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# MEGASTICK® SHOTCRETE TECHNICAL DATA SHEET

For Dry, Hybrid-Wet®, or Wet Mix Applications

## DESCRIPTION

Megastick® Shotcrete is a pre-blended shotcrete mixture containing aggregates, silica fume and other carefully selected additives. Megastick® Shotcrete has greatly enhanced shooting characteristics and physical properties.

## USES

In the dry process, Megastick® Shotcrete is blown through the hose and mixing water is added at the nozzle. The shotcrete impacts the surface at a high velocity resulting in a wellcompacted, high quality concrete with excellent bond. Some common uses include:

- Slope stabilization.
- Initial and secondary tunnel support.
- Structural linings.
- Concrete rehabilitation.

Megastick® Shotcrete may be used in combination with steel fibre reinforcement to enhance load carrying capacity and with non-caustic accelerator to provide high early strengths and faster set times. It can be blended to meet ACI 506 gradation #1 or #2.

## ADVANTAGES

Stickiness. Megastick® Shotcrete has vastly improved cohesion characteristics compared to conventional shotcrete. This stickiness saves times and money:

- Rebound is significantly reduced, resulting in lower material usage.
- Sagging and sloughing are eliminated.

Thick layers can be applied in a single pass in both the vertical and overhead orientations without the use of caustic accelerators. This increases shooting efficiency as passing over work two or three times to achieve a certain thickness is no longer necessary.

## PACKAGING

Megastick® Shotcrete can be custom blended with or without steel fibre reinforcement. It is normally packaged in bulk bags up to 1680 kg (one cubic yard), with double shrink-wrap on wooden pallets.

## SAFETY PRECAUTIONS

Megastick® Shotcrete contains Portland cement, silica fume and other carefully selected additives. Normal safety wear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Safety Data Sheets are available on request.

## TECHNICAL DATA

	TEST METHOD	RESULTS
Compressive Strengths:	CAN3-A23-14C ASTM C42	Mpa (PSI)
1-day:		17 (2500)
7-day:		28 (4000)
28-day:		41.5 (6000)
Flexural Strengths:	ASTM 1018	6.8 (988)
Boiled Absorption:	ASTM C842	5.0 per cent
Volume of Permeable Voids:	ASTM C842	14.0 per cent
Toughness:	ASTM C1018	
60-kg/cu m (100 lb/cu yd):		1-5, 3.5 1-10, 5.0
Fibre:		
Set Times:		
(3% Accelerator):	ASTM C555	
Initial Set		10 min.
Final Set		15 min.
Freeze Thaw Resistance:	ASTM C555	Megastick® Shotcrete
	Acceptable	96%
80%		
Rebound:	Consultant's Test	
Vertical		12%
Overhead		20%
Aggregate Gradation:		
As per	ACI 506 RTable 2.1 for Gradation #1 & Gradation #2	