

MasterSeal® 345

Elastic, waterproofing membrane for spray application in a sandwich structure with sprayed or cast in-situ concrete

MATERIAL DESCRIPTION

MasterSeal 345 membrane is a sprayable membrane for waterproofing concrete structures. **MasterSeal 345** membrane is spray-applied between layers of sprayed or cast-in-place concrete or as a standalone membrane. **MasterSeal 345** membrane exhibits high bond strength to the substrates on both sides of the membrane with good elasticity. **MasterSeal 345** membrane can be directly applied to damp sections of substrate.

AREAS OF APPLICATION

- Cast-in-place or precast
- Composite designed sandwich structures (concrete/membrane/concrete)
- Underground structures with complex profiles and geometry
- Bonds to steel and most sheet membranes and enabling interface solutions with other waterproofing methods

CHARACTERISTICS AND BENEFITS

- Dry-process material, ready-for-use
- Elasticity 80-140% between -20 and 20 °C
- Fast curing – in 4 to 6 hours (depending on environmental conditions)
- No toxic components
- Environmentally preferable
- Easily applied by spraying with standard equipment
- Two-sided bond with sprayed-concrete allows for composite behavior
- Fast curing prevents disruption of construction operations
- The fully bonded system provides excellent watertightness, preventing development of water migration in both concrete membrane interfaces

TECHNICAL DATA

Form	Powder
Colour	Light brown
Water pressure resistance	15 bar
Bulk density (+20°C)	590 g/l ± 100g/L
Consumption, per mm of thickness	0.72 kg/m ²
Application thickness	3 - 10mm
Failure strain at 28 days (at 20°C)	>100%
Bond strength at 28 days	1.2 ± 0.2 MPa
Shore hardness	80 ± 5
Flammability	Non-flammable

COMPATABILITY

MasterSeal 345 membrane can be applied onto all types of concrete, provided that the surface is clean and without loose particles. Sprayed concrete and cast-in-place concrete with or without steel fibers may be placed against the applied membrane surface, once it has cured.

MasterSeal 345 membrane can also be applied in combination with traditional waterproofing sheet membrane system approaches.

APPLICATION

If an external curing material has been applied to the shotcrete, it must be removed prior to applying **MasterSeal 345** membrane. Active water must be either presealed, collected through hoses in the membrane, or covered by drainage sheets fixed to the concrete surface, for diversion into a drainage system behind the membrane. For specific application information, please refer to the **MasterSeal 345** membrane Site Guide.

MasterSeal 345 membrane should never be sprayed without the addition of water at the nozzle. The addition of water should be limited to between 25-50% by weight of product. The nozzle assembly must have a needle valve to allow for fine-tuning of the water and ball valve to stop and start the water flow.

Surface Preparation

Spraying distance of **MasterSeal 345** membrane should be between 1.5-2.0 m and the spraying should be done in parallel strokes, followed by a second application 90° to the first application.

Note

The nozzle should be manipulated in a way to assure full coverage of **MasterSeal 345** membrane into the surface texture of the substrate. If blockage occurs, blow out the lines into a barrel of water to prevent excessive dust.

ESTIMATING DATA

Depending on the roughness of the substrate, the consumption rate of **MasterSeal 345** membrane is approximately 0.72 kg/m² per mm of thickness.

If the roughness of a shotcrete layer requires more than 6 kg/m² per mm of **MasterSeal 345** membrane, the placement of a layer of cementitious mortar (containing a maximum aggregate topsize of 4 mm) should be considered to provide a smooth surface. This mortar layer will significantly reduce the consumption of **MasterSeal 345** membrane.

Shotcrete and cast-in-place concrete can be constructed directly onto the **MasterSeal 345** membrane after sufficient curing has occurred. The concrete will achieve good bonding to the **MasterSeal 345** membrane.

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CLEANING

Cleaning of the equipment can be accomplished by blowing compressed air through the system (aiming into the water). The nozzle and injector should be cleaned out with water.

EQUIPMENT

It is recommended that **MasterSeal 345** membrane be applied by the dry spraying method with basic recommended equipment set-up.

- Rotor 12 round hole 90 mm high
- Rotor base 90 mm coupling
- Rotor dust collector 90 mm high coupling
- Spraying nozzle diameter 32 mm plastic tip with collar/conical with 18 hole water ring
- Spraying hose diameter 32 mm

Suitable spraying equipment should be fitted with a dust collection filter. Care should be taken not to create excessive dust when filling the hopper of the machine. The floor areas near the machine should be soaked with water during the application process to bind dust.

PACKAGING

MasterSeal 345 is available in 20kg bags.

SHELF LIFE

MasterSeal 345 membrane should be stored in original, unopened bags at temperatures between 5°C and 40°C.

MasterSeal 345 membrane has a shelf life of 12 months if stored in original, unopened bags.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

DISCLAIMER

MasterSeal-345 -ANZ-V10-0221

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