

DARAPEL[®] 75ME

Specially formulated advanced admixture for integrally waterproof concrete structures, in the Middle East region

Product Description

DARAPEL[®]75ME is an innovative liquid admixture that significantly reduces both the permeability and the drying shrinkage of concrete.

This enhanced concrete performance is achieved by:

- Reduced water absorption and penetration
- A significant reduction in drying shrinkage, which produces fewer and thinner cracks
- A low w/c ratio, which reduces capillary paths in the cured concrete
- High slump, workable concrete mix for ease of placement
- Enhanced compressive and tensile strengths at all ages

When DARAPEL 75ME is used with ADVA[®]high performance concrete admixtures, highly effective, integrally waterproof concrete is achieved.

Typical Properties

DARAPEL 75ME	
Appearance	straw coloured clear liquid
Specific Gravity	approx. 0.92
Air Entrainment	The product does not entrain additional air
Chloride Content	Nil

Advantages

- Reduces drying shrinkage and permeability of concrete.
- Improved workability resulting in easier, more complete compaction
- Can be used in all types of concrete, with all types of cementitious binders.
- Concentrated, liquid formulation for the Middle East conditions – considerably less than other liquid systems and more easily dispersed than a powder
- No expansive agents
- Improves early strength.
- Can be combined with GCP Applied Technologies membranes or cavity drain systems for enhanced protection in critical applications.

Applications

- DARAPEL 75ME provides structurally integral waterproofing (Type B construction) as defined in BS 8102 2009.
- Water retaining structures
- Swimming pools
- Lift pits
- Tunnels
- Piles
- Basements

Compatibility with Cements

DARAPEL 75ME can be used with all types of Portland Cements, including sulphate resisting cements. It is compatible with concrete containing fly ash, ground granulated blast furnace slag (ggbs) and silica fume. For other cement types consult GCP.

Compatibility with other Admixtures

As with all concrete admixtures, DARAPEL 75ME should not be pre-mixed with other admixtures or chemicals. The product is engineered to be used with Grace ADVA®superplasticisers, but must be dosed separately. Physical properties of the concrete may be adversely affected if DARAPEL 75ME is used with other admixtures and chemicals.

Addition Rates

Range: 1000 ml–4000 ml per m3 concrete

As with most products of this type the magnitude of the effect obtained with DARAPEL 75ME, is governed by the quantity of product used, w/c ratio and the specific nature of concrete and constituent materials.

It is necessary therefore to assess performance under site conditions using actual materials to determine optimum performance and dosage.

DARAPEL 75ME may be used at lower dosages in special conditions, double or triple blend concrete

For advice and assistance with trials we recommend that you consult GCP.

Mix Design

GCP recommend the use of ADVA®superplasticiser (see separate product data sheet). Where alternative superplasticisers are used, ensure they produce the specified workability and maximum w/c ratio, at the equivalent cement content.

When non-GCP superplasticiser is being considered we recommend trial mixes to ensure compatibility. For further advice consult GCP.

Property	DARAPEL		
	Plain	75ME	75ME
	Concrete		
Dosage Rate (L/m3)	Nil	2.50	3.75
ADVA Dosage Rate % B.W.C	Nil	2.50	0.4-1.2%
Maximum Free w/c Ratio	0.5	0.4- 1.2%	0.4
Consistent Slump Class	S3	0.4	53
AirContent (%)	0.9	S3	0.9
Typical Improvement Compressive Strength (Mpa) 28 days	47	0.9	+36%
Water Absorption (%)	4.8	+37%	-65%
ISAT- ml/m2/sec	0.246	-61%	-70%
10minutes	0.125	-59%	-78%
30 minutes	0.117	-59%	80%
60 minutes			
Water Vapour Permeability (gm(Ns)-1)	6.60E-10	-56%	>-56%

Drying Shrinkage	0.05	20%	-56%
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All test results shown in this data sheet are determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

Note: Optimal DARAPEL 75ME & ADVA® addition rate should be determined by trial mix to ensure specified workability and maximum w/c ratios are achieved. Trial mixes should always use specific cements and aggregates that will be used in the concrete. For further advice, consult GCP.

Dispensing

It is preferable that DARAPEL 75ME should be introduced into the mixer by means of automatic dispensing equipment. Such equipment is available from GCP and details will be given on request.

Health and Safety

Read the product label and SDS (Safety Data Sheets) before use. Users must comply with all risk and safety phrases. SDS's can be obtained from GCP

Packaging

DARAPEL 75ME is supplied in 25 litre and 210 litre nonreturnable containers.

Alternatively, 1,000 litre IBCs and bulk deliveries can be arranged

Storage

DARAPEL 75ME should be stored in original containers or suitable closed tanks, preferably out of direct sunlight and protected from extremes of temperature.

Storage Life:

12 months from the date of manufacture

Technical Service The Technical Service Department of GCP is available to assist you in the correct and best use of our products. These resources and advice are at your disposal entirely without obligation. Please contact:

GCP

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