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Topic: Rebar Lap Splicing

Question:

How do you calculate correct rebar lap splicing to meet code?

Answer:

The IBC 2006 adopted MSJC 2005 by reference; however they decided to keep the previous lap lengths of 48 bar diameters. ...that engineers may have the option of using MSJC 2005 for their design lap lengths. Depending on the f'm the lap lengths can be shorter particularly in the smaller bar sizes. ...Footnotes (1) & (2) represent comments in the IBC code. (1) instructs the engineer on additional lap requirements in areas of high stress, (2) addresses the requirements for epoxy coated rebar. Footnote (3) assumes the bars are spaced at least 8" on center if the bars are closer the table will need to be adjusted. All bars are centered in the wall, if the bars are designed off center the table will need to be adjusted. The f'm is a variable that may be changed to meet your project requirements. The IBC 2009 has adopted MSJC 2008 including the lap lengths. These laps match the MSJC 2005 requirements so the MSJC laps should be what we see in the future.

Below is a lap splice spreadsheet, provided by Kelly Walker of the Masonry Institute of Michigan, which has been updated for IBC 2006 as adopted in MBC 2006. Also below, are the MSJC 2005 laps.

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With Support From:
MASONRY Institute of Michigan

Supporting Documents:

Required Lap Length of Bars in Inches

Click here for document

8" & 12" CMU
(Bar in center – rebar sizes #3-#8)

Click here for document

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