

BRONYA



SUPERFINE HEAT INSULATION

APPLICATION GUIDELINES BRONYA METAL Superfine Heat Insulation

BRONYA METAL is specially made for application on improperly prepared metal base surfaces such as surfaces that underwent manual de-rusting and poorly degreased surfaces. **BRONYA METAL** can be easily applied on all types of surface: metals, plastics, etc. Insulating works can be carried out on surfaces with temperatures from +7°C to + 90°C. Operating temperature of **BRONYA METAL** ranges from -60 °C to + 90 °C. When using **BRONYA METAL** liquid heat insulation, pay special attention to the following conditions:

1. No freezing of Bronya heat insulation is allowed.
2. Prior to opening a package make sure the seals are intact.
3. Avoid excessive agitation during preparation (refer to section 2 below)
4. Avoid excessive water dilution during preparation (refer to section 2 below)

1. SURFACE PREPARATION

Remove dirt, flake-like rust, dust, old paint, etc. from the surface to be insulated. Use wire brushes or sand disks to remove loose rust from metal surface. The prepared surface must be dry (and without condensate) and free from loose, oily or greasy matter, and should not be excessively plastic and glossy. If any oily or greasy stains are present on the surface, use solvent to remove them. Glossy areas shall be treated to a matt finish.

2. PREPARATION OF BRONYA ANTIRUST

BRONYA METAL is ready for use, prior to application on the pre-prepared surface, stir up and add some distilled water as required. The amount of water also depends on the temperature of the base surface, ambient temperature and humidity, further operation and other factors. When the material is laid on a surface with temperature range of +7°C to +80°C, the amount of water added to the material should not exceed 5% if applied by brushing and 3% if applied mechanically (by airless sprayer). When the material is laid on a surface with temperature above +80°C, apply several prime layers of Bronya insulating material diluted with the 20-50% of distilled water as shown in section 3 "Application of insulating coating" to reduce the temperature. For detailed recommendations please consult the local representative office or the manufacturer*. For extended storage periods in

containers splitting into fractions is possible. If a drill with paddle bit or a mixer is used (please consult your local Bronya representative regarding the type of equipment to be used), the maximum permissible agitating rate is 150 rpm. Excessive agitating rate will cause microsphere destruction and dramatic deterioration (or loss) of heat insulation efficiency. Use vertical travel of the paddle to immerse the stiffened part into liquid, switch on the drill and start slow rotation of the paddle to mix the solid lumps with the liquid. Keep mixing until the product becomes a homogeneous viscous mass. Approximate time of mixing with the mixer is 3-8 minutes, for manual mixing is 7-10 minutes. If condensate or frost crust removal is required, the material shall be applied with minimum amount of water added and with maximum interlayer drying interval.

3. COATING APPLICATION

Use of soft brush with long natural bristles or airless sprayer is recommended (please ask your local representative about the recommended models of the airless sprayers and adjustment tips). One can use soft brush to lay the coating on small surfaces or areas of irregular shape. Surface areas up to 100 m² can be coated with an airless sprayer having maximum operating pressure of 60-80 bar (**IMPORTANT! Not all airless sprayers can be used for application of Bronya insulation!!!**). Please consult your local Bronya representative or the manufacturer regarding the selection, adjustment and operation of the airless sprayers. Also see additional Operation Sheet for operation of the airless sprayers. Insulation coating can be laid on the surface with temperature from +7°C to +90°C and maximum relative humidity of 80%. To achieve better bond with the surface to be coated, it is recommended to apply a primer coat on the prepared surface; for primer, use liquid composition of material (liquid as milk), dissolve the material with 20-50% of distilled water. Complete drying of one coating layer with 0.4-0.5 mm thickness takes 24 hours minimum at ambient temperature of higher than +7 °C and maximum humidity of 80% over the entire drying period, which is to say 24 hours. The next layer can be applied only after complete drying of the previous layer, i.e. in 24 hours at given conditions. To form a coat approx. 0.4-0.5 mm thick (optical thickness) three passes of sprayer or brush are required. Laying of material with thicker coats is not allowed, since this results in development of damp-proof film on its surface; the film will prevent complete evaporation of moisture, and this will lead to loss of thermo-physical properties and coating deformation. When applied on the surface with temperature above 80°C, the material starts boiling and stiffens very quickly; therefore, the material should be diluted with water. It is recommended that 20- 50% water solution of the material be applied on the surface as a primer coat. **IMPORTANT!** When **BRONYA METAL** is applied on the surface with temperature above 80°C, the maximum layer thickness shall not exceed 0.5 mm within 24 hours. The hotter the surface to be coated is, the more diluted the material should be. Apply the diluted material with quick and short strokes to obtain a very thin coat. The drying time of every such coat is 1 hour minimum. Keep laying such coats until the material being applied stops boiling on the surface. However the coat thickness shall not be greater than 0.5 mm. After that, let the coating dry for 24 hours. Subsequently, the material is applied following the traditional procedure – adding 3% to 5% of the distilled water, in layers of 0.5 mm thickness and interlayer drying time of 24 hours. To determine coat thickness of 0.5 mm, one can use a thickness gauge (“wet film thickness” gauge), material consumption rate 0.55 l per 1 m² (approximate consumption of the material when applied by brush on the even surface) or the value of material optical thickness (the underlay must not show through the material). The material

consumption rate depends on the surface type and method of application. Thermotechnical calculation or recommendations of certified regional manufacturer's agencies shall be used to determine the total coat thickness and the number of coats.

4. HANDLING SAFETY PRECAUTIONS

4.1 Personal safety

The product is non-hazardous under normal conditions. No respirators are required for work in a well-ventilated rooms or outdoors. Use standard respirators in non-ventilated rooms. Protect eyes with chemical safety goggles. Ensure access to the running water for eyes washing. Use chemical protective gloves and protective clothes to protect skin.

4.2 Emergency

In case of eyes contact, immediately wash the eyes with running water for 15 minutes. If irritation persists, consult the doctor. In case of skin contact, wash the skin with soap and water. Wash contaminated clothes prior to re-use. In case of inhaling, provide access to open air. The product is nonflammable in liquid state. In case of inflammation of structures or buildings with coating applied, use water, foam, dry chemicals or carbon dioxide for firefighting. Use any absorbent material like sand, soil, etc. to remove spills of the product or flush with plenty of water.

5. STORAGE AND TRANSPORTATION CONDITIONS

Keep **BRONYA METAL** in tightly closed packages at +5 °C to +30 °C and maximum humidity of 80%. Keep away from direct sunlight. The materials are transported using any mode of transport at temperature greater than +5 °C away from direct sunlight. The materials to be transported shall be packaged in such a way to ensure proper positioning of the containers and package integrity. It is not recommended to stack more than 3 buckets on top of one another in 20 liter package or 5 buckets in 10 liter package without additional packaging during transportation! Loss of package integrity results in material damage.

In case of noncompliance with the application and storage instructions, the manufacturer shall not be liable for the quality of coating.

* If you have any questions, do not hesitate to contact your local representative or the manufacturer.