RENOLIT
ALKORPRO
Fully bonded
membrane



Technical Data Sheet

RENOLIT ALKORPRO CS – Fully bonded geomembrane

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Self-healing and swelling PVC-P geomembrane, mint green, used for waterproofing the external surface of concrete walls.

DESCRIPTION

The **RENOLIT** ALKORPRO CS is a mint green geomembrane made out of a highly flexible PVC film heat-coupled to a special non-woven polypropylene fleece containing a Super Absorber Polymer (S.A.P.) which makes it hydro-swelling.
It provides an effective barrier against the three types of groundwater inflows (capillary humidity rise, hydrostatic groundwater pressure, soil infiltration water) and ground gases such as Radon.
The product contains a high amount of recycled pre-consumer material and it is fully recyclable.

APPLICATIONS

The **RENOLIT** ALKORPRO CS geomembrane is suitable for waterproofing foundations, basements, tunnels, underground parking lots and all other concrete constructions in contact with the ground. It can be used in saline, acidic or alkaline environments due to its chemical resistance. The **RENOLIT** ALKORPRO CS geomembrane is mainly dedicated for the post application. The geomembrane is installed after concreting, with its fleece facing the hardened concrete. In the presence of water, the Super Absorber Polymer (S.A.P) included in the fleece swells and creates a sticky gelatinous paste which permanently seals the water penetration through the geomembrane in case of accidental perforation (self-healing property) and also prevents any migration of water between the geomembrane and the concrete (self-compartimentation property). **RENOLIT** ALKORPRO CS also prevents any water migration between the geomembrane and the concrete (self-compartimentation property).

REGULATIONS & STANDARDS

- CE Marking - EN 13967 and EN 13491.
- DIN 18195 Standard – new DIN 18533.
- DIN SPEC 20000-202 approved.
- Avis technique CSTB (on going).

STORAGE & HANDLING

The **RENOLIT** ALKORPRO CS geomembrane has to be stored under dry conditions, and protected from severe weather conditions and direct sunlight. The storage temperature should be between +5°C and +30°C.

Description	Packaging
RENOLIT ALKORPRO CS 1.2 mm Mint green PVC geomembrane with S.A.P in the PP-fleece Width of free edge for welding = 50 mm	Width 1.08 m Length 20 m 18 rolls/pallet
RENOLIT ALKORPRO CS 1.2 mm Mint green PVC geomembrane with S.A.P in the PP-fleece Width of free edge for welding = 100 mm	Width 2.16 m Length 20 m 9 rolls/pallet

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PRODUCT PROPERTIES

Properties	Test standard	Units	Performance
Thickness -PVC-P -Geocomposite	EN 1848-2	mm	1.2 (+5%/-5%) 1.2 + 0,6 (+10%/-5%)
Surface Mass Geocomposite	EN 1849-2	kg/m²	1.564 (+10%/-5%)
Straightness	EN 1848-2	mm/10m	≤75
Colour	-	-	Mint green
Resistance to water pressure -24h/60kPa -72h/1000kPa	EN 1928	kg/m²	Watertight Watertight
Resistance to static load	EN 12730	kg	≥20
Tensile properties -Tensile strength -Elongation at break	 EN 12311-2 (A) EN ISO 527/3	 N/50mm %	 ≥600 ≥200
Durability against artificial aging 84d/(70°C, 60kPa)	EN 1296 EN 1928 (B) 24h/1000kPa	-	Watertight
Durability against chemicals Storage in solution 28d/23°C -Alkaline $Ca(OH)_2$ -Acid H_2SO_3 -Brine NaCl	EN 1847 EN 1928 (B) 24h/1000kPa	-	 Watertight Watertight Watertight
Compatibility with bitumen 28d/70°C	EN 1548 EN 1928 (B) 72h/500kPa	-	Watertight
Resistance to impact	EN 12691 Method A Method B	 mm mm	 ≥500 ≥2000
Tear resistance (nail)	EN 12310-1	N	≥500
Reaction to fire	EN 13501-1	-	Class E
Shear resistance of the welded seam (automatic welding machine)	EN 12317-2	N/50mm	≥600 breaks outside the welded joints
Resistance to static puncture	EN ISO 12236	kN	≥2.0
Permeability to liquids	EN 14150	$m^3/(m^2 \cdot d)$	$\leq 10^{-6}$
Resistance to oxidation (90d/85°C) -Residual tensile strength at break -Residual elongation at break	 EN 14575 EN ISO 527/3	 % %	 >85 >85

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CONCRETE BONDING PROPERTIES

Properties	Test standard	Units	Performance
Swelling capacity with water on one side only (+5°C, +23°C) -Swelling pressure -Volume increase	BDA Agrément ®	 kN/m² %	 ≥170 ≥50
Self-healing capacity -Isolated damage area	BDA Agrément ®	 mm²	 ≤100
Self-healing nail fasteners Ø nail (not removed): 14 mm (24h/5bars)	DIN EN 12390-8	-	Watertight
Lateral water migration resistance -Water pressure	Internal test	 kN/m²	 ≤3.5

INSTALLATION

In post-applied installation, the geomembrane will be placed with the PP fleece facing the hardened concrete and fixed with nails at the edges. The **RENOLIT** ALKORPRO CS geomembranes can be sealed together very easily by mastic glue **RENOLIT** CEM805, by thermal welding or by using butyl tape **RENOLIT** ALKORPRO BAND. The backfilling will be sized to exert a minimum pressure of 150 kg/m² on the geomembrane.



Sealing by mastic glue **RENOLIT** CEM 805.



Thermal welding.



Sealing by butyl tape **RENOLIT** ALKORPRO BAND.

These data are statistic figures according to Harmonized European Standards. This document cancels and replaces any other document previously published. In order to improve his products, the manufacturer reserves the right to change them without prior notice.

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