

**Dry D1 M**

SHRINKAGE COMPENSATING ADMIX

**Dry D1 C**

SHRINKAGE COMPENSATING ADMIX

## DESCRIPTION

**DRY D1** is an inorganic admixture for cement, free of chlorides and other harmful components. It is a calcium oxide powder obtained by a particular thermal treatment.

**DRY D1** is useful in the field of manufactured reinforced concrete in order to reduce the shrinkage or to give an expansion to the concrete.

## SCOPE

To counteract the shrinkage or to produce expansion in cement-based mortars and concretes.

Type of product:

- **DRY D1 M** specific for mortars and grouts.
- **DRY D1 C** specific for mortars and concretes.

## DRY D1 C - SPECIFICATIONS

The expansion rate depends on the dosage of **DRY D1 C**, the type of cement used, the water/cement ratio and the type nature of the aggregates, etc.

All factors that increase hydration rate promote expansion during initial drying shrinkage (the plastic phase before cement setting) thus decreasing the amount of expansion during the hardening (after cement setting).

These factors are: the time of mixing concrete, site and materials temperature, climate and first curing conditions of concrete containing the admixture.

**DRY D1 C** counteracts natural shrinkage and cracks that occur in mortars and concretes. It reduces their permeability and increases their strength, durability, and resistance to aggressive agents, both chemical and physical.



## DOSAGE

**DRY D1 C** is added to concrete, in a ratio of 0.5% to 1% by weight.

The lower the water-cement ratio, the more the effectiveness of the expansion degree. In the same way, the higher the cement dosage, the higher will be the expansion. Then, the right addition of the admixture depends on the desired expansion degree. It is advisable, however, to carry out preliminary tests for optimal dosage.

## PACKAGING

**DRY D1 (C or M)** is normally packed:

- bags kg 20
- big bag kg 750
- bulk

## STORAGE

**DRY D1 (C or M)** must be stored in the original packages in a dry-covered place. For the purposes of quality, the shelf life of the product depends on the state of storage which under optimal conditions is not less than 12 months



## RESTRAINED EXPANSION $\mu\text{m}/\text{m}$ of cement based concrete and mortar Indicative average values

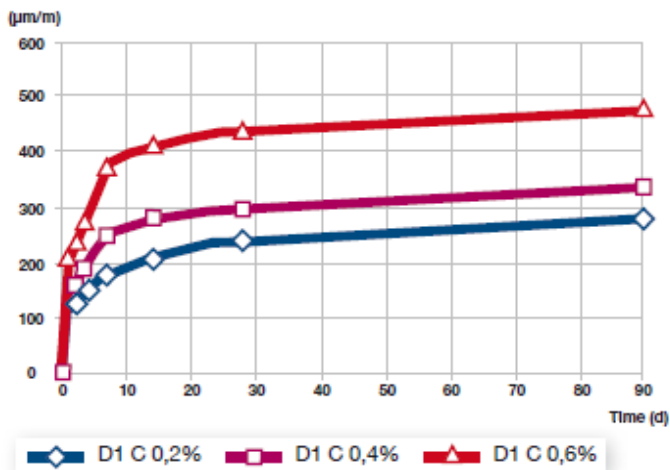
(Determination acc. to UNI 8147 and UNI 8148 test methods - corresponding to ASTM C 878 test method)  
specimens demoulding: after 8 hrs - storage conditions: at 20° C in water

Storage time (after demoulding)	DRY D1 quantities						
	Dosage	DRY D1 type C (for concrete) [*]			DRY D1 type M (for mortar) [**]		
	% on cement + aggregate content	0,2	0,4	0,6	0,5	1,0	1,5
days	% on cement content	1,15	2,30	3,45	2,0	4,0	6,0
	Kg/m <sup>3</sup>	4,3	8,6	13,0	10,4	20,9	31,3
	Ageing conditions: in water Temperature: +20 °C						
1		110	145	210	120	150	270
2		130	165	240	150	175	340
3		145	190	275	170	205	380
7		180	250	375	230	275	440
14		210	280	405	300	350	510
28		240	300	440	350	450	615
90		280	340	480	420	520	705
Unrestrained expansion (at 24 hrs) (acc. to UNI 8996)		> 0,1% b.v.			> 0,3% b.v.		

[\*] Sillico-calcareous aggregate  $D_{\text{max}}$ : 20mm; cement type I (52,5) content: 400 kg/m<sup>3</sup>, concrete consistence: plastic-fluid

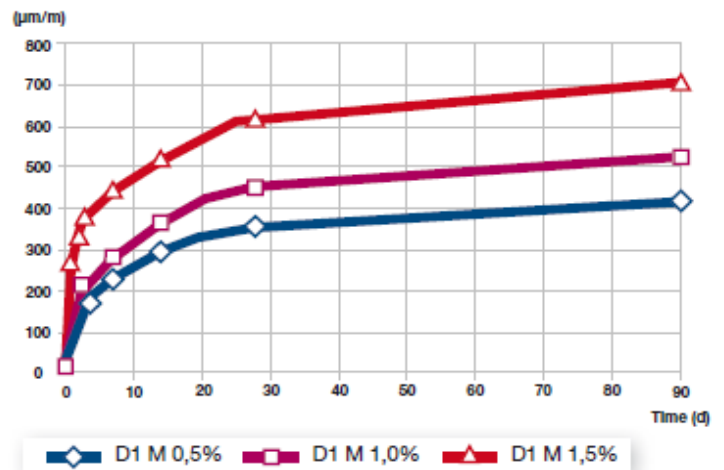
[\*\*] Normal sand:  $D_{\text{max}}$  3mm, sand/cement (type I - 52,5) ratio=3:1; mortar consistence: plastic-fluid

DRY D1 C/CONCRETES - RESTRAINED EXPANSION  
(ACC. TO UNI 8147)



DRY D1 C percentage of total dry components

DRY D1 M/MORTARS - RESTRAINED EXPANSION  
(ACC. TO UNI 8147)



DRY D1 M percentage of total dry components

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