

Technical and material data sheet

ALPHA TOP



Reflective insulation
coatings



Downloads

ALPHA TOP coating substance is a top reflective insulating coating for roofs, building cladding, halls, surfaces, oil and other product storage tanks. It can also be applied to the interior or exterior surfaces of shipping and living containers where energy costs for cooling or heating need to be reduced. At the same time, the coating prevents overheating of buildings during the summer months. In the winter months, it prevents heat from escaping from the heated space.

ALPHA TOP can also be used as a top coat for ALPHA TEMPER, ALPHA FROZEN or ALPHA ANTICONDENS.

The casing is stable and has high adhesion to metals. Use indoors or outdoors. It is environmentally friendly and non-toxic. The coating reflects 92% of TSR and up to 97% of visible light.

Main properties

- Reduces energy costs for cooling or heating
- Separately as a reflective insulating coating
- Top coat for ALPHA TEMPER, ALPHA FROZEN and ALPHA ANTICONDENS
- Possibility of colouring
- Applicable to all steel structures
- Deployment both indoors and outdoors
- UV stable
- Protects the substrate against surface condensation

Application

ALPHA TOP is used as a top coat for ALPHA TEMPER, ALPHA FROZEN or ALPHA ANTICONDENS in outdoor or indoor environments or as a stand-alone reflective top coat.

Technical properties

Theoretical consumption ¹	0, 1 liters / m ² / layer thickness 150 µm
	0,24 liters / m ² / layer thickness 180 µm
	0,30 liters / m ² / layer thickness 200 µm

Practical consumption	Practical consumption depends on many factors such as porosity, surface roughness and material loss during application.
Dilution	Not diluted
Recommended wet film layer	200 µm (max. 500 µm - not to be exceeded/ 1st layer)
Mixing	Always the whole package after opening, with a construction mixer or screw mixer on a drill, at approx.
Stirring during prolonged application	Stir every 40 minutes
Packaging	18 litres / 9.88 kg
Density	0,54 g/cm ³
Appearance	White, 96% whiteness
Colour	Yes, water-based paste/pigment
Gloss level	Matte
Odour	Odourless
Shelf life ²	24 months, must not freeze
Flash point	Non-flammable

Repeatability and maturation time ³

To the touch	3 hours
For handling	6 hours
For the next layer	12 hours
Completely dried out	72 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

Preparation of the surface

Purity

A quick summary of surface preparation:

- Remove oil, grease and other dirt with a suitable detergent.
- Remove salts, detergents and other impurities with high-pressure fresh water to Wa 2 or Wa 2½.
- Remove rust by blasting the surface with Sa 2 or ideally Sa 2 ½.
- Where blasting is not possible, the surface can be mechanically cleaned by hand to St 2, depending on the degree of contamination.
- Apply over ALPHA PRIMER primer

Resolution of the surface where the coating will be applied

Unpainted steel structure: Steel surfaces that have not yet been coated with any protective coating may be covered to varying degrees with rust, scale or other contaminants (dust, grease, ionic contaminants/soluble salts, deposits, etc.). Prime the surface with a waterborne anti-corrosion primer.

A steel surface with a coating system that needs to be repaired: The condition of the existing coating system should be assessed using degradation levels in accordance with ISO 4628 whenever coating maintenance is carried out. It should be determined whether the system will need to be completely removed or whether parts of the coating can be retained.

Aluminium, copper and stainless steel: In the case of aluminium and stainless steel, the surface should be cleaned with clean water and a cleaning agent and then thoroughly rinsed with high-pressure clean water. Better adhesion of the coating system can be achieved by abrasive blasting with a mineral abrasive or scrubbing with a brush to roughen the surface.

Description of the surface after cleaning

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- Wa 1 **Light blasting with a high pressure beam:** When viewed without magnification, the surface shall be free from visible traces of oil and grease, non-stick or damaged paint, non-stick rust or other foreign matter. Any residual soiling shall be randomly dispersed and shall adhere firmly.
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- Wa 2 **Thorough blasting with a high pressure beam:** When viewed without magnification, the surface shall be free of visible traces of oil, grease and dirt and most rust, previous coatings and other foreign matter. Any residual soiling shall be randomly dispersed and may contain firmly adhering coatings, firmly adhering foreign matter and shadows of previously occurring rust.
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- Wa 2½ **Very thorough blasting with a high pressure beam:** When inspected without magnification, the surface must be free of all visible signs of corrosion, oil, grease, dirt, previous coatings and, except for light traces, free of all foreign substances. If the original coating was intact, the surface may show colour changes. Grey or brownish-black discolouration in areas of pitting or corroded steel cannot be removed by further blasting with water.

Surface preparation grades according to ISO 8501-1

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- Sa 3 **Blasting to a visually clean surface:** When viewed without magnification, the surface shall be free from visible traces of oil, grease and dirt, scale, rust, paint and foreign matter. The surface shall have a uniform metallic appearance.
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- Sa 2 ½ **Very thorough blasting:** When viewed without magnification, the surface shall be free from visible traces of oil, grease and dirt, scale, rust, paint and foreign matter. Any remaining traces of dirt shall show only slight discolouration in the form of spots or streaks.
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- Sa 2 **Thorough blasting:** When viewed without magnification, the surface must be free of visible traces of oil, grease and dirt, and most scale, rust, paint and foreign matter must be removed. Any remaining dirt shall be firmly adhered.
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- Sa 1 **Light blasting:** When viewed without magnification, the surface shall be free from visible traces of oil, grease and dirt, low adhering scale, rust, paint and foreign matter.

