Masonry in Hawaii

Technical Bulletin

May 2007

The general contractor wants me to brace the masonry wall which I recently grouted. Do current building codes require this for the masonry contractor? (I was never asked to do this previously)

Until recently, there were no uniform guidelines for wall stability until the development of the Standard Practice for Bracing Masonry Walls During Construction was developed by the Council for Masonry Wall Bracing (July 2001). The responsibility was placed on the erecting contractor to provide a reasonable level of life safety for workers during construction.

This standard only addresses strategies to resist the lateral loading effects of wind during construction. When other lateral loads like impact, seismic, scaffolding, and lateral earth pressure are present, they need to be considered and evaluated separately.

Recognizing that it would be impractical to prevent the collapse of a masonry wall during construction when subject to extreme load conditions, the wall and area around it is evacuated at prescribed 5 second wind gust measured at the jobsite.

In the initial period where the masonry is being laid above its base or highest line of bracing limited to a maximum of one working day, the mortar is assumed to have no strength and wall stability is accomplished from its self weight only. By reviewing TEK 3-4B (Table 1), the contractor is able to determine at what height he can build up to without having to brace the wall for wind speed not exceeding 35 mph. (In Hawaii we are able to go to 12 ft high for an 8 inch cmu block)

After the wall is built up but before the wall is connected to the elements that provide its final lateral support, the code allows for several methods of providing an acceptable level of safety for masons and others working at the jobsite. These include an early warning & evacuation program, (2) bracing to a designed wind speed of 40 mph, and (3) alternative bracing design and methods approved by a registered engineer.

Research has shown that for CMU reinforced with properly designed splices can achieve up to 75% of the specified yield stress at 12 hours and 100% at 24 hours. By grouting reinforced CMU, the masons may be able to build without having to place wall bracing.

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