



# EUCOSHOT

## SILICA FUME MODIFIED SHOTCRETE MIX

### DESCRIPTION

**EUCOSHOT** is a microsilica-modified, single-component, shotcrete material, that is designed for use on vertical and overhead surfaces by dry-mix shotcrete (gunite) application or by mixing with water and applying as a wet-mix shotcrete. **EUCOSHOT** has been formulated to produce much less “rebound” than cheaper shotcrete materials offered by the competition.

### PRIMARY APPLICATIONS

- Shotcrete projects
- Bridge structures
- Retaining walls
- Piers/docks
- Parking decks
- Marine environments
- Dams
- Tunnels
- Mining applications

### FEATURES / BENEFITS

- Single-component, ready to use with only the addition of water
- Helps protect rebar and welded wire mesh from corrosion
- Low chloride salt permeability
- Compatible with galvanic anodes
- Excellent freeze-thaw resistance
- Low shrinkage properties
- High abrasion resistance
- Can contribute to LEED points

### TECHNICAL INFORMATION

#### Typical Engineering Data

The following results were developed under laboratory conditions of 24°C.

#### Compressive Strength ASTM C 109 2" (50 mm) cubes

1 day.....	24 MPa
3 days.....	34 MPa
7 days.....	48 MPa
28 days.....	65 MPa

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

1 day.....	3.8 MPa
7 days.....	5.3 MPa
28 days.....	7.6 MPa

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

3 days.....	14 MPa
7 days.....	17 MPa
14 days.....	19 MPa
28 days.....	21 MPa

#### Direct Tensile Bond (Germann Test)

14 days.....	2.4 MPa
28 days.....	2.9 MPa

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

2 days.....	-0.003%
7 days.....	-0.003%
14 days.....	-0.007%
21 days.....	-0.025%
28 days.....	-0.033%

#### Rapid Chloride Permeability ASTM C 1202

7 days.....	4,000 coulombs
14 days.....	1,600 coulombs
21 days.....	.975 coulombs
28 days.....	.575 coulombs

#### Freeze/Thaw Resistance ASTM C 666 Procedure A 300 cycles

.....>98% RDM

#### Scaling Resistance ASTM C 672

10 cycles .....	0
20 cycles .....	0
30 cycles .....	0
50 cycles .....	0

#### Volumetric Resistivity.....

11,490 ohm/cm

**Appearance:** **EUCOSHOT** is a free flowing powder as packaged. After application, the color may appear darker than the surrounding concrete. Note: Color may lighten as the **EUCOSHOT** cures and dries out. The final finish appearance can be any texture consistent with that expected from sprayed concrete.

### PACKAGING/YIELD

**EUCOSHOT** is packaged in 22.7 kg moisture resistant bags, 1000 kg and 1,500 kg bulk bags. Yield will vary according to the amount of water added during the shotcreting operation. Approximate yield is 12L per 22.7kg bag when mixed with 2.8 L water.

## SHELF LIFE

1 year in original, unopened package.

## DIRECTIONS FOR USE

**Surface Preparation:** The concrete must be clean and rough. All oil, dirt, debris, paint and unsound concrete must be removed. The surface must be mechanically prepared to achieve a profile similar to CSP 7 or greater in accordance with ICRI Guideline 310.2, exposing the coarse aggregate of the base concrete. The final step in cleaning should be the complete removal of all residue by pressure washing.

**Exposed Reinforcement Steel:** Remove all loose rust and scaling, preferably by sandblasting to white metal prior to application.

**Bonding:** No bond coat should be used for this product.

**Mixing Dry Shotcrete/Gunite:** Set up dry process equipment in an area convenient to the placement site. Pre-dampening is recommended prior to adding material to gun. Gauge water at the nozzle and adjust to the desired consistency.

**Placing Dry Shotcrete/Gunite:** In general, EUCOSHOT should be applied in accordance with the recommendations of ACI 506R "Guide to Shotcrete". Pay special attention to the angle of the application (i.e. 90°) and distance from the substrate, normally 0.6 m to 1.8 m. Typical application depths range from 2.54 to 15.24 cm. If placement at a depth greater than 150 mm is required, cross hatch the surface of the initial layer. After the surface has sufficiently hardened, additional layers may be placed.

**Mixing Wet Shotcrete:** Add EUCOSHOT to water in the mixer drum [130L of water per 1500kg] bag of EUCOSHOT. Mix for 2 minutes and add remaining water up to 60 L. EUCON 37 can be used to reduce the amount of water required.

**Placing Wet Shotcrete:** In general, EUCOSHOT should be applied in accordance with the recommendation of ACI 506R "Guide to Shotcrete".

**Finishing:** A natural gun finish is preferred; however, conventional finishing methods such as screeding, troweling, or brooming are acceptable. Do not add additional water to surface for finishing. If an evaporation retarder is necessary, use EUCOBAR. Note: Over-finishing can cause debonding.

**Curing and Sealing:** Proper curing procedures are important to ensure the durability and quality of the repair. To prevent surface cracking, cure with water spray or a high-solids curing compound, such as KUREZ W VOX or KUREZ DR VOX.

## CLEAN UP

Clean tools and equipment with water before the material hardens.

## PRECAUTIONS / LIMITATIONS

- Do not allow applied shotcrete to freeze until the material has reached a minimum of 7 MPa compressive strength.
- In adverse temperatures, follow ACI recommendations for hot/cold weather concreting practices.
- Use only potable water at the nozzle.
- Minimum application thickness is 2.54 cm.
- Minimum surface and ambient temperatures are 5°C and rising at the time of application.
- For optimum results, condition material to 18°C to 29°C at least 24 hours prior to use.
- Store product in a dry place.
- In all cases, consult the Safety Data Sheet before use

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