Technical and material data sheet

ABAMAL

THR coating | *Reflexně izolační nátěry*

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THR coating | Reflective insulation coatings

Technical and material data sheet

ABAMAL

A unique reflective insulating and anti-mould interior coating for the home.

Increases thermal comfort in winter and creates a pleasant indoor climate in summer. It also saves you energy. It prevents the formation of mould and significantly saves energy and your wallet.

ABAMAL is a highly effective reflective insulating protective coating for use on the interior walls of residential and office buildings. It is dirt-resistant, mold-resistant. It is designed as an interior insulation to increase the effect of reflecting heat energy from the insulated surface back into the room.

Waterborne coating filled with microspheres. Thermal resistance and insulating-reflective properties produce a synergistic effect in reducing surface heat transfer. The coating has excellent insulating properties.

Thanks to a special patented binder, the coating prevents the formation of moisture and condensation on the walls, so that no mould, lichen or moss can form on the painted surface.

It is non-toxic, environmentally friendly and forms a membrane that covers micro-cracks. Suitable for use in climates where energy costs play an important role in maintaining a favourable temperature environment. The surface has excellent resistance to condensation.

The reflective insulating properties of the coating are due to its effective action in all three types of heat transfer - flow, conduction and radiation. The structure of the coating reflects and scatters most of the incoming thermal radiation and itself has a very low thermal conductivity. When applied to the surface of a building and fully cured, the coating forms a solid, seamless yet vapour permeable coating on the painted surface with completely unique thermal and physical properties, and thus can reduce energy costs by at least a few tens of percent for cooling or heating.

Microspheres in a special patented binder act as an insulator on the applied object and block heat flow through other building structures. Radiation of different wavelengths, to which a specific heat output belongs, is incident on the reflective insulating coating. Some wavelengths will transmit low power radiation, thus allowing the wall mass to be pre-heated/cooled during cold periods. In contrast, short IR radiation will reflect back. Each layer effectively prevents heat/cold from penetrating to the next layer. The layered structure of the coating blocks energy transfer, thereby increasing thermal resistance.

THR coating | Reflective insulation coatings

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Main properties

- Indoor interior coating
- Vapour permeable
- Resists surface condensation
- Does not form mould
- Health friendly
- Can be tinted with water-based pigment (paste)

Application

ABAMAL is used as a household interior coating.

Technical properties

Theoretical consumption [1]	0, 1 litres/m2/thickness. layer 70 µm
	0,24 litres / m2 / thickness. 130 µm layer
	0,30 litres / m2 / layer thickness 200 µm layer
	0,50 litres / m2 / layer thickness 400 µm layer
Practical consumption	Practical consumption depends on many factors such as porosity, surface roughness and material loss during application
Dilution	maximum 5% of the whole pack, i.e. 0.9 litres per whole pack, when the bucket is first
Recommended wet film layer	200 µm / one layer
Stirring	Always the whole pack after opening, with a construction mixer or auger mixer on a drill, at approx. 150 rpm
Stirring during prolonged application	Stir every 40 minutes
Surface preparation	Apply ABAMAL Basic or ABAMAL Deep Penetration to unify absorbency and harden surfaces
Packing	18 litres / 9.88 kg, 5 litres / 2.7 kg

Density	0,54 g/cm³
Appearance	White, whiteness 96 %
Colour	Yes, it is possible, with water-based paste/pigment. Max 3%, i.e. 540 ml, for the whole package. Do not dilute with water
Gloss level	Matte
Odour	Odourless
Shelf life [2]	24 months, must not freeze
Flash point	Non-flammable

Spreadability and curing time [3]

To the touch	1 hour
For the next layer	3 hours
Fully dry	24 hours

Safety instructions	**Read the Technical and Safety Data Sheet**

1 Consumption depends on the surface

2 Stored in original and sealed containers at a temperature between +5 °C - +35 °C

3 At +20 °C and 50% PH

Surface preparation

The surface must be free of loose elements, dry, firm, free of oil and grease stains, free of dust, mould, salts, rust and old incoherent coatings. The surface must be perfectly hardened and structurally uniform. Before applying the technology, the surface must be perfectly mature. We first apply to fresh plaster after it has dried completely.

Suitable for all porous surfaces such as concrete, raw masonry surfaces, stone, unglazed ceramics, plaster, plasterboard, etc. where ABAMAL Deep Penetration or ABAMAL Penetration BASIC has been applied.

Procedure and application / tools

After opening the coating pack you will be surprised by the density of the coating. A crust of microspheres is formed on the surface, which must be stirred to ensure that there is no lump in the coating. Once opened, nothing should be poured from the bucket until thorough mixing has taken place, at which point all ingredients will be combined. Add a maximum of 5% water to the coating, i.e. 0.9 litres, or if you are tinting add 3% of the entire contents of the pack, which is 540 ml of pigment paste or other waterborne pigment. If you are adding pigment to make the coating coloured, do not add any more water!

