

RAPIDVAL

NATURAL QUICK-SETTING CEMENT

CNR 8 UNE 8039:2006

MANUFACTURED WITH ECOLOGIC CLINKER, 20% LESS CO2 EMISSIONS

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WHAT IS IT?

By means of a similar process to Portland cement, maintaining the same quality and control levels, but with different raw materials proportions, we obtain RapidVal, a very natural and quick-setting cement with immediate early strenghts. RapidVal must be used alone or mixed with sand, for non-structural building applications which demand immediate strenghts, it allows us to preserve the environment due to its low CO2 emissions in its production process.

Due to its quick-setting, it can replace gypsums or limes, keeping similar strength parameters to Portland Cements and upper durability values.

RapidVal is a natural quick-setting cement whose composition is formed by the usual components of Portland clinker, although in different proportions. Therefore, it gets quick-settings and almost instantaneous initial strenghts.

THE PRODUCT

RapidVal is a useful product for the construction sector due to its 4 to 5 minutes of setting time. It is also capable to get strong in just 15 minutes, time enough to be used for many jobs within its area of application.

RECOMMENDATIONS

As shown in the table, RapidVal set very fast when temperatures are high. If you need to delay the setting times, you have to use the additive coming with the product. In order to use RapidVal, you must follow any other mortar general recommendations.

RapidVal sets in contact with water in some minutes, so it is recommended to mix it with dry aggregates to obtain the mortar homogenization and adding water to the final mixture, when everything is ready for its application and it is ready to be applied

Due to the strong application time reduction, proportional to the temperature increase, the additive has to

be added to the dry mixture in the right proportions depending on the temperature and the time required for its implementation.

AREA OF APPLICATION

Due to the short setting times and also to the obtained strenghts, RapidVal is recommended for all kind of jobs in carpentry, restoration of all types of monuments and constructions. It is also very useful in inside and outside places thanks to its brown stone colour.

Thanks to the strenght achieved in such a short time, it will be very useful in cases where you need to protect all kind of buildings in case of an emergency, as in floods.

Cracks covering in concrete pipes.

CHARACTERISTICS

PHYSICAL			
Grind fineness (UNE 80122).			
Maximum residue (%) in:			
- Sieve of 160µm (ISO 565)	0		
- Sleve of 80 µm (ISO 565)	1		
- Blaine (cm2/g)	≥ 6000		
Setting plaster	10°C	20°C	30°C
- Principle (minutes) after:	2	1	–
- Final (minutes) before:	4	3	1
Setting plaster with additive 7 g/l cement	10°C	20°C	30°C
- Principle (minutes) after:	30	25	15
- Final (minutes) before:	45	32	25
Mortar	Cement/Sand (weight 1 :2) volume (1 :1)		
- Setting time (minutes):	10°C	20°C	30°C
	4	2	1
Mortar with retardant additives 3,5 g/l cement	Cement/Sand (weight 1 :2) volume (1 :1)		
- Setting time (minutes):	10°	20°	30°
	30	15	10
Mortar with retardant additives 7 g/l cement	Cement/Sand (weight 1 :2) volume (1 :1)		
- Setting time (minutes):	10°	20°	30°
	80	60	30

(*) These features are indicative . An specific information will be added to the technical data sheet in every item.

ADVANCES IN R & D & I

The “Cementos Portland Valderrivas” Group, from its global improvement vocation, works mainly on three pillars: Product, where we are still investigating in order to maintain the highest worldwide quality standards in the cement industry. Customer, we progress in response to their changing needs. Society,we search the minimum impact on our environment and we try to improve it whenever possible.

WE ARE COMMITTED TO THE ENVIRONMENT

We have manufactured a clinker for this product, essential base of portland cements, where the reduction of CO2 emissions resulting from the decarbonation is a 15% lower than a pure Portland cement keeping in mind the baking temperature reduction in the kiln, we save around 20% in greenhouse gas emissions.

CHARACTERISTICS

MECHANICS				
Compressive Strenght (MPa)		Cement/Sand (weight 1 :2) (volume 1 : 1)		
Mortar		Relation water/ cement = 0,4		
		10 °	20 °	30 °
- 15 Minutes		1,5	2,5	Non workable mortar
- 1 hour		3,5	4,0	
- 3 hours		5,0	6,0	
- 6 hours		6,0	6,5	
- 1 day		9,0	17,0	
- 7 days		19,0	34,0	
- 28 days		34,0	50,0	
Compressive Strenght (MPa)		Cement/Sand (weight 1 :2) (volume 1 : 1)		
		Relation water/ cement = 0,4		
Mortar with retardant additives 3,5 g/l cement		10°C	20°C	30°C
- 15 minutes		0	0	0,5
- 1 hour		1,0	3,5	6,0
- 3 hours		7,0	6,5	8,5
- 6 hours		9,5	8,0	9,0
- 1 day		13,0	9,5	13,0
- 7 days		31,0	33,0	18,0
- 28 days		50	43	21

Compressive Strenght (MPa)	Cement/Sand (weight 1 :2) (volume 1 : 1)		
	Relation water/ cement = 0,4		
Mortar with retardant additives 7 g/l cement	10°C	20°C	30°C
- 15 minutes	-	-	-
- 1 hour	-	2,0	3,0
- 3 hours	5,0	6,5	8
- 6 hours	8,5	8,0	9,5
- 1 day	12,0	9,0	12,5
- 7 days	24,0	31,0	15,0
- 28 days	35,0	44,0	17,0

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