



SHOTCRETE 513

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DESCRIPTION.

SHOTCRETE 513 is a fast setting and curing rapid strength gain dry spray concrete consisting of a blend of unique cement based binder, specially selected and dried loose graded aggregates all passing a 2 mm sieve

PROPERTIES.

- Excellent adhesion
- Low modules of elasticity excellent for loose or friable substrates
- Low shrinkage.
- Excellent resistance to pure water, sulphated water, seawater and de-icing salts.
- Excellent resistance to aggressive chemicals
- Very good cohesion & mixing.
- No curing membrane necessary.
- Can be used in wet conditions.

USES.

SHOTCRETE 513 is used in contact with potable water for horizontal and vertical concrete repairs, water cut off and where high early strength is required and fast curing is required.

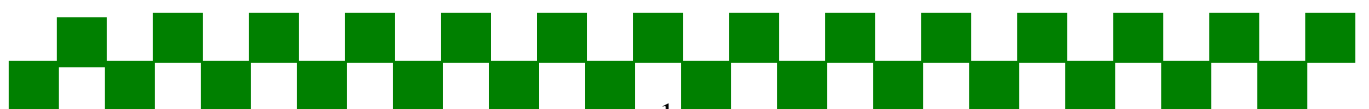
METHOD OF USE.

PREPARING THE SURFACE.

Do not use on frozen or over heated substrates (Outside the range of 0° - 30°C). Prepare the surface in advance to provide an adequate key. It should be clean, free from dust and thoroughly dampened. Where necessary steel or aluminium mesh can be used. Ensure that a 50 mm minimum thickness of material is obtained.

PRIMING.

There is no need to prime any reinforcement, but if priming is preferred, any conventional system may be used.



MIXING.

For optimum results mix using conventional dry spray mixing machines. The optimum water to cement ratio of 38% should be aimed for. Exceeding this ratio will lead to lower strength, longer setting time

and the risk of surface cracking appearing. **SHOTCRETE 513** should be added to the dry spray machine or similar and transported by dry air to the nozzle where the water is added. To obtain low dust levels and better and more consistent mixing qualities it is advisable that the water is added to the **SHOTCRETE 513** approximately 1.5 metres from the end of the nozzle. In cold weather the set can be accelerated using warm water, likewise in hot weather cold water can be used to slow down the set.

APPLICATION.

GENERAL

A 10 mm minimum thickness of the material is always necessary. Once setting has started **DO NOT** attempt to re - mix or to smooth the surface. This will cause the mechanical properties in particular strength and adhesion to be lost. Do not premix **SHOTCRETE 513** with water before placing in the dry spray machine.

Carry out the removal of all loose material from the concrete and reinforcement. It is only necessary to remove surface rust from the reinforcement. Prepare the surface as described previously, ensuring the surface is well dampened but also ensuring there is no standing water. Fix any necessary reinforcement, movement joints and formwork. Add the dry **SHOTCRETE 513** powder continuously to the dry spray applicator machine with the water being added and controlled at the nozzle ensuring that the **SHOTCRETE 513** is worked around any reinforcement.

SETTING TIMES.

SHOTCRETE 513 is designed to begin to set at 4 minutes and finish setting at 10 minutes at 20°C. In winter **SHOTCRETE 513** can be used down to 0°C. The set will be slower but can be accelerated by with warm water. In very hot temperatures the set will be faster and can be slowed by using cold water.

CLEANING.

SHOTCRETE 513 should be removed from tools and equipment with water immediately after use.

STORAGE.

SHOTCRETE 513 is packaged in a 25 kg polythene inner bag with a re-sealable tie within a stitch sealed woven polypropylene outer bag, which should be stored in dry conditions and will last for at least six months.

YIELD

Generally 1 x 25 Kg bag of **SHOTCRETE 513** of water will produce 10 litres of finish mortar.

SETTING TIME & STRENGTH GAIN.

Start Set	4 Min	at 20° C
End Set	10 Min	at 20° C
	Flexible Strength (Mpa)	Compressive Strength (Mpa)
At 15 mins	1.7	5
At 1 Hours	2.2	9
At 3 Hours	2.5	12
At 24 Hours	3	20
At 7 Days	4.8	26
At 28 days	7	45
<u>Strength continues to develop thereafter</u>		

HOW TO SPECIFY.

SHOTCRETE 513 shall be mixed and applied to prepared surfaces all strictly in accordance with the manufactures instructions.

DISPOSAL OF WASTE.

Any set material can be safely deposited in to land fill as it contains no chemical or hazardous waste. The outer and bags can be reused for transporting waste or storing other materials. The re-sealable cable tie has many uses within the construction industry and also domestically

PRECAUTIONS.

We strongly recommend the use of GLOVES GOGGLES and MASK. Please see MSDS sheet for full details.

MANUFACTURER & TECHNICAL SUPPORT

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