



# EUCO DIAMOND SHOT SF

## High-Strength Shotcrete Mix for Abrasion Resistant Surfaces

### Description

EUCO DIAMOND SHOT SF is a high strength dry shotcrete mix that incorporates a high loading of structural fibers. It uses a proprietary technology to offer high early and ultimate strengths. EUCO DIAMOND SHOT SF can develop 3,500 psi (23 MPa) within two hours, and over 14,000 psi (96.5 MPa) in 28 days. Dust generation and rebound are similar to wet shotcrete mixes. Cohesion of the mix, allows high build and higher shear bond strengths than conventional shotcrete mixes. EUCO DIAMOND SHOT SF also offers higher resistance to hydrogen sulfide and excellent abrasion resistance due to the high fiber loading.

### Primary Applications

- Crusher station areas
- Loading pocket surfaces
- Ore transfer areas
- Ore and Waste pass surfaces

### Features/Benefits

- Vertical build >9" (225mm) in single pass
- Overhead build >6" (150mm) in single pass
- High early strength will allow faster in-service time
- High ultimate strength could allow a thinner application
- Approximately 5 times the abrasion resistance of conventional shotcrete
- Resistant to hydrogen sulfide
- Extremely low permeability
- Rebound is typically < 3%
- 90% less dust than conventional dry shotcrete

### Technical Information

#### Typical Engineering Data

The following results were developed under laboratory conditions.

#### Compressive Strength

ASTM C 109 2" (50 mm) Cubes

2 hours	3,500 psi (23.4 MPa)
4 hours	4,500 psi (31.0 MPa)
24 hours	6,750 psi (46.5 MPa)
3 days	8,000 psi (55.2 MPa)
7 days	10,200 psi (70.3 MPa)
28 days	14,250 psi (98.2 MPa)

#### Flexural Strength ASTM C 348 (modified)

2 hours	760 psi (4.6 MPa)
4 hours	775 psi (5.3 MPa)
24 hours	1,190 psi (8.2 MPa)
3 days	1,615 psi (11.1 MPa)
7 days	1,820 psi (12.5 MPa)
28 days	2,048 psi (14.1 MPa)

#### Shear Bond Strength ASTM C 882 (modified)

2 hours	1,245 psi (8.6 MPa)
4 hours	375 psi (9.5 MPa)
7 days	3,167 psi (21.8 MPa)

#### Length Change ASTM C 157, 50% R.H.

2 days	-0.045%
7 days	-0.084%
14 days	-0.096%
21 days	-0.101%

#### Freeze/Thaw Resistance

ASTM C 666 Procedure A

300 cycles	>98% RDM
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### Packaging

EUCO DIAMOND SHOT is packaged in 50 lb (22.7 kg) moisture resistant bags and is also available in 2,200 lb (1,500 kg) spout-bottom bulk bags. Yield will vary according to the amount of water added during the shotcreting operation.

## Shelf Life

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1 year in original, unopened package.

## Directions for Use

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Usage: EUCO DIAMOND SHOT SF should only be applied using the dry-mix shotcrete method. When using EUCO DIAMOND SHOT SF at t 70°F (21°C), initial set is in approximately 45 minutes allowing time to finish the surface for architectural purposes. After initial set, strength development is very rapid; the heat generated from the exothermic reaction is similar to conventional shotcrete mixes.

## Precautions / Limitations

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- For optimum results, condition material to 65 to 85°F (18 to 29°C).
- Store product in a dry place.
- In all cases, consult the Material Safety Data Sheet before use.

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