

# Ultra-Thin Thermal Insulation Fluid KORUND ANTIKOR

KORUND ANTIKOR is tailor-made for poorly prepared base metal surfaces:

- manually de-rusted base surfaces;
- improperly cleaned surfaces.

KORUND ANTIKOR can be easily applied to all surface types: metal, plastic, etc. Insulation can be performed at a surface temperature of +7°C to +150°C. The operating temperature range of KORUND ANTIKOR option is – 60°C to +150°C. **When using Korund Antikor thermal insulation fluid, special care must be taken to ensure the following:**

1. Do not let Korund Antikor freeze
2. Always check the seal for integrity before opening the container
3. Avoid excessive agitation during preparation (please see it. 2 hereof)
4. Do not add extra water during preparation (please see it. 2 hereof).

## 1. Surface Preparation

Make sure that the surface to be insulated is free from dirt, rust flakes, dust, old paint, etc. Use a wire brush or grinding wheel to remove loose rust from the steel surface.

The surface is ready when it is dry (no condensate allowed as well); free from flakes, oils and fatty components; has limited elasticity. If the surface has any oil traces or fatty spots, they must be removed using a solvent.

## 2. Making the KORUND ANTIKOR Insulation Coating

KORUND ANTIKOR is ready for use; **add some distilled water and stir it if necessary** just before application to the prepared surface. Water must be added subject to the base material temperature, ambient temperature and humidity, intended application and other factors. For surface temperatures +7°C to +80°C, the proportion of water added to the material may be 5% or less when applied with a brush and 3% or less for airless spray application. For surface temperatures over +80°C, it must be decreased first with several undercoats containing Korund diluted with 40 to 50% of distilled water according to the procedure described in it. 3 Application Procedure. For more details, please consult the local representative or manufacturer. Long-term storage may lead to segregation of the product.

When a drill with a mixing bit or a mixer is used (please consult the local Korund representative for suitable equipment), the maximum allowable stirring rate will be 150 to

200 rpm. Exceeding this limit may destroy the microsphere and entail a dramatic drop in efficiency of heat insulating coat (or even its loss).

Use vertical travel of the blade to submerge the thicker part into liquid, turn the drill on and start to rotate the blade mixing the lumps with the liquid. Continue mixing till the product becomes creamy. Approximate mixing time is 3 to 8 minutes when a mixer is used, or 7 to 10 minutes for manual stirring. If condensate or frost crust removal is required, the product must be added with minimum amount of water and applied with maximum interval between layers.

### 3. Application Procedure

Use a soft brush with long natural bristles or airless sprayer (for recommended types and manufacturers of airless sprayers and recommended settings, please consult your local representative).

To apply the coating to small spots or hard-to-reach areas, a soft brush can be used. Surface areas larger than 100 sq. m can be coated with an airless sprayer with the working pressure of 60 to 80 bar or less (IMPORTANT!!! Some airless sprayers are not suited for Korund application!!! Please refer to the manufacturer or local Korund representative to seek advice on selecting, configuring and operating an airless sprayer. See also additional Airless Sprayer Application Procedure).

Insulation coating can be applied at a surface temperature of +7°C to +150°C; avoid applying in humid weather as water will dilute the product and prevent it from drying up.

For better adhesion to the surface, prime the prepared surface with a thinner solution of the product (having a milky consistency) diluted with 40 to 50% of distilled water. The drying time for one layer 0.4 to 0.5 mm thick will be at least 24 hours at ambient temperature over +7°C and humidity 80% or less maintained during the entire drying period, i.e. 24 hours. The next coat can only be applied when the previous one has been completely dried, i.e. after 24 hours at room temperature. Three passes of a sprayer or brush are sufficient to make a 0.4 to 0.5 mm-thick coat (optical density measurement). Do not apply a thicker coat; this will create a moisture-resistant film on its surface which will impair the evaporation process and result in the loss of heat-transfer properties and deformation of the coat.

When applied at surface temperatures over +80°C, the product starts boiling and sets very quickly; therefore, it has to be diluted with water. It is recommended that the surface is primed with 40 to 50-percent aqueous solution of the product. **IMPORTANT!** If **KORUND ANTICOR** is applied at surface temperature over +80°C, the maximum coat thickness cannot exceed 0.5 mm during 24 hours. The hotter the surface is, the thinner the product must be. Apply the diluted product in short quick strokes to obtain a very thin coat. Let each of such coats dry for at least one hour. Keep laying such coats until the material stops boiling on the surface. Let it dry for 24 hours. Then proceed with the normal application system adding 3 to 5 percent of distilled water to make 0.5 mm-thick coats and waiting 24 hours between the coats.

To measure the coat thickness of 0.5 mm, you may choose to use a comb-type wet film thickness gauge, or product consumption rate of 0.55 liters per square meter (approximate consumption when applied by brush to a flat surface), or optical density of the product (the base surface must not be seen through the coat). The consumption rate of the product may vary subject to the type of the surface and application technique.

The total coating thickness and number of coats will be determined by the heat balance calculation or as recommended by the certified regional representatives of the manufacturer.

#### **4. Safety Considerations for KORUND Handling**

##### **4.1 Personal Protection**

The product is safe under normal conditions. Respirators are not required for handling the product in a well-ventilated area or outdoors. For poorly-ventilated areas, wear a standard respirator. For eye protection, use chemical splash goggles. Ensure easy access to eye wash stations. For skin protection, use chemical protective gloves and protective clothes. Wash protective clothes after each use.

##### **4.2 Emergency Response**

In case of eye contact, immediately rinse the eyes with running water for 15 minutes. If irritation persists, consult a doctor. In case of skin contact, clean the skin with water and soap. Wash the contaminated clothes after each use. In case of inhalation, move to fresh air. The product is non-flammable in liquid state. If the coated structures or buildings catch fire, use water, foam, dry chemicals or carbon dioxide to put out the fire. In case of spill, use any absorbing material like sand, soil, etc. to remove the spilled product.

#### **5. KORUND ANTICOR Storage and Transportation Conditions**

**KORUND ANTICOR** must be stored in a tightly closed container at a temperature of +5° to +30°C, air humidity of 80% or less, away from direct sunlight. The product can be shipped using any means of transportation at temperatures over +5°C away from direct sunlight. The transportation package must ensure correct and safe orientation of the container. Any loss of container's integrity will entail damage to the product.

In case of failure to meet any application or storage requirement, the manufacturer will decline any liability for the quality of the coating.