Technical Data Sheet

Starcoat PMMA
Starcoat PMMA THIX
Starcoat Low Temperature

Cold Applied Liquid Waterproofing

Starcoat PMMA is a polymethyl methacrylate-based liquid-applied roof waterproofing system, BBA approved for use on flat, zero-pitched and pitched roofs with limited access.

Starcoat PMMA is fast-reactive, two-component liquid waterproofing, with low temperature flexibility, designed to create durable and reliable roof waterproofing membranes and to waterproof joints on water- impermeable concrete with fleece reinforcement. Its liquid application allows large areas to be waterproofed seamlessly and even complex roof penetrations and details can be securely incorporated.

Key features

- Fast-curing.
- Highly flexible and crack-bridging even at extreme sub-zero temperatures.
- Permanently weather-resistant (UV-, hydrolysis- and alkali-resistant).
- Fully bonded to the substrate, therefore no flow paths for water under the membrane.
- Easy and fast application.
- Complex roof penetrations are securely incorporated in the waterproofing system.
- Can also be applied at sub-zero temperatures.
- Can be applied to almost all substrates, including variable substrates (when combined with appropriate Starcoat PMMA primers).

- Solvent-free.
- Test certificates and technical approvals (ETA, AbP) for the areas of roof waterproofing and the waterproofing of joints on water-impermeable concrete units.

Use

Starcoat PMMA is used with Starcoat PMMA fleece reinforcement to waterproof large areas and details on roofs as well as to waterproof water-impermeable concrete joints. For utilised roof areas Starcoat PMMA is applied under other Starcoat PMMA products or as a waterproofing membrane underneath other surfacing.

Product variants

Starcoat PMMA Thix is a variant of Starcoat PMMA and is more viscous / thixotropic to reduce run-off when applied to sloping and vertical surfaces. It is therefore used primarily for the waterproofing of details.

Starcoat PMMA Low Temperature is optimised for application at low temperatures. The application and curing properties, in particular, have been modified specifically for low-temperature use and it is recommended that this product is applied at temperatures below 10°C.

Starcoat PMMA Low Temperature can also be used for waterproofing upstands on roof details.

Packaging

Starcoat PMMA and its associated products are supplied in a number of sizes.

Product	Drum size	Catalyst
Starcoat PMMA		
	10kg	0.2kg of catalyst (2 x 0.1kg)
	25kg	0.5kg of catalyst (5 x 0.1kg)
Starcoat PMMA Thix		
	10kg	0.2kg of catalyst (2 x 0.1kg)
	25kg	0.5kg of catalyst (5 x 0.1kg)
Starcoat PMMA Low Temperature		
	10kg	0.4kg of catalyst (4 x 0.1kg)
	25kg	1kg of catalyst (10 x 0.1kg)

Colours

Starcoat PMMA is available in the following standard colour: RAL 7043 (traffic grey).

Other RAL colours are available on request.

Storage

Store products sealed in their original airtight container and in a cool, dry and frost-free place.

Unopened products have a shelf life of at least 6 months. Direct sunlight on the containers should be avoided, including on site. After removing some of the contents, reseal the containers so they are airtight.

Application conditions

Temperatures

The product can be applied within the following temperature ranges:

Product	Temperature range in °C		
	Air	Substrate*	Material
Starcoat PMMA	-5 to +35	+3 to +50*	+3 to +30
Starcoat PMMA Thix	-5 to +35	+3 to +50*	+3 to +30
Starcoat PMMA Low Temperature	-15 to +25	-10 to +30*	+3 to +20

* The substrate temperature must be at least 3 °C above the dew point during application and curing.
The substrate temperature must not be less than +3 °C if a topping is applied to the surface.
Reaction problems can occur at lower temperatures.

Moisture

The relative humidity must be ≤ 90 %.
The surface to be coated must be dry and ice-free.
The surface must be protected from moisture until the coating has hardened.

