GROUTS

Master Format #: 03 62 13

EUCO RAPID GROUT

RAPID-SETTING, FLOWABLE, NON-SHRINK GROUT

EUCLID CHEMICAL

PACKAGING

50 lb (22.7 kg) pails
Code: 088ERG 05

APPROXIMATE YIELD

50 lb (22.7 kg) unit: 0.45 ft³ (0.013 m³) per unit when mixed with 1.2 gal (4.5 L) of potable water.

50 lb (22.7 kg) unit: 0.48 ft³ (0.014 m³) per unit when mixed with 1.4 gal (5.7 L) of potable water.

CLEAN UP

Clean tools and equipment with water before the material hardens.

SHELF LIFE

1 year in original, unopened package

SPECIFICATIONS AND COMPLIANCES

- ASTM C1107, "Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)"
- CRD-C 621, Corps of Engineers Specification for Non-Shrink Grout
- Formerly known as Euco Rock

DESCRIPTION

EUCO RAPID GROUT is a non-shrink grout designed for structural grouting and anchoring applications. EUCO RAPID GROUT sets rapidly and quickly achieves load bearing and bond strength properties, containing only natural aggregate and expansive cementitious binder. EUCO RAPID GROUT may be used at lower temperatures down to 35 °F (2 °C).

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- Fast and controlled set
- May be placed down to 35 °F (2 °C)
- Non-shrink with minimum positive expansion for high-tolerance performance
- Does not contain any added chloride ions or metallic aggregate
- High early strengths

PRIMARY APPLICATIONS

- Interior and exterior applications
- Column baseplates
- Grouting structural steel
- Grouting precast concrete
- Machine bases
- Anchoring bolts in concrete slabs
- Hand rails & posts
- Reinforcing rods

APPEARANCE

EUCO RAPID GROUT is a free flowing powder designed to be mixed with water. After mixing and placing, the product color may initially appear darker than the surrounding concrete. This color will lighten substantially as it cures and dries out.

TECHNICAL INFORMATION

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

Test Method	Test Property	Values at 35 °F (2 °C)	Values at 70 °F (21 °C)
	Working Time	5 - 20 minutes	5 - 15 minutes
ASTM C191	Time of Setting	Initial Set: 22 minutes Final Set: 34 minutes	Initial Set: 16 minutes Final Set: 21 minutes
ASTM C109M* 2 in (50 mm) cubes	Compressive Strength	3 hours: 400 psi (2.8 MPa) 8 hours: 500 psi (3.4 MPa) 1 day: 1,000 psi (6.9 MPa) 3 days: 3,500 psi (24.1 MPa) 7 days: 5,000 psi (34.5 MPa) 28 days: 7,000 psi (48.3 MPa)	3 hours: 2,800 psi (19.3 MPa) 8 hours: 3,000 psi (20.7 MPa) 1 day: 4,500 psi (31.0 MPa) 3 days: 5,500 psi (34.5 MPa) 7 days: 6,000 psi (41.4 MPa) 28 days: 7,000 psi (48.3 MPa)
ASTM C939	Consistency by Flow Cone	-	Fluid: 29.1 seconds
ASTM C1437	Consistency %	-	Flowable: 100 to 125%
ASTM C138	Density	124.4 lbs/ft^3 (1,992.7 kg/m^3)	127.8 lbs/ft^3 (2,047.2 kg/m^3)
ASTM C882	Slant Shear Bond Strength	28 days: 1,060 psi (7.3 MPa)	1 day: 1,100 psi (7.6 MPa) 7 days: 1,300 psi (9.0 MPa) 28 days: 2,100 psi (14.5 MPa)
ASTM C827	Early Height Change	0.38% Change at Final Set	0.08% Change at Final Set
ASTM C1090	Hardened Height Change (% Change)	1 day: +0.000% 3 days: +0.004% 7 days: +0.006% 14 day: +0.006% 28 days: +0.006% 56 days: +0.008%	1 day: +0.000% 3 days: +0.004% 7 days: +0.023% 14 day: +0.042% 28 days: +0.050% 56 days: +0.052%
ASTM C1339	Bearing Surface at 24 hours	High: > 85%	High: > 85%

*Modified per ASTM C1107 Section 11.5
Rate of strength gain is significantly affected at temperature extremes.

