



SPLICING OPTIONS FOR MASONRY REINFORCEMENT

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There are several ways to achieve the required strength in a wall. Designer and contractor should work together to get the most buildable option.

Steel reinforcement increases reinforced masonry's strength in tension. Placed vertically (and possibly horizontally) and firmly embedded in grout, the steel helps the masonry resist seismic forces, wind and other lateral loads.

Where issues of availability or constructability make it impractical to install a single continuous reinforcing bar for the full length required, lap splicing of bars typically provides the needed continuity.

Splicing Options for Masonry Reinforcement Tip

Traditional design guidelines for lap splicing are somewhat simplistic and, under some loading conditions, not conservative enough. As design formulas and building code requirements evolve, there may be differences between the Masonry Standards Joint Committee (MSJC) Code, the International Building Code (IBC), and state or local code adoptions. Contractors can make suggestions, but it is the designer's responsibility to consult the applicable requirements and show lap lengths and locations on the project documents.

In general, the new formulas result in increased lap lengths for larger reinforcing bars, and for assemblies that allow less grout cover, multiple bars in a cell or for lower-strength masonry units. When using the newer formulas, reinforcement options that may reduce lap splice lengths, depending on local practices and available materials, include:

- Smaller diameter reinforcing bars spaced more closely together
- Higher strength units to increase the masonry's compressive strength
- Higher grout pours to minimize the splices needed
- Other connectors (permitted by code and usually more expensive)

Each of these options has advantages and disadvantages. A good way to decide is for designers to consult with local mason contractors and cost out alternative reinforcement schemes.