Reaction times and required amounts of catalyst

	Starcoat PMMA and PMMA Thix (at 20°C, 2% catalyst)	Starcoat PMMA Low Temperature (at 3°C, 4% catalyst)
Pot life	approx. 15 minutes	approx. 20 minutes
Rain-proof after	approx. 30 minutes	approx. 45 minutes
Can be walked on / overcoated after	approx. 1 hour	approx. 75 minutes
Curing time	approx. 3 hours	approx. 6 hours

Higher temperatures or greater proportions of catalyst will reduce reaction times, while lower temperatures and smaller proportions of catalyst will increase reaction times.

The following table indicates the recommended amount of catalyst required to adjust the curing reaction to the temperature.

Product	Substrate temperature in °C Required amounts of catalyst in % (guide)												
	-10	-5	3	5	10	15	20	25	30	35	40	45	50
PMMA & PMMA Thix	-	-	4%	4%	4%	2%	2%	2%	2%	2%	1%	1%	1%
Low Temperature	6%	6%	4%	4%	4%	2%	2%	2%	2%	-	-	-	-

Consumption rates

As technical membrane	approx. 2.50 kg/m²
As membrane + covering layer	approx. 4.00 kg/m²

Technical Data

Density	1.21 g/cm³
Water vapour diffusion resistance factor:	4335 [-]

Product application

Application equipment/tools

To mix the product: Twin- paddle stirrer to mix the product

To apply the product: Lambswool roller and brush for areas not accessible with roller

Substrate to be coated

Apply the waterproofing resin to the cured Starcoat PMMA primer or suitably prepared substrate.

Mixing

First stir the tub contents thoroughly.

Then add the Starcoat PMMA catalyst while stirring the resin at the slow-speed setting and mix for 2 minutes. Make sure that the product on the base and sides of the container is mixed in.

At product temperatures < 10 °C the product should be stirred for 5 minutes, as the catalyst will take longer to dissolve.

Application

Starcoat PMMA for waterproofing horizontal areas.

Starcoat PMMA Thix for vertical surfaces (e.g. upstands on details).

Starcoat PMMA Low Temperature is used at low temperatures (see table) and can be applied to both horizontal and vertical surfaces.

Apply a generous and even layer of the mixed material to the entire area (at least 1.5 kg/m²), then immediately embed the Starcoat PMMA Fleece and use a lambswool roller to remove any air bubbles.

Cover the fleece immediately (wet on wet) with a second layer of material (at least 1 kg/m2, as required). In each case use a lambswool roller to spread the material over the surface.

Fleece overlaps must be at least 5 cm wide.

Preparation for subsequent layers

- Fully bonded surfacing (e.g. tiles)

Once the waterproofing has cured, apply an additional covering layer of Starcoat PMMA, PMMA Thix or PMMA LT (approx. 1.5 kg/m^2) and top with a generous amount of sand while still wet (quartz sand 0.7 – 1.2 mm). Vacuum off the excess/loose sand after the surface has hardened. The topping gives the surface the necessary roughness that allows the subsequent surfacing supplied by others to be bonded onto the base.

Never apply the topping to the waterproofing layer. Only use dry quartz sand (e.g. Starcoat Quartz Sand).

- Loose-laid surfacing (e.g. stone slabs)

Once the waterproofing has cured, apply an additional covering layer of Starcoat PMMA, PMMA Thix or PMMA LT (approx. 1.5 kg/m^2). This protects the waterproofing layer against the mechanical loads of the surfacing supplied by others.

Cleaning

If work is interrupted or when it is completed, clean the tools thoroughly with Starcoat PMMA Cleaning Agent within the pot life of the material (approx. 10 minutes). This can be done with a brush. Do not use the tools again until the Cleaning Agent has evaporated fully. Simply immersing the tools in the Cleaning Agent will not prevent the material from hardening.

For information on safety and risk please refer to the safety data sheets for the products used.

General information

The above information, especially information about application of the products, is based on extensive development work, experience and is provided to the best of our knowledge. However, the wide variety of requirements and conditions on site mean that it is necessary for the product to be tested to ensure that it is suitable for the intended purpose. Only the most recent version of the document is valid. We reserve the right to make changes to reflect advances in technology or improvements to our products. Axter Ltd makes no warranties, express or implied, as to the properties and performance under any variations from such conditions in actual construction.