



TuffGrout™ 1107

Precision Non-shrink, Non-metallic grouting

1.01 DESCRIPTION

TuffGrout™ 1107 is formulated for a wide variety of grouting applications, from plastic to fluid through a controlled, positive expansion. Designed to provide effective load bearing for high flow precision grouting applications. Please use the correct product grade that complies with VOC regulations as per federal, state, county and city regulations/codes at the place of installation of product.

1.02 USES

- Beams
- Bearing Pads, Keyway Joints, and Crane Rails
- Columns
- Curtain Walls
- Grouting Machinery, Equipment, and Base Plates
- Precast Panels
- Rebar, Bolts, Dowels, and Pins
- Sole Plates

1.03 FEATURES

- Chemical Resistant Bonding
- Exceptional One Day and Ultimate Compressive
- Extremely Durable Bonds
- Fast Setting
- Minimal Shrinkage Upon Cure
- Pre-Measured Packaging Of Components
- Substantial Cost Savings Over New Concrete
- Very Low Viscosity

1.04 TECHNICAL DATA

Corp of Engineers CRD-C-621 Grade A, B & C. ASTM C-1107 Grade A, B & C (formerly known as CRDC-621)

1.05 COLOR

Concrete

1.06 PACKAGING

50 lbs (22.7 kgs) multiple-plastic-lined bags

1.07 COVERAGE

50 lbs (22.7 kgs) multiple-plastic-lined bag will yield approximately 0.45 cuft (0.012 cum) in a fluid condition. 50% by weight extension (25 lbs or 11.34 kgs) of 3/8" (0.96 cm) pea stone will yield approximately 0.59 cuft (0.0167 cum).

1.08 PREPARATION

Remove all dirt, oil, and loose or foreign material. Any metal in contact with TuffGrout™ 1107 must be free of rust, oil, grease, and other foreign matter which would limit bond. Concrete surface must be sound and roughened to ensure proper bonding. Prior to placing TuffGrout™ 1107, the surface must be saturated surface dry (SSD), if possible for an hour. Remove all excess water before placement of grout. Bolts,

base plates and equipment must be secure and rigid before placement of TuffGrout™ 1107. All materials and surfaces in contact with the grout should be conditioned between 50-80°F (10-26.66°C) for proper performance. Provide heating or cooling, as necessary, to compensate for temperature extremes and changes in cure time.

Forms: Allow for the continuous placement of TuffGrout™ 1107. Provisions for venting to avoid air entrapment must be made. Placing from one side, provide a 45° angle in the forms to a height suitable to provide a head of grout during placement. On all sides, provide a minimum 1" (2.54 cm) horizontal clearance between the base plate and forms. Forms should be at least 1" (2.54 cm) higher than the bottom of the base plate.

1.09 MIXING

Small quantities of TuffGrout™ 1107 may be hand mixed in a concrete mixing pan until lump free. For large quantities and continuous pours, mix using a mortar mixer with rubber tipped blades or appropriate grout pump for a minimum of 5 minutes. Start with minimum water requirements. Always add water to mixer first, then slowly add powder. Use only the amount of water required for the desired placement consistency. Mix in two steps: Add 2/3 of the water, add grout, after partial mixing add the remaining 1/3 of the water for desired consistency. Thoroughly mix total quantity for an additional 2 to 3 minutes. Do not mix more than can be placed before in 40 minutes.

1.10 APPLICATION

Place continuously and quickly. Start from one side to avoid air entrapment. Be sure TuffGrout™ 1107 fills spaces and remains in contact with the plate. DO NOT VIBRATE. A minimum of 1" (2.48 cm) vertical clearance should be maintained for base plate grouting applications. Thinner vertical clearances may require the use of another type of grout.

Deep application: Pre-washed and graded 3/8" (0.96 cm) pea gravel should be used in large applications (greater than 1' x 1' or 30.4 cm x 30.4 cm) and thicker than 3" (7.62 cm) as follows:

3"-5" (7.62-12.7 cm): Add 25% of 3/8" (0.96 cm) pea gravel per 50 lbs (22.68 kgs) bag of grout.

5" (12.7 cm) and over: Add 50% of 3/8" (0.96 cm) pea gravel per 50 lbs (22.68 kgs) bag of grout. Place in 6" (15.24 cm) lifts with proper reinforcement.

1.11 CURING

Immediately cover with clean, wet rags and keep moist until final set. After final set, remove rags and apply an ASTM-C-309 curing compound, such as **TuffCure WB™**.

SPECIAL CONDITIONS:

Hot weather conditions: Accelerates setting time and causes premature drying of the grout. Keep the grout cool. Store unopened bags in the shade. Provide shade for the area to be grouted. Use cool or chilled mixing water. Protect grout from direct sun exposure for up to 24 hours after grouting. For additional information, refer to ACI 305 (Recommended Practices for Hot Weather Concreting).

Cold weather conditions: Retards strength gain and set time. Warm the grout above 50°F (10°C). Raise the temperature of the area to be grouted with space heaters or steam. Warm the mixing water. Cover and insulate the grout to retain warmth. The minimum temperature (ambient, substrate, and grout) for grouting is 40°F (5°C) unless special provisions are followed. For additional information, refer to ACI 306 (Recommended Practices for Cold Weather Concreting).

1.12 CLEAN UP

Tools and Equipment: Clean with water or PSI's **EnviroClean™**.

1.13 STORAGE AND SHELF LIFE

The material should be stored between 40–95°F (4–35°C) in a cool, dry area away from direct sunlight. The shelf life of properly stored, unopened containers is 12 months from date of manufacture. An excessive temperature differential and/or high humidity can shorten the shelf life expectancy.

1.14 LIMITATIONS

DO NOT place at temperatures below 40°F (5°C) unless special provisions are followed. At low temperatures, water requirement should be field tested. When nearby equipment causes vibration of the grout, during the set, such equipment should be shut down for a period of 24 hours. DO NOT mix over 5 minutes. DO NOT over water; this can cause bleeding or separation. DO NOT retemper. DO NOT add cement, sand, or admixtures. Avoid hazards by following all precautions found in the Safety Data Sheets (SDS), product labels, and technical literature. Do not dilute. Wear protective gloves and goggles. Avoid prolonged skin contact.

READ SDS PRIOR TO USING PRODUCT. KEEP OUT OF THE REACH OF CHILDREN.

1.15 PHYSICALS

Volume Change (Fluid) Early Height Change ASTM C-827	+ .35%
Hardened Height Change ASTM C-1090	0%
Tensile Strength (Fluid) ASTM C-496 28 Days	610 psi (4.20 MPa)
Flexural Strength (Fluid) ASTM C-78 24 hours	550 psi (3.79 MPa)
Bond Strength (Fluid) (Modified) ASTM C-882	2000 psi (13.78 MPa)

	Plastic		Flowable		Fluid	
Water per 50 lbs	3.0-3.5 quarts	2.83- 3.31 liters	4-4.5 quarts	3.79-4.25 liters	4.25-4.5 quarts	4.02-4.25 liters
Comprehensive Strength ASTM C-109						
1 Day	5,900 psi	40 MPa	5,400 psi	37 MPa	2,200 psi	15 MPa
14 Days	9,000 psi	62 MPa	8,700 psi	59 MPa	8,550 psi	59 MPa
28 Days	12,000 psi	82 MPa	9,200 psi	63 MPa	11,000 psi	76 MPa
Note: The data shown is based on controlled laboratory testing. Reasonable variation from test results shown can be expected. Field and laboratory testing should be controlled on the basis of the desired placing consistency, rather than strictly on water content.						

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

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