Mix the diluted coating thoroughly before use! Always mix the entire contents of the package! After mixing, the coating is ready for immediate use.

Mix the coating preferably with a rotary mixer (screw mixer on an AKU drill, construction mixer) at a maximum speed of 150 rpm until the mixture is homogeneous - as consistent as thick Greek yoghurt (mixing may take up to several minutes).

The coating can be applied with a brush or roller. A flocking roller or a decorative roller made of coarse foam is ideal. When applying with a brush, it is not recommended to go back for minor imperfections. Partial overpainting of already painted layers will cause the coating to be inconsistent with significant aesthetic flaws. It is recommended to apply the coating generally in two cross layers. Only apply coating in complete areas.

The application of the coating itself is not difficult in principle if the procedure is followed. Dip the roller in the coating and apply to the surface in short strokes. Soak the roller, make a short up and down stroke (approx. 50 cm per stroke, depending on how wet the roller is) and then soak the roller in the coating again. Apply the coating in one layer to the entire area. Then allow to dry for at least 3 hours before applying the second coat. The drying of the layer is important to achieve the desired reflective and insulating properties. Failure to follow this procedure will result in staining and uneven application to the surface being coatinged. In the case of a prolonged application of the coating, always re-mix the entire coating at intervals of 30 minutes to ensure uniform homogenisation of the coating and to combine all the components contained in the coating.

ATTENTION, the coating must not be applied in long strokes as in conventional painting.

ATTENTION, do not forget to stir the coating continuously at intervals of 30 minutes with the auger drill (stirrer) and observe a drying time of at least 3 hours for each layer.

The material consumption is influenced by the surface texture and the method of application. Apply the coating as required in individual coats and always in accordance with the application instructions above. During prolonged application, the coating must be mixed every 30 minutes with a mixing device (drill, stirrer or other). In case of higher ambient temperatures (e.g. direct sunlight), mix the coating more frequently. It is not advisable to work with the coating in damp environments. This would cause the coating to run off.

The coating can be tinted to the desired shade with suitable pigments, e.g. tinting paste for waterborne pigments. Do not add more than 3% by weight of the entire package of tinting paste, i.e. 540 ml per 18 litres of product. The resulting colour shade can be significantly affected by the condition of the surface, temperature and humidity conditions. Apply the pigment directly into the coating and again mix the entire coating mixture evenly and properly.

Failure to follow the coating application procedure may result in insufficient polymerization of the coating and thus affect the properties and functional characteristics of the coating.

The coating will gradually cure after 24 hours. After approximately 3 hours, once the surface is dry to the touch, continue with the next layer of coating. Applying excessive amounts of coating will cause it to run or cause other optical defects.

The coating can be applied with a spraying device (airless type with a minimum flow rate of 4.3 litres/minute) to achieve a perfect aesthetic appearance. In spray equipment, all filters must be removed before application! The pressure at the spray gun nozzle during application must not exceed 150 bar.

Application on plasterboard or highly absorbent surfaces

The biggest problem in painting plasterboard is the transition between the different boards and the different absorption. Paper and gypsum putty behaves differently than conventional plaster. The two materials have different surface textures. Painting then behaves differently on the two materials. It may be the case that from a certain angle of view on a wall or ceiling, shiny areas may be observable.

Although there is a note on most of the sealers used that they can be repainted with coating, this is not always a true statement. The coating may darken or crack in these areas because the sealer has a fine, oily layer on the surface. A possible solution is to unify the substrate by priming and underpainting the entire drywall with white paint, where the entire surface will become uniform in absorbency and the surface will become dull.

At the same time, when painting the SDK, you may find that the coating has insufficient opacity. If you want to apply dark or different coloured shades of paint, then be prepared to have to paint multiple layers. This can be partially avoided if you add a little of the final coating to the primer (1:30 ratio).

The use of a primer is a must, which, in addition to unifying the absorption of the putty joints and paper, prevents the possible penetration of binders and the formation of stains on the surface. It is essential that the plasterboard is able to continue to absorb additional layers. Painting with ABAMAL should only be carried out when the primer is dry. Alternatively, the primer has been applied and the plasterboard has been underpainted to unify the surface.

In view of the different properties of plasterboards from different manufacturers, we recommend the following solutions:

Option I

- Apply two lyers of ABAMAL Deeply penetration primer
- Apply the ABAMAL primer.

Option II

- Apply two lyers of ABAMAL Deeply penetration primer
- Apply ABAMAL coating with the addition of ABAMAL Deep Penetration
- Apply ABAMAL coating

Option III

- Apply two lyers of ABAMAL Deeply penetration primer
- Apply acrylic paint
- Apply ABAMAL coating

Despite all the experience, it can sometimes happen that the initial coatings on new plasterboards may show shinier areas from different angles. These areas are not visible in direct view. This does not affect the functionality of the ABAMAL coating. It is merely an optical effect.

