

VOLSEAL® 250

CEMENTITIOUS FLEXIBLE WATERPROOFING COATING

DESCRIPTION

VOLSEAL 250 is a highly elastic waterproof coating consisting of aggregates, cement-based binders and acrylic polymers. Once cured, it forms an impervious and elastomeric barrier with crack-bridging properties of up to 0.8 mm in width. VOLSEAL 250 has excellent adhesion properties to concrete, masonry block and brickwork, and can be applied to green concrete.

APPLICATIONS

VOLSEAL 250 is suitable for waterproofing structures that are subjected to negative hydrostatic pressure and typically constructed of reinforced concrete, masonry block and brickwork. Typical waterproofing applications include lift pits, tanks, existing cellars and basements. VOLSEAL 250 is not designed for use as waterproofing membrane for plaza / podium decks or green roofs.

INSTALLATION

Surface Preparation: Substrates to be waterproofed with VOLSEAL 250 should be properly prepared ensuring that all cracks, recesses, large voids and sharp protrusions are made good. Install 45° cementitious fillets on all internal angles. The surface area must be free of all loose materials and substances that would impair adhesion, e.g. grease, oil, dust etc.

Mixing: VOLSEAL 250 is a two component material with a mixing ratio of 2.5 parts powder (Part A) to 1 part liquid (Part B). Mix using

a slow speed paddle mixer until material is uniform, smooth and free of all lumps. Do not add water to VOLSEAL 250 or alter the mixing ratio. VOLSEAL 250 must be used within 30 minutes of mixing. Do not remix with additional water if VOLSEAL 250 has started to cure in mixing vessel.

Material Application: Pre-dampen substrate with clean water. Apply VOLSEAL 250 in two layers by stiff brush or roller, working the first coat well in to the substrate to ensure good coverage. Apply the first coat at a minimum coverage rate of between 1.7–2.0 kg/sqm to achieve a minimum 1mm layer thickness. If the brush or roller starts to drag the first coat of VOLSEAL 250, pre-dampen substrate again with clean water. Allow to cure for a minimum of 6 hours prior to second coat application. Apply second coat at a coverage rate of 1.5–2.0 kg/sqm in order to achieve a minimum 1mm layer thickness.

Typical coverage rate for a 2mm thick two-coat application is 3.5–4.0 kg/sqm, depending upon surface porosity and profile.

Curing: Allow second coat to cure for a minimum of 24 hours, depending upon ambient temperatures and humidity.

Limitations: VOLSEAL 250 is not designed for waterproofing structures subject to positive hydrostatic pressure. VOLSEAL 250 is not designed for use as waterproofing membrane for plaza / podium decks or

green roofs. Do not apply more than 4 mm total thickness. Do not apply VOLSEAL 250 to bitumen or asphalt. Do not apply below 5°C on a falling thermometer or in inclement weather, or temperatures above 40°C. Allow a minimum of 3 days before site trafficking, applying protection courses or finishes (i.e. ceramic tiles, render etc.). For applications in poorly ventilated or enclosed spaces, ensure area is well ventilated using forced ventilation during the installation process and curing times. Significant condensation may occur to cured VOLSEAL 250 surfaces in areas with poor ventilation or high humidity.

STORAGE

VOLSEAL 250 should be stored in dry conditions above 5°C and below 30°C, off ground and not exposed to direct sunlight. Shelf life 12 months in original unopened packaging when stored correctly.

PACKAGING

VOLSEAL 250 is packaged in 25 kg bags (Part A Powder) and 10 kg pails (Part B Liquid).

SAFETY

VOLSEAL 250 is a non-toxic alkaline product. Workers should wear protective clothing and eye protection. Avoid eye and skin contact, particularly open cuts. In the event of contact, wash immediately. Do not ingest. Refer to MSDS for other warnings and product safety information. Ensure adequate ventilation prior to application.

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TECHNICAL DATA	
CHARACTERISTICS	VALUES
Appearance	Grey powder - white latex
Pot life at +20°C	20 minutes
Working temperature	-5°C to +50°C
Specific weight	> 1.7 Kg/l
Part A / Part B mixing ratio	2.5:1

PHYSICAL AND TECHNICAL SPECIFICATIONS		
MATERIAL PROPERTIES	TEST METHOD	NOMINAL VALUE
Bond strength	UNI EN 1542	≥ 0.8 MPa
Resistance to accelerated ageing	UNI EN 1062-11	No swelling
Capillary absorption	UNI EN 1062-3	≥ 0.05 Kg/m ² x h ^{-0.5}
Water vapour permeability (equivalent thickness: S)	UNI EN 7783-2	S ≤ 10m
Crack Bridging Ability	UNI EN 14891 Method A.8.2	> 0.75 mm > 0.75 mm
Adhesion to wall initial value after immersion in water	UNI EN 14891 Method A.6.2 UNI EN 14891 Met. A.6.3	> 0.7 N/mm ² > 0.7 N/mm ²
Hydraulic seal on 1mm cracks	UNI EN 14891 Method A.8.2	100 KPa (no water infiltration after 7 days)
Waterproof	UNI EN 14891 Method A.7	100 KPa (no water infiltration after 7 days)
Impermeability in negative pressure	Internal test method	150 kPa (pass or non-pass method)
Impermeability in negative pressure with a 0.4 mm cracked surface	Internal test method	50 kPa (pass or non-pass method)
Determination of tensile properties	DIN 53455	Tensile strength: 1.14 MPa Elongation at breaking point: 47%

Quoted data obtained in laboratory conditions at +20°C and 60% RH.