



## WATERPROOFING FOR PRODUCING **CONCRETE**

If your specification calls for waterproof concrete, MAPEI has the answer.

# ***Idrocrete<sup>TM</sup>*** ***KR 1000***

### Crystallizing Admixture for Waterproof Concrete

*Idrocrete KR 1000* is a powder admixture made from special hydrophilic components which, when added to a concrete mix, reduces the permeability of hardened concrete.

For more information visit [www.mapei.ca](http://www.mapei.ca).





# Idrocrete KR 1000

## Crystallizing Admixture for Waterproof Concrete

*Idrocrete KR 1000* reduces the permeability of concrete. Its use will not contribute to the increased corrosion of reinforcing steel in concrete.

### HOW IT WORKS

When water is added, *Idrocrete KR 1000* reacts with the calcium hydroxide and other products that form during the hydration process of the cement to form compounds of calcium silicate and other non-soluble salts. The crystalline compounds and calcium silicate hydrate are deposited in the voids of the cement matrix and reduce its total porosity, thereby increasing the resistance of the concrete to the penetration of water under pressure.

### APPLICATION TYPES

*Idrocrete KR 1000* may be successfully used to produce concrete for the following applications:

- Dams
- Bridges
- Car parks
- Storage tanks
- Pipes and piles
- Retaining walls
- Tunnels
- Marine structures
- Basements and foundations
- Swimming pools
- Precast elements

### PERFORMANCE DATA (Comparison Chart, using Type GU cement, 310 kg/m<sup>3</sup>, w/c of 0.5)

	Control with no admix. Mix (X)	<i>Idrocrete KR 1000</i> @ 2% Mix (A)
ASTM C138 - Unit Weight	145.6 lbs./ft <sup>3</sup> (2 360 kg/m <sup>3</sup> )	144.4 lbs./ft <sup>3</sup> (2 340 kg/m <sup>3</sup> )
ASTM C143 - Slump	3-3/4" (95 mm)	3-3/4" (95 mm)
ASTM C231 - Air Content	5.2%	6.2%
ASTM C403 - Set Time (Initial), hr:min	5:00	5:40
ASTM C403 - Set Time (Final), hr:min	7:00	7:50
ASTM C39 - Compressive Strength (1 day)	1,830 psi (12.6 MPa)	1,760 psi (12.1 MPa)
ASTM C39 - Compressive Strength (7 days)	4,510 psi (31.1 MPa)	4,220 psi (29.1 MPa)
ASTM C39 - Compressive Strength (28 days)	5,670 psi (39.1 MPa)	5,410 psi (37.3 MPa)
ASTM C157 - Length Change - Water (28 days)	+0.003%	+0.007%
ASTM C157 - Length Change - Air (28 days)	-0.036%	-0.024%
ASTM C666 - Freeze-Thaw Resistance, DF	96.3	97.0
ASTM C1585 - Absorption	3/4" (1.88 mm)	9/32" (0.69 mm)
ASTM E96 - Water Vapor Permeance, perms	5.16	3.65
ASTM F1869 - MVER	6.9 lbs. per 1,000 sq. ft. (3.38 kg per 100 m <sup>2</sup> ) per 24 hours	5 lbs. per 1,000 sq. ft. (2.45 kg per 100 m <sup>2</sup> ) per 24 hours
CRD C48-92 - Water Permeability (Flow)	0.0787 inches <sup>3</sup> /hr. (1.29 cm <sup>3</sup> /hr.)	0.0256 inches <sup>3</sup> /hr. (0.42 cm <sup>3</sup> /hr.)
DIN 1048 - Water Penetration Depth	1-1/8" (2.9 cm)	9/16" (1.5 cm)

### PACKAGING

Available in 20-kg bags and in 4-kg hydrosoluble bags.

### DOSAGE

Recommended dosage rate: 1 to 3 kg per 100 kg of cementitious materials.