

# EUCOSHOT

## SILICA FUME MODIFIED SHOTCRETE



### DESCRIPTION

**EUCOSHOT** is a microsilica modified, one component, shotcrete material. This cement based, modified mortar is designed for use on vertical and overhead surfaces by dry shotcrete (guniting) application. EUCOSHOT is specially formulated for interior or exterior uses.

### PRIMARY APPLICATIONS

- Guniting projects
- Bridge structures
- Retaining walls
- Piers/docks
- Tunnels
- Parking decks
- Marine environments
- Compatible w/galvanic anodes
- Dams

### FEATURES/BENEFITS

- One component material-ready to use with only the addition of water
- Helps protect rebar and welded wire mesh from corrosion
- Low chloride salt permeability
- 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.

- Compressive Strength \***  
 ASTM C 109 2" (50 mm) Cubes
- 1 day.....3,500 psi ( 24 MPa)
  - 3 days.....5,000 psi (34 MPa)
  - 7 days.....7,000 psi (48 MPa)
  - 28 days.....9,500 psi (65 MPa)
- Flexural Strength\* ASTM C 348 (modified)**
- 1 day..... 550 psl (3.8 MPa)
  - 7 days.....775 psi (5.3 MPa)
  - 28 days.....1,100 psi (7.6 MPa)
- Shear Bond Strength ASTM C 882 (modified)**
- 3 days.....2,000 psi (14 MPa)
  - 7 days.....2,500 psi (17 MPa)
  - 4 days.....2,800 psi (19 MPa)
  - 28 days.....3,000 psi (21 MPa)
- Direct Tensile Bond (Germann Test)**
- 14 days.....350 psi (2.4 MPa)
  - 28 days.....425 psi (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
- \* Per ICRI Guideline 03740 'Data Sheet Protocol'

**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 50 lb (22.7 kg) moisture resistant bags and is also available in 3,300 lb (1,500 kg) bulk bags. Yield will vary according to the amount of water added during the shotcreting operation. Approximate yield is 0.42 ft<sup>3</sup> (0.012 m<sup>3</sup>) per 50 lb bag when mixed with 3 quarts (2.8 L) of water.

EUCOSHOT  
Silica Fume Modified Shotcrete

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## 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 prepared mechanically using a bushhammer, sandblaster or jackhammer which will give a surface profile of a minimum 1/8" (3 mm) and expose the coarse aggregate of the concrete. The final step in cleaning should be the complete removal of all residue by pressure washing.

**Exposed Reinforcement Steel:** Exposed rebar may be treated with an anti-corrosion coating such as CORR-BOND or EUCO #452 LV epoxy. Remove all loose rust and scaling, preferably by sandblasting to white metal prior to coating the rebar. For additional protection from future corrosion, install The Euclid Chemical Stentinel-GL galvanic anodes.

**Bonding:** No bond coat is required for this product.

**Mixing Dry Shotcrete/Gunite:** Set up dry process equipment in an area convenient to the placement site. Add EUCOSHOT powder directly to the gun. If dusting is objectionable, material may be pre-dampened prior to adding to gun. Gauge water at the nozzle and adjust to the desired consistency. **Note:** Wet process shotcrete may also be used. Wet process is not recommended for use with galvanic anodes.

**Placing Dry Shotcrete/Gunite:** In general EUCOSHOT should be applied in accordance with the recommendations of ACI 506R-05 "Guide to Shotcrete". Pay special attention to the angle of the application (i.e. 90°) and distance from the substrate, normally 2 ft (0.6 m) to 6 ft (1.8 m). Typical application depths range from 1/2" to 6" (12 to 150 mm). If placement at a depth greater than 6" (150 mm) is required, cross hatch the surface of the initial layer. After the surface has sufficiently hardened additional layers may be placed.

**Finishing:** Excess material should be removed with a sharp edged tool or screed. Finish the repair material to the desired texture to match the surrounding concrete. Do not add additional water to the surface during the finishing operation. If additional liquid is required, use EUCOBAR finishing aid.

**Curing and Sealing:** Proper curing procedures are important to ensure the durability and quality of the repair. To prevent surface cracking, cure the repair mortar with a high solids curing compound, such as SUPER AQUA-CURE VOX or SUPER REZ-SEAL. In hot, windy or direct sunlight situations, apply a second coat of curing compound after the initial coat is dry. If a curing compound is not desired, cover with polyethylene sheeting for a minimum of three days.

## 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 1000 psi (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 1/2" (13 mm).
- Minimum surface and ambient temperatures are 40°F (5°C) and rising at the time of application.
- For optimum results, condition material to 65°F to 85°F (18°C to 29°C).
- Store product in a dry place.
- Wet process shotcrete is not recommended for use with galvanic anodes.
- In all cases, consult the Material Safety Data Sheet before use.