

# Solid base to build on.

## Precision Grout

Hilti Precision Grout is a Buy American-compliant, non-shrink, non-metallic, high performance, cementitious precision grout for use in virtually all applications where high strength combined with high fluidity is required. This specially formulated grout expands at a controlled rate providing maximum load bearing coverage. Hilti Precision Grout meets the performance requirements of ASTM-C 1107 and Corps of Engineers CRD-C621 specification.



### Order Information

Description	Package Contents	Qty	Item No.
Precision Grout	50 lb. bucket	1	03489348
Precision Grout	50 lb. bag; pallet	50	03489347
Precision Grout	50 lb. bag; 5 pallets of 50	250	03489376
Precision Grout	50 lb. bag; 17 pallets of 50 (FTL)	850	03489377

Technical Data	Precision Grout			
	Aspect	Plastic	Flowable	Fluid
<b>Flow conditions</b>				
<b>Water requirements</b>	per 50 lb. unit	3.75 qts.	4.00 qts.	4.75 qts.
<b>Compressive strength, psi (MPa) (ASTM C 109)</b>	1 day	6,500	5,500	3,750
	3 days	7,500	7,100	6,000
	7 days	9,500	9,000	7,500
	28 days	11,000	10,500	9,500
<b>Setting time (ASTM C 191)</b>	Initial	5 Hrs 30 Min	5 Hrs 45 Min	6 Hrs 45 Min
	Final	6 Hrs 05 Min	6 Hrs 35 Min	7 Hrs 45 Min
<b>Expansion (ASTM C 1090)</b>	3 days	0.01%	0.02%	0.02%
	28 days	0.01%	0.02%	0.02%
<b>Yield, 65 lb. (29.5 kg)</b>	<ul style="list-style-type: none"> <li>One 50 lb. (22.7 kg) bag yields approximately 0.42 ft<sup>3</sup> (0.012 m<sup>3</sup>) at 4.75 qts. (4.5 L) of water</li> <li>One 50 lb. (22.7 kg) bag extended with 25 lbs. (11.3 kg) of washed pea gravel, 3/8" (9 mm) yields approximately 0.58 ft<sup>3</sup> (0.016 m<sup>3</sup>) at 4.75 qts. (4.5 L) of water</li> </ul>			
<b>Packaging</b>	50 lb. (22.7 kg) moisture resistant bag or 50 lb. (22.7 kg) pail			
<b>Shelf life</b>	12 months from date of manufacture when stored in original unopened container			

The data shown above reflect typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

### Application Instructions

Read product instructions and MSDS before use.

#### Preparation

The surfaces to be grouted must be solid, clean and free from oil, grease and other contaminants that may act as a bond breaker. Remove all loose material and laitance. Concrete surfaces must be sound and roughened to obtain proper bond. Prior to grouting, areas should be saturated to an SSD (saturated surface-dry) condition with water after which all excess water is removed. The grout and the affected grouting area should be kept between 40°F and 95°F (4°C and 35°C) and shaded from direct sunlight until fully cured. For application temperatures outside this range please refer to ACI 305 for hot weather and ACI 306 for cold weather application advice or contact Hilti. Set times and strength developments are dependent on temperature. Hot temperatures will accelerate the setting process of the grout while cold temperatures will have a retarding effect. All metal components to be in contact with grout must be free of rust, paint, or oils.

#### Formwork

The formwork must provide rapid, continuous grout placement and needs to retain grout without leakage. For baseplates, forms should be at least 1" (2.54 cm) higher than the bottom of the baseplate. Please refer to: ACI 351. The clearance between formwork and baseplate shall be sufficient to allow for a headbox. The clearance for remaining sides shall be one to three inches (25 to 75 mm).

#### Mixing

An optimal, homogeneous mix can only be achieved by means of mechanical mixing. For small quantities up to the size of a single bag a low speed drill (400-600 rpm) and paddle mixer is acceptable. For large quantities and continuous pours a mortar mixer or grout pump is recommended.

Place 3/4 of the required mixing water into the mixer, start the mixer and then slowly add the grout. After all the powder has been added put in the remaining 1/4 water necessary to achieve the desired consistency and continue mixing. For applications greater than 3" (76 mm) in thickness, up to 50% by weight of clean, washed and dried 3/8" (9 mm) pea gravel may be added.

Thoroughly mix for a minimum of 5 minutes until a lump free, uniform consistency is achieved.

#### Water requirements:

Consistency Amount per 50 lb. (22.7 kg) bag	
Dry Pack	2.80 qts. (2.6 L) clean potable water
Plastic	3.75 qts. (3.5 L) clean potable water
Flowable	4.00 qts. (3.8 L) clean potable water
Fluid	4.75 qts. (4.5 L) clean potable water

#### Application

Immediately after mixing place grout into the form, pouring from one side and allowing it to flow to the opposite and adjacent sides thereby avoiding air entrapment. Provide vent holes where needed to prevent air entrapment. Compaction can be achieved by rodding,

### Advantages

- Conforms to ASTM C-1107 and CRD C-621
- High early and ultimate strengths
- High flow capability
- Positive expansion, non-shrink
- Precision alignment
- Non-metallic, non-corrosive
- Contains no chlorides or other salts
- Pumpable
- Excellent freeze / thaw resistance

### Purposes and Uses

- Structural grouting of baseplates, columns, beams, precast concrete, crane rails, bridge seats, dowels, etc.
- Grouting of machinery and equipment with high load requirements
- Applications where early commissioning and quick job start up are required while providing high early compressive strength development

chaining or light vibration.

Minimum application thickness per pour: 1/2" (13 mm)  
Maximum application thickness per pour, unextended: 3" (76 mm)

Maximum application thickness per pour, with extension of pea gravel, 3/8" (9 mm) by 50% by weight: 10" (254 mm)

#### Finishing

Forms may be removed after the grout has hardened to an initial set and is completely self-supporting. This time period will vary according to temperature. When grouting at higher temperatures, shade the area to be grouted and prevent rapid water loss by covering the exposed grout surfaces with wet burlap during the first 48 hours or apply an acceptable water based cure and seal agent.

For placement and curing please also refer to: ACI 351.

#### Clean-up

Clean equipment with water and detergent immediately after use.

#### Storage

Always keep in cool dry place unexposed to sunlight.

#### Limitations

- Do not use if the bag is damaged
- Do not re-temper after mixing
- Do not over water or add other cements or additives

**Hilti. Outperform. Outlast.**