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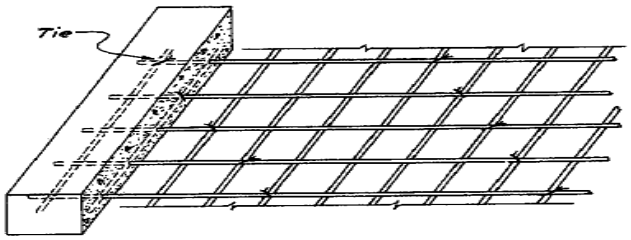
General Principles of Tying Reinforcing Bars

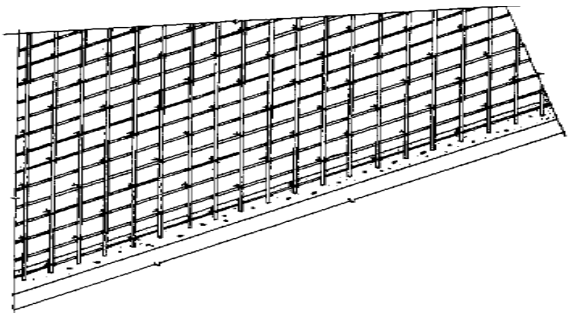
Strange as it may seem, the ASCC Hotline still gets calls from contractors who ask for assistance in educating an inspector who says all reinforcing bars must be tied at every intersection. It is unclear as to why this inspector's perception exists, but fortunately the Concrete Reinforcing Steel Institute (CRSI) handles this subject very well in their publication: *Placing Reinforcing Bars*. The publication states in bold: "**It is not necessary to tie reinforcing bars at every intersection. Tying adds nothing to the strength of the finished structure**".

CRSI further states that in most cases, tying every fourth or fifth intersection is sufficient. The publication includes three examples as shown below.



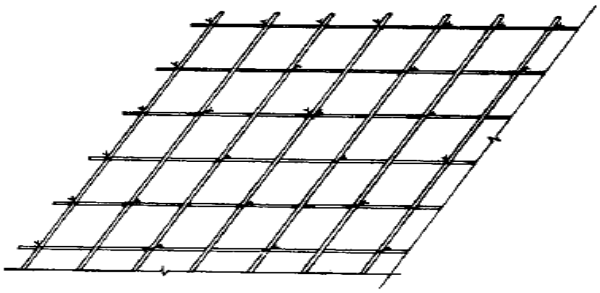
Slab Reinforcing

When assembling reinforcing bars in place, usually with snap ties, the spacing of ties should be governed by the bar size. The example below shows tying every fifth intersection.



Wall Reinforcing

When assembling wall reinforcing bars in place, the spacing of ties should be sufficient to prevent shifting of the bars as concrete is being placed. CRSI recommends that a snap or snap and wrap tie is generally used, but in most cases the snap tie is adequate. The example below shows ties at every third intersection, each way.



Preassembled Mats

For preassembled mats, a sufficient number of bar intersections should be tied to make the mats rigid enough for handling. When snap ties are used, every bar intersection around the perimeter and alternate intersections within the interior of the mat should be tied as shown below.

If your scope of work incudes tying reinforcing bars, the CRSI *Placing Reinforcing Bars* is a publication you should own. For a copy contact CRSI at www.CRSI.org.