DIRECTIONS FOR USE

Note: The contractor and engineer are encouraged to consult and review the Euclid Chemical bulletin: "Cementitious Grout Application Guide". The document offers instructions detailing the general installation of Euclid Chemical manufactured cement-based grout products. Important: If the contractor is not familiar with standard grout placement techniques, a pre-job meeting is suggested to review the project details unique to the particular job. Contact your local Euclid Chemical representative for additional information.

Mixing and Placing: EUCO RAPID GROUT can be easily mixed with a high shear mixer and mixing prop, careful not to whip in too much air. Mix 50 lbs. (22.7 kg) of EUCO RAPID GROUT with 1.3 to 1.4 gallons (4.9 to 5.3 L) of water for 1 minute to a smooth, lump-free consistency.

Structural Grouting: Place EUCO RAPID GROUT in thicknesses from 1" to 3" (2.5 to 7.6 cm). Note that the water demand to achieve a certain flow level of the grout will change. Once the correct amount of water has been added to a clean mixing pail, mix the grout with a high shear mixer and mixing paddle for 1 minute. Quickly transport the grout to the placement area.

See the "Cementitious Grout Application Guide" for installation means and methods.

Mixing Water Guide: gal (L)/50 lb (22.7 kg) unit

Consistency	Estimated Water Content, 50 lb (22.7 kg) unit*
Fluid	1.3 to 1.4 gal (4.9 to 5.3 L)
Flowable	1.1 to 1.2 gal (4.2 to 4.5 L)

**Do not add water in an amount that will cause bleeding or segregation. More or less water may be required to achieve a 25 second flow or the desired placing consistency, depending on temperature and other variables. Do not add sand or cement to the grout since this action will change its precision grouting characteristics.*

Anchor Hole Preparation: Drill hole with a carbide tipped drill bit (diamond drill bits not recommended). Remove any standing water from the space to be grouted prior to beginning the cleaning process. Blow the hole using oil free compressed air two times by inserting the air wand to the bottom of the hole and blow out any debris with an up/down motion. Using a wire tubed brush, drill the hole rotating 4 times with an up/down motion to clean the hole and remove dust from the sides and bottom (oversized wire bottle brush is recommended). Repeat blowing the hole with oil free compressed air two more times in the same up/down motion to clean out all remaining debris. Visually inspect the hole to confirm it is clean. If installation will be delayed for any reason, protect the hole from weather and construction debris until ready to grout. If hole gets contaminated with debris, repeat the entire hole preparation cleaning procedure.

Saturation: Saturate the hole for a minimum of one hour before grouting. Again, remove all free standing water before placing EUCO RAPID GROUT.

Anchoring Applications: Place EUCO RAPID GROUT in thicknesses from 1/2" to 1" (1.3 to 2.5 cm) of annular space. When anchoring bolts, posts or rails in concrete or masonry, mix EUCO RAPID GROUT to a pourable consistency with 1.3 to 1.4 gal (4.9 to 5.3 L) and pour around the bolt and fill the hole. Crown the cement slightly with a trowel or putty knife as it stiffens. When anchoring on a horizontal surface, mix EUCO RAPID GROUT to a plastic consistency and fill the pre-dampened, clean hole. Drive the anchor into place and finish surface with a trowel.

PRECAUTIONS/LIMITATIONS

- Store materials in a dry place.
- Do not re-temper grout with more water.
- Do not add sufficient water to promote bleeding of the grout.
- Use only potable water for mixing, and do not add admixtures or fluidifiers.
- Do not use this product at a flow cone rate of less than 20 seconds if checking flow rates on the job site (see CRD-C 611 or ASTM C939 for flow cone method).
- EUCO RAPID GROUT may be used down to 35 °F (2 °C). The material must be stored at a room temperature of 60 to 70 °F (16 to 21 °C) for at least 24 hours prior to use. Maximum temperature during application is 85 °F (29 °C)
- Place material quickly due to fast set.
- Do not use material at temperatures that may cause premature freezing.
- Keep the grout from freezing until a minimum strength of 3000 psi (21 MPa) is reached.
- When necessary, follow the recommendations in ACI 305R "Guide to Hot Weather Concreting" or ACI 306R "Guide to Cold Weather Concreting".
- Do not use EUCO RAPID GROUT as an anchoring grout for rock bolts. Consult your local Euclid Chemical representative for information on grouting rock bolts.
- Proper curing is required.
- In all cases, consult the Safety Data Sheet before use.

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