The result of the coating applied to the wall

Approximately 24 hours after application, the final curing of the coating takes place. After this time, the functionality of the coating is already noticeable. Warmth can be felt when touched and a perceptible increase in room temperature occurs. The temperature in the room is evenly distributed over the wall, thus preventing condensation of water vapour and the formation of mould. The coating is both mechanically resistant and vapour permeable. In the event of any damage, the area in question can simply be repainted as recommended above.

Do not apply the coating if

- the relative humidity is greater than 80%.
- the surface moisture content is greater than 4% by weight (concrete: > 2.5%)
- the surface (surface) and ambient temperature is less than +17 °C
- the ambient temperature is greater than + 35 °C
- the surface is exposed to direct sunlight and the ambient temperature is greater than +35 °C

After opening the original packaging, it is recommended to consume the contents as soon as possible, keep unused coating in a sealed container with as little air above the surface as possible. The applied coating must not be exposed to direct steam, water or other liquids for long periods of time.

Cover areas where the coating will not be applied with material to protect against contamination of uncoated surfaces: masking foil, non-woven fabrics, tape, etc.

Application conditions

- Surface temperature: +17 °C min. +30 °C max.
- Ambient temperature: +17 °C min. +35 °C max.
- Relative humidity less than 80 %

Drying conditions

The coating does not require any special measures during drying (curing). Drying time depends on air temperature, humidity and surface temperature. The average drying time per layer is approximately 2 to 3 hours.

Drying time

Drying time depends on the surface temperature and humidity. The maximum drying time (curing time) is 24 hours. The ambient temperature during drying must be at least +17 °C, ideally +23 °C.

Cleaning of tools

Water - as soon as possible after use.

Storage / transport / shelf life

This product retains its useful properties for at least 24 months from the date of manufacture when stored in the prescribed manner in the sealed, intact original packaging. Store at a temperature of +5 °C to +35 °C, humidity up to 80 %. The temperature during transport of the material should not fall below +5 °C and rise above +35 °C. Protect the product from direct sunlight, frost and high temperatures during transport and storage.

Notice

The products can be applied when the surface temperature is above +17 °C and the air temperature is between +23 °C and +30 °C. Avoid application if adverse weather conditions are expected during the curing period (wind, increased dustiness, rain, frost).

Read the Technical and Material Data Sheet, Safety Data Sheet and Application Manual before use.

Note

The information contained in the Technical Data Sheet corresponds to our current knowledge of the manufacturer. Products are of the highest quality and uniform within manufacturing tolerances. The values and data given in this Technical Data Sheet are based on the results of laboratory tests and manufacturer's testing. The information given, especially the advice for the processing and use of the coating, is based on experience with practical applications under standard conditions and proper storage and use.

These values may vary with practical application. Due to variations in processing conditions and other external influences, and the varying nature and treatment of surfaces, a procedure based on the information given, or other written or oral recommendations, may not always guarantee a satisfactory working result. All recommendations made by the manufacturer or distributor of the coating are general.

The applicator must verify that the coatings are suitable for the intended purpose of application. The latest edition of the application instructions and product data sheet should always be followed. These, together with other information, are available on request from the manufacturer. Purchasers and users are encouraged to perform a self-test on a sample of the area to be coated prior to application.The manufacturer shall not be liable for defects resulting from failure to follow the instructions for use given in the Technical and Material Data Sheet, Safety Data Sheet and Application Manual.

Precautions for handling the products

The coating does not contain substances harmful to health, is not labelled or classified as hazardous to health.

Safety precautions

Use protective equipment such as goggles, gloves, protective clothing, etc. to protect eyes and skin. Protect the respiratory tract with a suitable respirator in confined spaces and during spray application. Provide ventilation in case of application in enclosed rooms. More detailed information on hygiene, occupational safety and environmental protection is given in the safety data sheet.

Wash splashed skin with soap and water. Rinse mouth with water if swallowed. If eyes are affected, flush with a stream of water. Exit to fresh air if inhaled.

The material is non-flammable. In the event of a fire in structures, equipment or buildings to which the coating has been applied, we recommend the use of water, foam, dry chemical extinguishing agents or carbon dioxide to extinguish the fire. In the event of a coating leak or spill, use any absorbent material such as sand, etc.

Disposal of packaging/product

The material is not classified as an environmentally hazardous substance (Act No. 185 2001 Coll. on Waste). Dispose of unused material or packaging in accordance with applicable regulations. Clean packaging: category 'O' 15 01 02 - Plastic packaging; Product residues: category 'O' 08 02 99. Keep out of reach of children. Packaging is fully recyclable.

Technical and material data sheet
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Producer

ALPHA CZECH s.r.o.
Na Příkopě 854/14
110 00 Praha 1 – Nové Město
Czechia
www.alphaczech.com