SHOTCRETE

Master Format #: 03 37 13

EUCOSHOT

SILICA FUME MODIFIED SHOTCRETE MIX

EUCLID CHEMICAL

PACKAGING

50 lb (22.7 kg) bag
Code: 105 50

3,300 lb (1,500 kg) bulk bag
Code: 105 33

APPROXIMATE YIELD

50 lb (22.7 kg) unit: 0.42 ft³ (0.012 m³) per unit when placed per application instructions.

MINIMUM/MAXIMUM APPLICATION THICKNESS

Typically 1 to 6 inches (25 to 152 mm) per lift

CLEAN UP

Clean tools and equipment with water before the material hardens.

SHELF LIFE

1 year in original, unopened package

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.

PRODUCT CHARACTERISTICS

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

PRIMARY APPLICATIONS

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

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.

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Test Property	Values
ASTM C109 2″ (50 mm) cubes	Compressive Strength	1 day . . . . . .3500 psi (24 MPa) 3 days . . . . . .5000 psi (34 MPa) 7 days . . . . . .7000 psi (48 MPa) 28 days . . . . . .9500 psi (65 MPa)
ASTM C348M	Flexural Strength	1 day . . . . . 550 psi (3.8 MPa) 7 days . . . . . 775 psi (5.3 MPa) 28 days . . . . . .1100 psi (7.6 MPa)
ASTM C882M	Shear Bond Strength	3 days . . . . . .2000 psi (14 MPa) 7 days . . . . . .2500 psi (17 MPa) 14 days . . . . . .2800 psi (19 MPa) 28 days . . . . . .3000 psi (21 MPa)
Germann Test	Direct Tensile Bond	14 days . . . . . 350 psi (2.4 MPa) 28 days . . . . . 425 psi (2.9 MPa)
ASTM C157 50% RH	Length Change	2 days . . . . . .- 0.003% 7 days . . . . . .- 0.003% 14 days . . . . . .- 0.007% 21 days . . . . . .- 0.025% 28 days . . . . . .- 0.033%
ASTM C1202	Rapid Chloride Permeability	7 days . . . . . .4000 coulombs 14 days . . . . . .1600 coulombs 21 days . . . . . 975 coulombs 28 days . . . . . 575 coulombs
ASTM C666 Procedure A	Freeze/Thaw Resistance	300 cycles . . . . . .> 98% RDM
ASTM C672	Scaling Resistance	10 cycles . . . . . .0 20 cycles . . . . . .0 30 cycles . . . . . .0 50 cycles 0
	Volumetric Resistivity	11490 ohm-cm

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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. 90º) and distance from the substrate, normally 2 ft (0.6 m) to 6 ft (1.8 m). Typical application depths range from 1" to 6" (25 to 152 mm). If placement at a depth greater than 6" (152 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 [35 gal (132 L) of water per 3,300 lb (1500 kg)] bag of EUCOSHOT. Mix for 2 minutes and add remaining water up to 5 gal (18.9 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 curing compound such as KUREZ W VOX or KUREZ DR VOX.

PRECAUTIONS/LIMITATIONS

- 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 Safety Data Sheet before use.

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