

## Instructions for the application of thermal insulation coatings

### 1. What will you need?

#### For the application you will need:

- Protective clothing,
- Protective film,
- Brush, roller, trowel or painting aggregate,
- Thermal insulation coating (GoTherm® or AT Termo®).

### 2. How to prepare the surface?

#### Building materials:

- The painted surface should be leveled.
- The surface should be cleaned of free fractions.
- Depending on the condition of the surface (absorbency and stability), it may be necessary to prime it earlier.
- In the case of partitions with high humidity (e.g. as a result of capillary pulling water from the ground), appropriate waterproofing of the painted surface must be made.
- To obtain a uniform color with a layer of thermal insulation coating that is less than 1 mm thick, it may be necessary to use a color-evening primer (e.g. standard finishing paint).

#### Steel materials:

- The surface susceptible to corrosion should be treated with an anti-corrosion agent.
- In the case of a very smooth surface, matting may be required to increase adhesion.

#### Wooden materials:

- The surface should be protected against moisture absorption.

#### Synthetic materials:

- In the case of a very smooth surface, matting may be required to increase adhesion.

#### **Important!**

Do not apply to wet, oily, corroded or mouldy surfaces.

### 3. Performance and consumption

The efficiency of the material (both paint and thermal insulation) is due to its volume. About 1 liter of the product on an area of 1 m<sup>2</sup> allows you to obtain a layer with a thickness of 1mm.

The recommended consumption, depending on the application, is 0.5 – 3.0 liters of paint per 1 m<sup>2</sup>.

- radiation reflection – total layer thickness min. 0.5 mm (0.5 l/m<sup>2</sup>),
- mold and fungi on the walls – total layer thickness min. 1 mm (1 l/m<sup>2</sup>),
- condensation – total layer thickness min. 1.5 mm (1 l/m<sup>2</sup>),
- thermal insulation – total layer thickness min. 1-3 mm (1-3 l/m<sup>2</sup>),
- hot surface (e.g. pipe) – total layer thickness 1.5-3 mm (1.5-3 l/m<sup>2</sup>).

### 4. How to prepare the product?

Both the product in liquid form and in the form of a dense mass should be mixed before application. In the case of a liquid product, it is enough to shake the canister vigorously, the product with a thick consistency should be mixed with a stirrer – we recommend using low-speed mixers with a maximum speed of 200 RPM.

Although each product is supplied ready for immediate application (after prior mixing), depending on the method of application, the preferences of the person applying the material or the specificity of the substrate, dilution of the product may be required.

#### 4.1. Dilution of thermal insulation paint

If necessary, the paint version of the product can be diluted with water:

- **about 5%** (50ml per 1 liter of paint) – preparation of paint for application with a brush, roller and spray.
- **from 5% to a maximum of 25%** (50-250ml per 1 liter of paint) - for painting the first layers on surfaces with high temperatures (from 60 ° C to 180 ° C).

#### 4.2. Dilution of thermal insulation mass

If necessary, the product in the mass version may be diluted with water:

- **about 5%** (50ml per 1 liter of mass) – preparation of the mass for puttying
- **about 10 - 15% (100-150ml per 1 liter of mass)** – preparation of the mass for brush or spray application.
- **from 15% to a maximum of 40%** (150-400ml per 1 liter of weight) - for painting the first layers on surfaces with high temperatures (from 60 ° C to 180 ° C).

#### **Important!**

Add water **gradually with small batches**, stirring constantly until the desired consistency is obtained. Only the amount of product that **will be used within 3-5 hours should be** diluted. Adding too much water can cause **delamination and spoilage of the product**.

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## 5. Application tools

### 5.1. Brush

Brush application is suitable for paint and thermal insulation mass.

For simple painting works that do not require high aesthetics of surface finishing, you can use a paint brush. This method is characterized by low material losses and allows for quick implementation, which is why it is suitable, m.in for steel pipes. It should be taken into account that the application with a brush leaves **traces of bristles**.

### 5.2. Roller

Roller application is suitable only for thermal insulation paint.

We recommend using **short-pile nylon rollers** for low-roughness surfaces and **long-hair polyacrylic string rollers** for rough surfaces (e.g. façades). The application with the help of a roller leaves **structural surface finish**. Guidance:

- It is necessary to soak the roller generously with paint.
- The first layer is a primer layer (it will pierce the original surface) and will provide good adhesion for subsequent layers.
- To obtain a uniform structure over the entire surface, we recommend painting in “one go” and without making any corrections on the drying layer of the coating. Each correction will stand out against the finished surface, so any correction should be made by painting another layer.
- One-time painting with a roller allows you to apply a layer with a thickness of about 0.3-0.5mm.

### 5.3. Pack/Putty

The application with a trowel is suitable only for thermal insulation mass.

This is a method that requires more skill from the applicant. With careless execution, large irregularities may arise, which will require excessive grinding. Grinding damages the coating and reduces its insulation parameters.

The application with the help of putty allows to obtain a **smooth surface finish** (depending on the skills of the applicant).

### 5.4. Aggregate/paint gun

The painting aggregate will work well when painting large surfaces, as well as those with a complex shape (e.g. details of historic architecture). The spray application allows you to get **structural surface finish**. A number of different devices can be used for application using this method, depending on the product used:

- **GoTherm®** – HVLP/LVLP unit (maximum operating pressure is **10 bar**)
- **AT Termo®** – HVLP/LVLP spray gun, hydrodynamic aggregate (maximum working pressure **120 bar**)

Detailed hardware recommendations can be found in the documents (technical specifications) for the individual products.

#### **Important!**

When working with the aggregate, remove all paint filters from it or replace it with a filter with a mesh diameter of at least 2mm.

## 6. Application

Step by step:

1. Before painting, the surface must be prepared (according to point [2](#)).
2. Mix the product:
  - Liquid product – shake the canister vigorously
  - Dense product – open the supplied package and mix the entire product thoroughly at idle speed (maximum 200 RPM).
3. The amount of product planned for use within 3-5 hours put away in a separate container.
4. If the density is difficult to apply, dilute the amount of product set aside (according to [4.1](#) or [4.2](#)) and mix again.
5. Commencement of painting work (instructions on the application of individual tools can be found in the [5](#)).

The intervals between successive layers are respectively:

- a. Up to 1 hour – if painting takes place on the ground at temperatures above 40°C.
  - b. About 3 hours – if painting takes place at room temperature.
  - c. From 3 to 24 hours - if the painting takes place in extremely unfavorable conditions (temperature below 5 ° C or high humidity of the environment).
6. 24 hours after applying the last layer, it is possible to cover the product with another decorative paint.

**Important!** The use of another product as the last layer will worsen the reflective properties of the coating. In this case, we recommend applying a thicker layer to compensate for the deterioration of radiation reflection by the higher thermal resistance of the coating.

7. After the work is done, all tools just need to be washed with water.
8. Unused (and undiluted) product, after sealing the package, can be safely stored for up to one year.



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