SPECIFIED COMpressive strength of concrete masonry, \( f'm \) (psi)

BULLETIN

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This Bulletin serves to remind whoever is placing the order for concrete masonry units to first review the contract documents (drawings and specifications) to see what the designer (typically, the structural engineer) has specified for \( f'm \) and mortar type.

For years, designers have been specifying an \( f'_m \) equal to 1500 psi with Type S mortar using the unit strength method. According to the Code this would require a block compressive strength of 1900 psi.

Recently on projects, some designers are now specifying a higher \( f'_m \), i.e., 2000 psi, 2500 psi and 3000 psi with Type S mortar. According to the Code this would require a block compressive strength of 2800 psi, 3750 psi and 4800 psi, respectively.

Some of the benefits for specifying the increased strength are less grout required for partially grouted walls, less reinforcement required for walls, and reinforcement lap lengths reduced. In fact, a recent article in the Masonry Edge/the Story Pole, Vol. 7, No. 1, Embodied Energy of Concrete Masonry, David Biggs, PE, SE, Dist M ASCE, HTMS, pages 12-15, states; “In each case, upgrading \( f'm \) from 1500 psi to 2000 psi reduces the amount of grout and reinforcement by 50% for partially grouted walls…”

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