

MASTERSEAL™ 381

Pure aliphatic acrylate based protective and decorative coating for concrete

Description

MASTERSEAL 381 is a single component; solvented, aliphatic acrylic resin based coating for protection of old and new concrete from carbonation, chloride ions, weathering and industrial pollution.

The complete system consists of MASTERSEAL 380 as primer and MASTERSEAL 381 as the top coat. MASTERSEAL 380 (please refer separate datasheet) is solvented silane-siloxane based deep penetrative, reactive sealer which chemically reacts with the substrate and enables effective barrier to the dissolved ions in water. The combine system offered total & long term corrosion mitigation for concrete structures.

MASTERSEAL 381 is available in standard pastel colours. It can be made available in custom colours subject to prior agreement.

Uses

MASTERSEAL 381 is recommended for external protection of concrete by preventing ingress of atmospheric corrosive agents.

Applications include protection of old and new concrete structures, such as:

- RCC frame structures such as high raise buildings.
- Chimneys, cooling towers and silos.
- Bridges, flyovers and elevated MRTS
- Overhead water tanks
- Industrial buildings & power house
- As decorative top coat on PROTECTOSIL CIT

Advantages

- Very good resistance to CO₂ diffusion.
- Aliphatic - resistant to UV rays
- Permeable to water vapour – breaths
- Resists dirt pick up & easy to clean
- Allows expulsion of moisture. Avoids damage to coating.
- Structures remain bright and clean even in polluted environments.
- Resists damage to the film due to normal thermal movements of the substrate.
- Tough ,durable, slightly flexible coating
- Protects and decorates

Typical Properties

Aspect	: Viscous dispersion
Density	: 1.04 kg/litre
Viscosity	: 1500 cps at 25° C
Volume Solids	: 37 %
Application Temperature	: 5° to 40° C
Recoat Time	: 4 -5 hrs. at 25° C
DFT @ 5 m ² /Litre, in two coats	: 150 microns
Adhesive bond strength to concrete, (ASTM D 4541)	: > 1.5 MPa (concrete failure)
CO ₂ diffusion resistance at 80µ DFT	
Equivalent air layer thickness, R	: > 70m
Equivalent concrete thickness, Sc	: 177mm

Specification Clause

The protective coating system for concrete shall consist of MASTERSEAL 380, solvented silane-siloxane, deep penetrative primer, capable of chemically reacting with the substrate and forms effective barrier to water borne corrosive agents such as chlorides and sulphate ions; and MASTERSEAL 381, a single component, solvented aliphatic acrylate top coat applied at an average thickness of 150 microns DFT in two coats. The system shall be capable of equivalent air layer thickness (R) in excess of 70 metres when tested as per Taywood test method at 80 microns DFT. The system shall exhibit excellent bond strength with the substrate at least exceeding 1.5 MPa, when tested as per ASTM D 4541.

Direction for Use

MASTERSEAL 381 can be applied by brush, roller or airless spray equipment.

Surface preparation

Correct substrate preparation is critical for optimum performance. Concrete should be cured at least for 10 days before coating. Surfaces should be clean, and free from loose particles, oil, grease, or any other contaminant.

Use wet grit blasting, water jetting or such other effective methods to remove cement laitance, loose particles, mould release agent and curing membrane.

Fill surface irregularities such as blowholes, honeycombs, etc., with EMACO R303 (see separate data sheet) to achieve a smooth and level surface.



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For optimum performance, ensure that the substrate is dry before application.

Priming

For enhanced protection from chloride ingress, treat the substrate with MASTERSEAL 380, a deep penetrative sealer, before application of MASTERSEAL 381

Mixing

Stir the contents of the container before use.
For airless spray application dilute with 10% (2L/20kg unit) by volume of SOLVENT No.2

Application

Apply MASTERSEAL 381 using airless spray or a roller or a brush, in two coats, at 200ml/m²/coat with the second coat applied after approximately 4hrs after the first and at right angles to it.

Where a textured finish is required use a medium nap roller to apply the product and over-roll with a textured roller to give the desired finish in one direction only.
Do not apply MASTERSEAL 381 in inclement weather.

Curing

MASTERSEAL 381 is self-curing.

Equipment

Airless sprayer, medium nap roller or brush. While using airless sprayer, use a nozzle of tip size of 0.48 - 0.58 mm.

Cleaning

Clean tools and equipment with SOLVENT NO. 2 before MASTERSEAL 381 become dry.

Coverage

Primer: MASTERSEAL 380 shall cover 4 m²/Litre depending upon the porosity of the substrate.

MASTERSEAL 381: on a dense, fair-faced concrete surface, each pack of 20kg is sufficient for an area of 45 to 48 m² in 2 coats, to achieve the recommended final dry film thickness of 150µ.

Actual coverage depends on the numbers of coats, surface profile, loss and wastage.

Packaging

MASTERSEAL 381 is supplied in 20Kg carboy.

Storage and Shelf life

Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

Disclaimer

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