

BRONYA

SUPERFINE HEAT INSULATION

APPLICATION GUIDELINES BRONYA WALL NF Superfine Heat Insulation

BRONYA WALL NF displays good adhesion to most part of known materials. It has low Newtonian fluidity, therefore, it practically does not slip down when applied to vertical surfaces, even if the coat is 1 mm or more thick. Besides this material has high vapor permeability and can be used for insulation of the enclosing structures of buildings and constructions. Insulation works can be carried out on the surfaces with temperature range from +7°C to +80°C (during application and subsequent drying during 24 hours, the ambient air temperature must be at least +7°C). Operating temperature of **BRONYA WALL NF** modification is in the range from -60 °C to +80 °C. When using **BRONYA WALL NF** liquid heat insulation, pay special attention to the following conditions:

1. No freezing of **BRONYA FACADE NF** 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

Prepare the surface for material application: remove loose sections, treat and plaster up cracks, remove oily inclusions, clear laitance off concrete; in order to reduce material consumption, use cement and plaster compounds to repair the surface, including joints between bricks and pockets deeper than 5-7 mm. Use sand blaster, wire brush or sand disks to perform surface conditioning. After the mechanical treatment of the surface is completed, use brushes or air blowers for thorough de-dusting. If the material is applied to concrete, brick, etc. surfaces, first cover them 1-2 times with any acrylic primer of good quality with deep penetration for concrete surfaces. Then flush with water to remove dirt, dust residues, etc. Wait until the surface is completely dry. Apply acrylic deep-penetration primer of Bronya Facade series on the concrete, brick and similar surfaces. If **BRONYA WALL NF** is to be used on metal surfaces, metal shall be protected from rust. It is recommended to apply 1-2 layers of **BRONYA ANTIRUST** material depending on metal surface finish. For application of **BRONYA WALL NF** concrete humidity must not exceed 4%, air humidity must not exceed 80%. If any oily and greasy stains are present on the surface, remove them with the solvent.

2. Material preparation

BRONYA WALL NF is ready for use, prior to application to 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 and subsequent operation. When the material is laid on the surface with temperature range from +7°C to +80°C, the total amount of water added to the material should not exceed 5% if applied by brush and 3% if applied mechanically (by airless sprayer). When the material is laid on the surface with temperature above +80°C, apply several prime layers of **BRONYA WALL NF** insulating material diluted with the 20-50% of distilled water as shown in section 3 "Coating application" 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, frost crust, fungus or mould removal is required, the material shall be applied with minimum amount of water added and with maximum interlayer drying interval (more than 24 hours).

3. Coating application

Use of soft flat paint brush with long natural bristles or airless sprayer is recommended (please visit our web site or ask your local representative or manufacture about the recommended models of the airless sprayers and adjustment tips). One can use soft flat paint 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 visit our web site to check the additional Operation Sheet for operation of the airless sprayers. Insulation coating can be laid on the surface with temperature from +7°C to + 80°C and maximum relative humidity of 80%. Complete drying of one coating layer with 1 mm thickness takes 24 hours minimum. The next layer can be applied only after complete drying of the previous layer, i.e. in 24 hours at a minimum temperature of +7°C over the entire drying time. To form a coat approx. 1 mm thick three to five 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 WALL NF** insulation 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 1 mm thickness and interlayer drying time of 24 hours. To determine coat thickness of 1 mm, one can use a thickness gauge (“wet film thickness” gauge), material consumption rate 1.1 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.

Properties of the insulating material become noncombustible in 7 days after the last coat has been applied.

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. Use chemical protective gloves and protective clothes to protect skin.

4.2 Emergency situations

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 the product in tightly closed packages at +5 °C to +30 °C and max. 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.