

# GROUT TESTING

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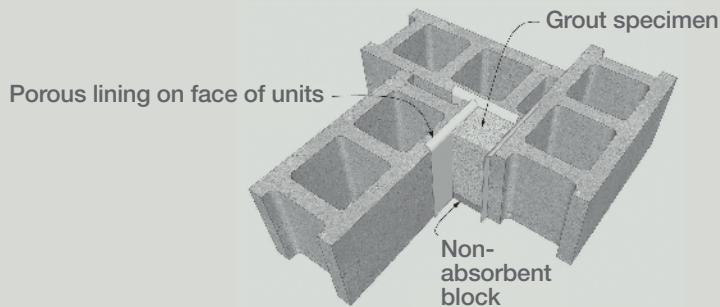
Grout is not concrete.  
It has its own standards for testing.

ASTM C1019 covers sampling and testing of masonry grout, both in the laboratory and in the field. Lab tests are performed to establish material proportions for compliance with project specifications. Field tests are done to monitor uniformity of grout during construction for quality assurance.

The methods prescribed in C1019 are rather painstaking because they're designed to produce grout specimens that reflect the absorption of moisture by masonry units.

**Grout Testing Tip**

Each test requires three grout specimens, which are formed in molds constructed of masonry units of the same type and moisture condition as those being used in the wall.



**Note:** Front masonry unit not shown to allow view of specimen.

The latest version of C1019 mentions other techniques for obtaining grout specimens, including the use of slotted corrugated cardboard grout boxes made for the purpose. Be aware that samples formed in these boxes can be used for job-site quality assurance testing, but are not acceptable for compliance testing.

Field sampling requires coordinated efforts between the field and laboratory. Make sure if the samples are being prepared by the testing lab or by the contractor that the procedures in the standard are followed carefully, especially while curing the specimens, to ensure valid test results.

## Grout Testing Checklist

These steps roughly outline the test sequence, but you should refer to the standard itself for important details.

- Select a level location, protected from traffic and vibration, where the molds can remain undisturbed for 48 hours.
- Form the mold cross section with units.
- Place a nonabsorbent block at the bottom of the space.
- Line units with absorbent material.
- Brace the units to prevent displacement during grouting and curing.
- Fill the mold in two approximately equal layers.
- Rod each layer 15 times.
- Overfill the mold and rod the second layer ½ inch into the lower layer.
- Strike off to produce a flat surface.
- Cover immediately with damp material.
- Keep the top surface damp and the specimens undisturbed.
- Within 30 minutes, add grout and strike off to a level surface.
- Cover the specimen and keep it damp.
- Store with an indicating maximum-minimum thermometer and record maximum and minimum temperatures.
- Remove molds between 24 and 48 hours after production.
- Within 30 minutes after removing molds, place grout specimens in a protective container and keep them damp.
- Transport to the lab within 8 hours after mold removal.
- Place in a moist room, cabinet or water tank per ASTM C 511.
- Store until the day of testing.
- Cap, measure and test the specimens.
- Report the results.



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