TECHNICAL DATA SHEET

HYDROCRETE



Combined Crystalline & Pore-Blocking Waterproof Concrete Admixture

PREMCRETE

HYDROCRETE





TYPE B
WATERTIGHT ADMIXTURE

WATER RESISTANT

UK CA
UK CONFORMITY

25 YEARS
PRODUCT WARRANTY

BDA CERTIFIED

DESCRIPTION

HYDROCRETE is established on Dual-AC Technology providing a unique crystalline waterproof concrete admixture, which also incorporates a hydrophobic pore- blocking component to provide the ultimate waterproofing admixture. Initially the pore-blocking component reduces the water absorption in the matrix. The next phase of action commences upon contact with water and produces nano-scale crystals which are formed in the micro-capillaries. These crystals remain active for the lifetime of the structure. It is supplied in powder form, in pre-weighed water-soluble bags, suitable for addition to the concrete at the batching plant.

USES

HYDROCRETE is used as an integral waterproof admixture which will produce watertight concrete when used as part of the HYDROCRETE watertight concrete system. Applications include waterproofing of basements, swimming pools, lift pits, tunnels, culverts and other structures which require resistance to water ingress.

ADVANTAGES

- Reduces permeability of concrete
- Innovative Dual-AC Technology provides two-fold protection
- Crack-healing up to 0.3mm
- Increases corrosion resistance of concrete
- Chloride free, offering extra protection to the reinforcement bars
- Pre-weighed powder component supplied in water soluble bags for ease of dispensing

TECHNICAL & PERFORMANCE PROPERTIES

Property	Test Method	Value	
Water vapour transmission rate (mean)	VTC TP/N950/09/16074	Control Concrete: Concrete with product:	42.09 g/m²/day 26.43 g/m²/day
Water vapour diffusion resistance coefficient, µ-value (mean)	VTC TP/N950/09/16074	Control Concrete: Concrete with product:	12 15
Equivalent air layer thickness SD value (mean)	VTC TP/N950/09/16074	Control Concrete: Concrete with product:	1.40m 2.16m
Water permeability (mean) >28 days	VTC TP/N950/09/16010	Control Concrete: Concrete with product:	2.14 x 10-13m/s 1.94 x 10-13m/s
Capillary absorption (mean) >28 days	BS 1881-122	Control Concrete: Concrete with product:	2.56% 1.12%
Wetting shrinkage @ 56 days	ASTM C341M-18	Control Concrete: Concrete with product:	0.014% 0.017%
Drying shrinkage @ 56 days	ASTM C341M-18	Control Concrete: Concrete with product:	0.021% 0.038%
Slump value	BS EN 12350-2	Control Concrete: Concrete with product:	70mm 80mm
Bleeding	BS EN 480-4	Control Concrete: Concrete with product:	4.54 x 10-3% 8.40 x 10-4%
Modulus of elasticity @ 44 days	BS EN 12390-13	Control Concrete: Concrete with product:	44,400 N/mm² 48,400 N/mm²
Flexural Strength @ 28 days	BS EN 12390-5	Control Concrete: Concrete with product:	5.5 N/mm² 5.03 N/mm²
Compressive Strength @ 1day	BS EN 12390-3	Control Concrete: Concrete with product:	32.07 N/mm² 27.03 N/mm²
Compressive Strength @ 7 days		Control Concrete: Concrete with product:	61.43 N/mm² 60.37 N/mm²
Compressive Strength @ 28 days		Control Concrete: Concrete with product:	70.03 N/mm² 72.50 N/mm²
Freeze/Thaw >28days	PD CEN/TS 12390-9	Control Concrete: Concrete with product:	0.09 kg/m² 0.04 kg/m²
Air content	BS EN 12350-7	Control Concrete: Concrete with product:	1.3% 1.4%
Setting time	BS EN 196-3	Control Concrete: Concrete with product:	210 min (initial) 366 min (initial)
	BS EN 196-3	Control Concrete: Concrete with product:	231 min (final) 378 min (final)
Water-soluble chloride	BS EN 480-10	Control Concrete: Concrete with product:	- 0.23%
Total alkali (as Na20 equivalent)	BS EN 480-12	Control Concrete: Concrete with product:	- 0.05%
Sodium oxide (Na20)	BS EN 480-12	Control Concrete: Concrete with product:	- 0.05%
Potassium oxide (K20)	BS EN 480-12	Control Concrete: Concrete with product:	- <0.01%

HYDROCRETE

INSTALLATION PROCEDURE

Dispensing

The HYDROCRETE dosage is 1.75kg / m^3 of concrete. The HYDROCRETE admixture should be added to the concrete at the same time or after the addition of the cement. Care should be taken to ensure forced action and truck mixes are free from all contaminants prior to the batching of concrete. The concrete mix should be mixed at full revolutions for a minimum of 3 minutes to ensure optimum dispersion of the admixture. It is the responsibility of the concrete batching plant to control the consistency of the mix and the water/cement ratio.

Curing

Concrete containing the HYDROCRETE admixture should be cured in line with good concrete practice using PREMCRETE curing agents in line with BS 7542.

Concrete mix design

HYDROCRETE is guaranteed for use within reinforced concrete structures designed to 0.3mm maximum crack width and has been formulated for use in concrete with a minimum cement content of 350kg/m^3 and a maximum water/cement ratio of 0.43. If the addition of a high range water reducer/ superplasticiser is required, then consult PREMCRETE Technical Department for specific advice.

PACKAGING & COVERAGE

Pack size

4 x 1.75kg Water-Soluble Bags per bucket.



STORAGE & SHELF LIFE

HYDROCRETE has a shelf life of 12 months and should be stored in dry conditions between 5^{0}C to 40^{0}C.
The bags must be stored in sealed containers to prevent water ingress.

HEALTH & SAFETY

See separate Material Safety Data Sheet.

BDA Agrément

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