

CMU Walls and Foundations

The Transylvania County Building department wants to remind you as General Contractor are responsible for compliance with all applicable building codes. A code compliant foundation is a critical part of a building. The following excerpts are directly from the code and are areas that the Building Department wants to remind you of. This list is not all code sections you are responsible for.

R404.1.2.1 Masonry foundation walls

TABLE R404.1.1(2) 8-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 5$ INCHES

TABLE R404.1.1(3) 10-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 6.75$ INCHES

TABLE R404.1.1(4) 12-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 8.75$ INCHES

Vertical reinforcement shall be Grade 60 minimum. The distance, d , from the face of the soil side of the wall to the center of vertical reinforcement.

R606.2.11 Grout. Grout shall consist of cementitious material and aggregate in accordance with ASTM C476 or the proportion specifications of Table R606.2.11. **TABLE R606.2.11 GROUT PROPORTIONS BY VOLUME FOR MASONRY CONSTRUCTION** Fine grout contains sand smaller than $\frac{3}{8}$ in. (9.5 mm) as its only aggregate, while coarse grout allows pea gravel smaller than $\frac{1}{2}$ in. (13 mm), or other acceptable aggregate, in addition to the sand.

Type M or Type S mortar to which sufficient water has been added to produce pouring consistency shall be permitted to be used as grout.

R606.3.5 Grouting requirements.

R606.3.5.1 Grout placement. Grout shall be a plastic mix suitable for pumping without segregation of the constituents and shall be mixed thoroughly. Grout shall be placed by pumping or by an approved alternate method and shall be placed before any initial set occurs and not more than 1½ hours after water has been added. Grout shall be consolidated by puddling or mechanical vibrating during placing and reconsolidated after excess moisture has been absorbed but before plasticity is lost. Grout shall not be pumped through aluminum pipes.

Maximum pour heights and the minimum dimensions of spaces provided for grout placement shall conform to Table R606.3.5.1. Grout shall be poured in lifts of 8-foot (2438 mm) maximum height. Where a total grout pour exceeds 8 feet (2438 mm) in height, the grout shall be placed in lifts not exceeding 64 inches

(1626 mm) and special inspection during grouting shall be required. If the work is stopped for 1 hour or longer, the horizontal construction joints shall be formed by stopping all tiers at the same elevation and with the grout 1 inch (25 mm) below the top.

R606.3.5.2 Cleanouts. Provisions shall be made for cleaning the space to be grouted. Mortar that projects more than $\frac{1}{2}$ inch (12.7 mm) into the grout space and any other foreign matter shall be removed from the grout space prior to inspection and grouting. Where required by the building official, cleanouts shall be provided in the bottom course of masonry for each grout pour where the grout pour height exceeds 64 inches (1626 mm). In solid grouted masonry, cleanouts shall be spaced horizontally not more than 32 inches (813 mm) on center. The cleanouts shall be sealed before grouting and after inspection.

R606.3.5.3 Construction. Requirements for grouted masonry construction shall be as follows:

1. Masonry shall be built to preserve the unobstructed vertical continuity of the cells or spaces to be filled. In partially grouted construction, cross webs forming cells to be filled shall be fullbedded in mortar to prevent leakage of grout. Head and end joints shall be solidly filled with mortar for a distance in from the face of the wall or unit not less than the thickness of the longitudinal face shells.
2. Vertical reinforcement shall be held in position at top and bottom and at intervals not exceeding 200 diameters of the reinforcement.
3. Cells containing reinforcement shall be filled solidly with grout.
4. The thickness of grout or mortar between masonry units and reinforcement shall be not less than $\frac{1}{4}$ inch (6.4 mm), except that $\frac{1}{4}$ -inch (6.4 mm) bars shall be permitted to be laid in horizontal mortar joints not less than $\frac{1}{2}$ inch (12.7 mm) thick, and steel wire reinforcement shall be permitted to be laid in horizontal mortar joints not less than twice the thickness of the wire diameter.