Standard stages of basic surface preparation using manual and mechanised cleaning

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- St 3 **Very thorough manual and mechanised cleaning:** As with St 2, but the surface has to be cleaned much more thoroughly to get the metallic tint given by the surface.
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- St 2 **Thorough manual and mechanised cleaning:** When viewed without magnification, the surface must be free of visible traces of oil, grease and dirt, little adhering scale, rust, paint and foreign matter.

Procedure and application / tools

The coating must be thoroughly mixed before use! Always mix the entire contents of the package! Before application, mix the coating preferably with a rotary mixer at a maximum speed of 150 rpm until the mixture is homogeneous (mixing may take several minutes).

It is recommended to apply the coating preferably with a professional spraying device (airless type with a minimum flow rate of 4.3 litres/minute) to achieve a perfect aesthetic appearance. In spraying equipment it is necessary to remove all filters before application! The pressure at the spray gun nozzle during application must not exceed 200 bar.

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 to three cross layers. Apply coating only in continuous areas.

The material consumption is influenced by the surface texture and the application method. Apply the coating as required in individual layers and always in accordance with the application instructions. During prolonged application, the coating must be mixed every 40 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 humid environments.

The coating can be tinted to the desired shade with suitable pigments, e.g. tinting paste for water soluble 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 comply with the coating application procedure may result in insufficient polymerisation of the coating and thus affect the properties and functional characteristics of the coating or cause it to burn or tear.

The coating will gradually cure after 24 hours. After about 12 hours, once the surface is dry to the touch, continue with another layer of coating. Avoid applying excessive amounts of coating. Applying excessive amounts of coating will cause run-off or other optical defects.

ALPHA TOP is the main covering coating for ALPHA TEMPER, ALPHA FROZEN and ALPHA ANTICONDENS in outdoor or indoor environments with the possibility of colouring according to the RAL formula. The coating can also be used separately as a top reflective insulating layer.

Important notices/restrictions

If the ALPHA TOP coating starts to blister, it is too thick and "gases" cannot escape through the microporous surfaces - cracking can occur to release pressure, gases and moisture. Care must be taken to keep ALPHA TOP dry between layers. If you apply this product thicker, it will not have time to "outgas" and blisters, cracks will form. When spraying multiple layers, always allow the product to shine (dry to a matte, non-glossy state) before applying the next layer.

Dilution of this product is not recommended and may significantly reduce the effectiveness of the product. Do not apply too thick a layer. Apply with a brush, roller or Airless device. Apply only one layer of coating at a time. Applying thicker layers will result in insufficient polymerization of the coating, blistering and prevent adhesion to the surface. Application in thick layers that cause blistering will result in loss of warranty and functionality of the coating.

If you stop applying the coating with the Airless device for more than 10 minutes, submerge the gun in a bucket of water and cover the hose, coating and Airless device to prevent excessive drying of the coating inside the hoses.

When setting up the Airless device, start at approximately 80 bar. If the gun does not spray smoothly, increase the pressure slightly. The aim is for the gun to spray continuously but for the pump to stop when the trigger is released. If the pump continues after the spray gun is released, the pressure is too high. The ideal setting is between 110 and 145 bar.

The product is filled with microspheres with very high compressive strength, allowing the product to be used on walking surfaces and in other very demanding conditions without damage.

Do not apply coating unless

- rain and frost are expected when applied outdoors
- the coating must not be exposed to direct rain for at least 6 hours after application
- relative humidity > 80%
- the surface is icy

After opening the original packaging, we recommend that the contents be used as soon as possible, keeping 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 the places where the coating will not be applied with material for protection against contamination of unpainted surfaces: covering foils, non-woven fabrics, tapes, etc.

Application conditions

- Surface temperature: +20 °C min. +35 °C max.
- Ambient temperature: +20 °C min. +35 °C max.
- Relative humidity: < 80%

Drying conditions

The coating does not require any special measures during drying (curing). Drying time depends on air temperature, humidity and surface temperature.

Drying time

Drying time depends on the surface temperature and humidity. The drying (curing) time is at least 24 hours. Apply the next layer only after the previous layer has completely dried. The ambient temperature during drying must be at least +20 °C, ideally +23 °C.

Cleaning 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 +20 °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 dust, 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 datasheet 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 when applied in practice. Due to different processing conditions and other external influences, the varying nature and modification of the materials, 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 painted prior to application.

The manufacturer is not liable for defects resulting from failure to follow the instructions for use in the Technical and Material Data Sheet, Safety Data Sheet and Application Manual.

Precautions for handling products

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

Safety precautions

When working with the coating, observe the safety instructions, the applicable regulations of the relevant authorities on occupational health protection and basic hygiene rules. Use protective equipment such as goggles, gloves, protective clothing, etc. to protect your 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 closed rooms. More detailed information on hygiene, occupational safety and environmental protection is given in the safety data sheet.

Wash the affected skin with soap and water. If swallowed, rinse mouth with water. If the eyes are affected, flush them with a stream of water. If inhaled, get out in the fresh air.

The material is non-flammable. In case of fire in structures, equipment or buildings on which the coating has been applied, we recommend using 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 of 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.

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Version

01 For professional use only

Producer



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