HORIZONTAL REPAIR

Master Format #: 03 01 30.71

EUCOFLOOR 404

WEAR, IMPACT, AND ABRASION RESISTANT FLOOR TOPPING

EUCLID CHEMICAL

PACKAGING

50 lb (22.7 kg) bags
Code:
3,000 lb (1,361 kg) super sack
Code:

APPROXIMATE YIELD

One 50 lb (22.7 kg) bag of EUCOFLOOR 404 will yield 0.29 ft^3 (0.008 m^3), and will cover 1.75 ft^2 (0.16 m^2) at 2 inch (5.1 cm) depth.

MINIMUM/MAXIMUM APPLICATION THICKNESS

Neat: Minimum 1 inch (2.5 cm)

CLEAN UP

Clean tools and equipment with water before the material hardens.

SHELF LIFE

1 year in original, unopened package

DESCRIPTION

EUCOFLOOR 404 is an extremely durable floor topping for use in areas subject to heavy wear, impact, and abrasion such as tipping floors in waste transfer stations. EUCOFLOOR 404 utilizes a combination of high-strength hybrid paste along with a unique blend of natural quartz, calcined, and iron aggregates. The floor may be returned to high wear service as soon as 48 hours of topping placement at 70 °F (21 °C).

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- High wear, abrasion, and impact resistance
- High early strength for quick turnaround time

PRIMARY APPLICATIONS

- Waste transfer station tipping floors
- Industrial floors

SPECIFICATIONS/COMPLIANCES

A. Cementitious Metallic Topping:
Heavy-Duty iron aggregate topping shall be a pre-formulated specially processed and graded iron aggregate, calcined aggregate, and tested cement and other high performance proprietary complementary components. Product must attain a minimum strength of 10,000 psi (96 MPa) @ 7 days and 15,000 psi (124 MPa) @ 28 days.

"EUCOFLOOR 404".....The Euclid Chemical Co.

TECHNICAL INFORMATION

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

Test Method	Property	Control (6,000 psi Mix)	EucoFloor 404
ASTM C138	Unit Weight	150.0 lb/ft^3 (2,403 kg/m^3)	171.4 lb/ft^3 (2,746 kg/m^3)
ASTM C143	Slump	5" (12.7 cm)	10" (25.4 cm)
ASTM C403	Set Time	Initial: 4 to 5 hours Final: 6 to 7 hours	Initial: 3 to 4 hours Final: 4 to 5 hours
ASTM C39	Compressive Strength	1 day: 1,910 psi (13.2 MPa) 3 days: 3,980 psi (27.4 MPa) 7 days: 4,870 psi (33.6 MPa) 28 days: 6,360 psi (43.9 MPa) 90 days: 6,700 psi (46.2 MPa)	1 day: 8,500 psi (58.6 MPa) 3 days: 9,000 psi (62.1 MPa) 7 days: 11,500 psi (79.3 MPa) 28 days: 15,000 psi (103.4 MPa) 90 days: 16,000 psi (110.3 MPa)
ASTM C78	Flexural Strength	3 days: 540 psi (3.70 MPa) 7 days: 660 psi (4.55 MPa) 28 days: 780 psi (5.40 MPa) 90 days: 875 psi (6.05 MPa)	3 days: 1,300 psi (8.95 MPa) 7 days: 1,355 psi (9.35 MPa) 28 days: 1,475 psi (10.15 MPa) 90 days: 1,565 psi (10.80 MPa)
ASTM C1202	Rapid Chloride Permeability	28 days: 3,430 coulombs 90 days: 2,846 coulombs	28 days: 122 coulombs 90 days: 38 coulombs
ASTM C672	Salt Scaling	50 Cycles: loss of 2.222 lb/ft^2	50 Cycles: loss of 0.000 lb/ft^2
ASTM C642	Absorption After Immersion	3 days: 5.88% 28 days: 4.06%	3 days: 0.82% 28 days: 0.76%
ACI 544.2	Impact Resistance	3 days: 4 drops until cracking 28 days: 10 drops until cracking 90 days: 11 drops until cracking	3 days: 50 drops* 28 days: 50 drops* 90 days: 50 drops*
N/A	Chaplin Abrasion Resistance *(depth after 15 minutes)*	3 days: 0.030" (0.76 mm) 28 days: 0.022" (0.56 mm) 90 days: 0.022" (0.56 mm)	3 days: 0.009" (0.23 mm) 28 days: 0.007" (0.18 mm) 90 days: 0.002" (0.05 mm)
N/A	LA Abrasion Resistance *(Loss after 2,000 revolutions)*	3 days: 82.1% 28 days: 69.4% 90 days: 62.4%	3 days: 45.9% 28 days: 36.6% 90 days: 33.9%
ASTM C944	Abrasion Resistance *(depth after 6 minutes)*	3 days: 0.042" (1.07 mm) 28 days: 0.031" (0.79 mm) 90 days: 0.030" (0.76 mm)	3 days: 0.003" (0.08 mm) 28 days: 0.001" (0.03 mm) 90 days: 0.001" (0.03 mm)

