from –5 °C to +40 °C, avoid direct exposure to UV rays and other heat sources. |
| PACKAGE: | Containers. Net weight – 13.7 kg. |
| HEALTH AND SAFETY: | Read the Material Safety Data Sheet. |

## REASONS TO CHOOSE TRIOTHERM™ 3800?

**One-component acrylic thermal insulation material.**

The material is intended for use as part of combined structural flame retardant coating systems operated at temperatures from –40 to +80 °C.

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Protect
the future
together

O3 Company
121205, Russia, Moscow, Skolkovo
Innovation Center, 1 Nobel Str.
8–800–500–56–35
hello@o3.com
o3.com

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