

Masterseal® 340F

MS 340F 0798

Elastic, non-flammable, water proofing membrane for spray application in a sandwich structure with sprayed or cast-in-place concrete

Description of product

Masterseal® 340F is a sprayable membrane for waterproofing concrete. Masterseal® 340F is spray applied in a sandwich between layers of sprayed or cast in place concrete. It has excellent bond strength to the substrates on both sides of the membrane (about 1.0 Mpa) and good elasticity over a wide range of temperatures.

Masterseal® 340F is a water based dispersion with no hazardous components . making it safe to handle and apply in confined areas.

Masterseal® 340F is applied by spraying with a very simple pneumatic pump that can suck directly from the material container.

After application, Masterseal® 340F needs one to three days for drying out. It is, consequently, not possible to seal against active water through the substrate.

Steel fibre reinforcement in the sprayed concrete can be used without damaging the membrane.

Fields of application

For water proofing:

- Sprayed concrete
- Replacement of sheet membranes
- In sandwich structures (concrete/membrane/concrete)
- Single shell permanent tunnel linings of sprayed concrete

Features and Benefits

- No hazardous components
- No classification needed for transport
- One-component product, ready for use
- Application by spraying, simple equipment
- Elasticity 80% to 140% between -20° and +20° C
- Two-sided bond with sprayed concrete equally good
- Non-flammable

Compatibility

Masterseal® 340F can be applied onto all types of concrete, provided that the surface is clean and without loose particles. The concrete surface must be pre-wetted, like before applying sprayed concrete. Sprayed concrete and cast concrete with or without steel fibres, may be applied against an applied membrane surface.

Packaging

Masterseal® 340F is available in 200 litre barrels.

Technical data

Form	Paste
Colour	Light green
Density (+20°C)	1.4 ±0,05 kg/l
Application thickness	2 - 8 mm
Application temperature	+5 to +30° C
Failure stress	1.5 MPa at +20°C
Failure strain	120% at +20°C
Bond strength concrete	0.8-1.3 MPa (7 d)
Shore hardness	35 ±5
Water absorption (14d)	< 40%
Flammability	non-flammable

Application guidelines

For application by spraying, a very simple pneumatic differential piston pump is recommended. This pump can be ordered directly from MEYCO Equipment.

The pump is placed directly into the material container (e.g. the barrel) and the material is pumped via a 1" (2.54 cm) hose to a nozzle where compressed air is added. Total consumption of compressed air is maximum 2 m³/min at 8 bar. Before applying the membrane, the concrete surface has to be thoroughly pre-wetted. Any contamination of the surface, like dust, oil, soot, loose particles etc., must be removed.



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Technologies

The substrate and ambient temperature during application must be between +5° and +30° C. Spraying distance will be typically 0.5 - 1.0 m and the spraying should be carried out in parallel strokes, followed by a second application at ninety degrees to the first. The light green colour gives an indication of surface coverage.

For smooth concrete surfaces, the material consumption will be 4 to 7 kg/m². On shotcrete the consumption will be higher, and depending on the surface roughness can be as high as 10 kg/m². If the roughness of a shotcrete surface requires more than 7 kg/m², a smoothing layer of fine shotcrete should be considered. The smoothing shotcrete shall have maximum aggregate size of 4 mm and must contain 5 kg of MEYCO[®] TCC 735 per m², for curing and bond purposes. Without MEYCO[®] TCC 735 the smoothing layer will give a poor bond and may crack.

The fine shotcrete layer will save membrane material and also reduce the risk of pin holes in the membrane.

If an external curing agent has been applied to the shotcrete, this must be thoroughly removed before applying the membrane.

Due to the slow drying out process (one to three days), Masterseal[®] 340F cannot be used to stop active water leakage. Even a very slow trickle of water (with the possibility to build some pressure when restrained), will squeeze its way through the freshly applied material.

Active water must be pre-sealed, collected in hoses through the membrane, or be covered by plastic sheets affixed to the concrete surface, for diversion down to the drainage system behind the membrane. A practical solution must be adapted to each individual case, and under such conditions, has to be found.

The information given here is true, represents our best knowledge and is based not only on laboratory work but also on field experience. However, because of numerous factors affecting results, we offer this information without guarantee and no patent liability is assumed. For additional information or questions please contact your local MBT representative.

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Shotcrete can be sprayed directly onto the Masterseal[®] 340F membrane after it has cured sufficiently (i.e. one to three days). The shotcrete will adhere to the membrane surface in the same way as when spraying onto rock or concrete. Since this cover layer, in most cases, will be relatively thin and to ensure a good bond to the membrane, the use of MEYCO[®] TCC 735, as described above, is considered a requirement. The shotcrete may be steel fibre reinforced, without any risk of damage to the membrane. In most applications underground, it is recommended to protect the membrane from damage by applying a covering layer of sprayed concrete.

The membrane may, alternatively, be covered by cast in place concrete. After application, the membrane must be protected from direct sunshine (for instance in portal areas), strong wind or strong and direct ventilation and any other cause of very fast drying out. After the formation of a tack-free surface a PVC or plastic sheet could be used for protection against dirt and dust or other contamination.

Storage

Masterseal[®] 340F has a shelf life of 6 months if stored in original, unopened containers between +5°C to +35°C.

Safety

The product has no harmful or hazardous components. Equipment can be cleaned with tap water. The use of gloves, eye protection and a mask, when spraying, are recommended. For further information please refer to the Material Safety Data Sheet.

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