*Specimens did not crack

DIRECTIONS FOR USE

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete, and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade (a heavy shotblast is strongly suggested) the surface to obtain a surface profile of 1/8 in. (3.2 mm) or equal to CSP 5 or higher in accordance with ICRI Guideline 310.2. Properly clean the profiled area. If the concrete is questionable (weak, punky, heavily contaminated, etc.), it is suggested that cores be taken and analyzed by a qualified petrographer for suggestions on proper surface preparation prior to the topping being placed.

Perimeter Keyway: At the termination point of the topping, feather-edging the material to meet the surrounding concrete is not acceptable. The topping needs to be secured around the perimeter of the placement by saw cutting or "keying" into the base slab. The keyway should be a minimum of 1 in. (2.5 cm) deep and ideally undercut back into the base concrete.

Priming: Apply properly mixed EUCOFLOOR EPOXY PRIMER (see product data sheet for mixing instructions) to the prepared concrete at a rate of 75 to 100 ft^2/gal (1.8 to 2.5 m^2/L) over a highly textured surface (coarse aggregate showing). Squeegee the epoxy into place, mechanically scrub the epoxy into the surface of the base concrete and then backroll to ensure a uniform application. Remove any puddles of epoxy that may occur. While the epoxy primer is still wet, broadcast a washed and dried silica sand (recommended 16/30 mesh gradation) until the surface is completely covered with sand and appears dry. If any of the sand looks damp, apply more sand to that area. Allow the epoxy to cure, preferably over night. After the epoxy has cured, remove all loose, un-bonded sand by sweeping and vacuuming prior to the topping application.
Note: The epoxy primer will form a vapor barrier on the surface. The moisture vapor transmission (MVT) rate of the base slab must be tested prior to application of the primer to ensure it is under an acceptable amount (3 lbs/1,000 ft^2/24 hour period).

Mixing: At least 24 hours prior to placement, condition all materials to the proper temperature range; between 55 to 85 °F (13 to 29 °C). The mixing water for EUCOFLOOR 404 is from 7.5% to 8.5% by weight. This equates to 27 to 30 gal (102 to 113 L) per bulk bag. Mix in a ready-mix truck for 7 to 10 minutes. For 50 lb (22.7 kg) bags, use 0.45 to 0.51 gal (1.7 to 1.9 L) per bag. Mix each bag in a pail with a drill and mortar mixing paddle for 2 to 3 minutes.

Placement: Flow the material onto the primed floor and move it into place with shovels and concrete rakes. Use of a light-duty vibratory or roller screed for large placements is necessary. Immediately after screeding, apply a coat of diluted EUCOBAR evaporation retarder (see product data sheet). This will reduce evaporation and aid in floating. Once the material is in place, float the surface to a smooth finish.
Note: EUCOFLOOR 404 can NOT be given a hard steel finish. Once the material has sufficiently cured, saw cut it accordingly. Joints in the underlying substrate must be honored up through the topping.

Curing: Immediately after floating, cure EUCOFLOOR 404 with a high solids curing compound, such as SUPER DIAMOND CLEAR VOX at a rate of 200 to 250 ft^2/gal (4.9 to 6.1 m^2/L). After the EUCOFLOOR 404 with curing compound has dried and set sufficiently enough to walk on, wet the surface with water and cover with plastic sheeting or curing blankets for a duration of 2 to 5 days.

PRECAUTIONS/LIMITATIONS

- Do not add or subtract from the total amount of mixing water.
- The final finish of EUCOFLOOR 404 is slightly textured. This material can not be given a hard steel trowel finish.
- Always use good concrete practices in hot & cold weather per ACI guidelines.
- In all cases, consult the Material Safety Data Sheet before use.