

DESCRIPTION: MICROSIL® SHOTCRETE is a preblended, dry shotcrete containing silica fume and other carefully selected components. MICROSIL® SHOTCRETE has greatly enhanced shooting characteristics and physical properties.

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

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

MICROSIL® SHOTCRETE may be used in combination with steel fiber reinforcement to enhance load carrying capacity and with a non-caustic shotcrete accelerator to provide high early strengths and fast set times. It can be blended to meet ACI 506 gradation #1 or #2.

ADVANTAGES:

STICKINESS: MICROSIL® SHOTCRETE has vastly improved adhesion and cohesion characteristics compared to conventional shotcrete. This STICKINESS saves time and money because:

- Rebound is significantly reduced, resulting in lower material usage.
- Sagging and sloughing is eliminated.
- Thick layers can be applied in a single pass in both the vertical and overhead orientations.

PHYSICAL PROPERTIES: Silica fume in MICROSIL® SHOTCRETE creates a higher strength shotcrete with low permeability and excellent freeze/thaw durability.

RESISTANCE TO WATER WASHOUT: MICROSIL® SHOTCRETE in the plastic state has tremendous resistance to washout by flowing water. This allows it to be applied to moderately wet surfaces and to be used in rainy weather. MICROSIL® SHOTCRETE is ideal for shotcreting in marine environments as rising tides and currents will not adversely affect freshly placed material.

PROCEDURES: See the ACI publication 506.R-90 "Guide To Shotcrete". Call BASALITE CONCRETE PRODUCTS LIMITED for further information.

TECHNICAL DATA: The data outlined below is typical of values achievable using proper application techniques as outlined in ACI 506.R-90 "Guide to Shotcrete". The data was obtained during project field tests and in-house shotcrete studies.

PARAMETERES	TEST METHOD	RESULTS
Compressive Strength MPa (Psi):	CSA A23.2-14C ASTM C42	
1 day		20 (2900)
7 day		35 (5075)
28 day		50 (7250)
8 hrs (with 3% accelerator)		7 (1015)
Initial Set (with 3% accelerator)		10 mins
Final set (with 3% accelerator)		15 mins
Shotcrete with steel fibers (60 kg/m3)		
Vertical Rebound		21%
Overhead Rebound		35%
Boiled Absorption (%)	ASTM C642	4.3%
Volume of Permeable Voids (%)	ASTM C642	9.9%
Flexural Toughness (round panel) 28 days	ASTM C1550	320 J
Flexural Strength (Beam) MPa @ 28 days	ASTM C1609	6.8
Flexural Toughness Performance Level (Beam) @ 28 days	ASTM C1609	Level III-IV
Durability Factor		90%

Aggregate Gradation—ACI 506 R-90 Table 2.1

SIEVE OPENING	GRADATION # 1	GRADATION # 2
mm (Sieve #)	% Passing	% Passing
19mm (3/4)	-	-
12 mm (1/2)	-	100
10mm (3/8)	100	90-100
4.7mm (#4)	95-100	70-85
2.4mm(#8)	80-100	50-70
1.2mm (#16)	50-85	35-55
600um (#30)	25-60	20-35
300um (#50)	10-30	8-20
150um (#100)	2-10	2-10

PACKAGING: MICROSIL® SHOTCRETE can be custom blended with or without steel fiber reinforcement and/or shotcrete accelerator. MICROSIL® SHOTCRETE is packaged in 30 kg (66 lb) triple-lined bags or One (1) cubic yard bulk bags, stretch-wrap and cap on wooden pallets. All Basalite Dry Mix products can be custom packaged to meet specific project requirements.

LIMITATIONS: The performance of in-place shotcrete relies heavily upon application techniques. To adequately determine the quality of in-place shotcrete, the material, equipment and key personnel should all be pre-qualified prior to project start up.

Liability for damages or defective goods shall be limited to the refund of the purchase price or product replacement.

SAFETY PRECAUTIONS: MICROSIL® 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 at www.basalite.ca.