Column Reinforcement Details

Reinforcement Detailing as per BS8110 and EC2

Discuss the detailing rules base on these codes.

Since the column is the most important structural element next to the foundation in a structure, no errors can be made

Reinforcement Detailing Requirements

Minimum Reinforcement in Column

The minimum area of reinforcement in the column is 0.4% of the cross-sectional area of the column as per BS 8110.

100As / Ac = 0.4

Maximum Reinforcement in Column

The maximum area of reinforcement of columns is as follows. The below values are calculated as a percentage of the gross cross-sectional area of concrete.

Vertically cast column 6%

Horizontally cast column 8%

Lapps in vertically/horizontally cast column 10%

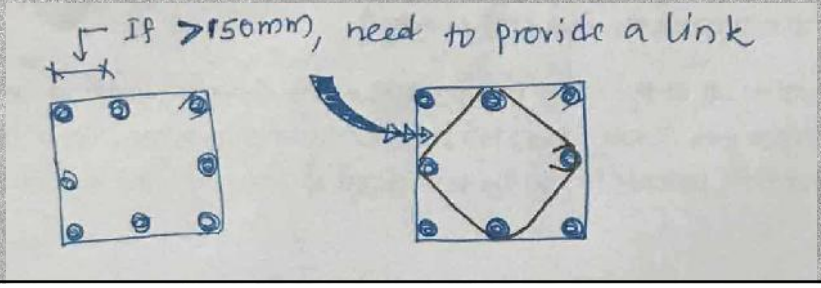
Containment Links

Link Diameter: at least one quarter the size of larges compression bar or 6mm, whichever grater.

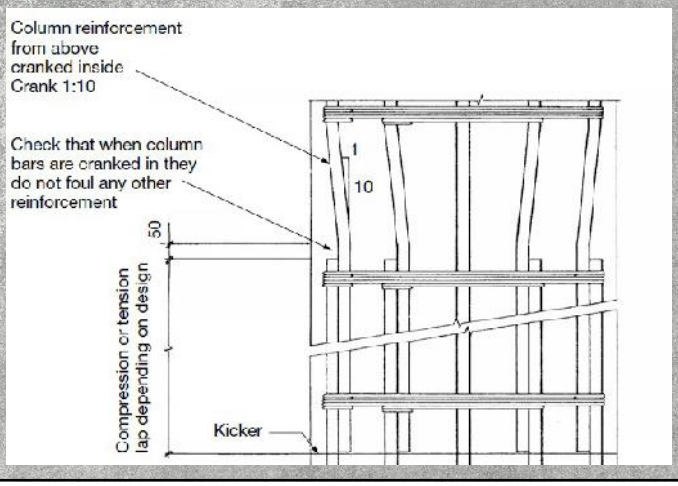
Link Spacing: Maximum spacing shall be 12 times the smallest compression bar.

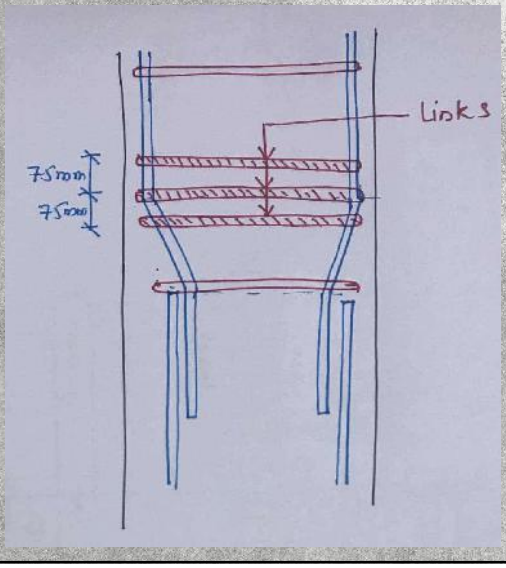
All the column reinforcements should have at least one link passing them.

No rebar in the column should be further than 150mm from the restraining bar. That is if a reinforcement bar spacing is more than 150mm from the restraining bar, that bar needs to be restrained with a link.

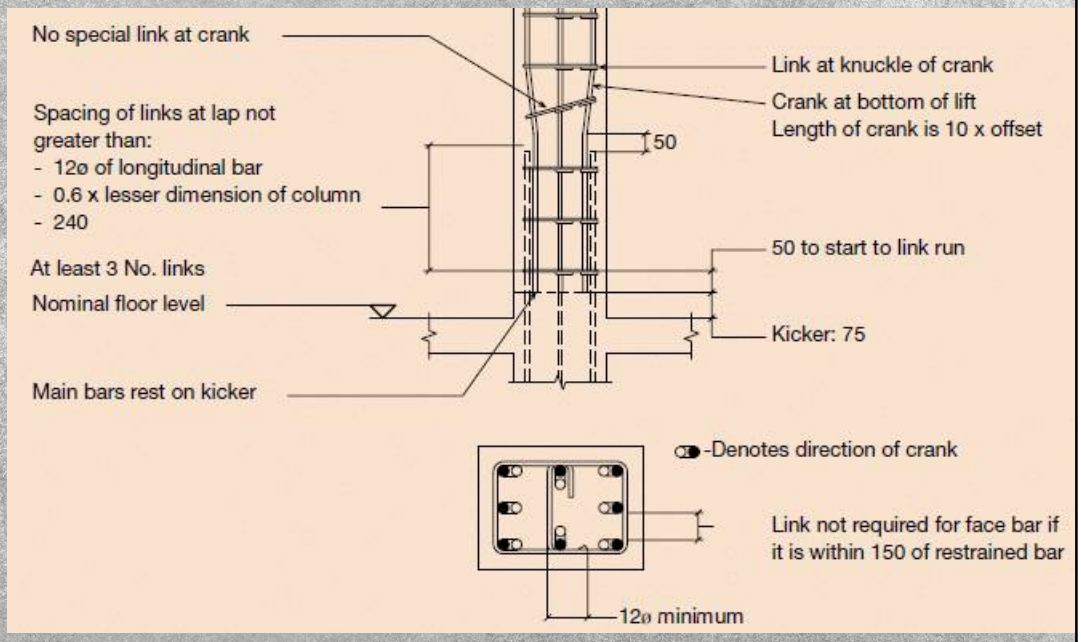


Reinforcement Lapping

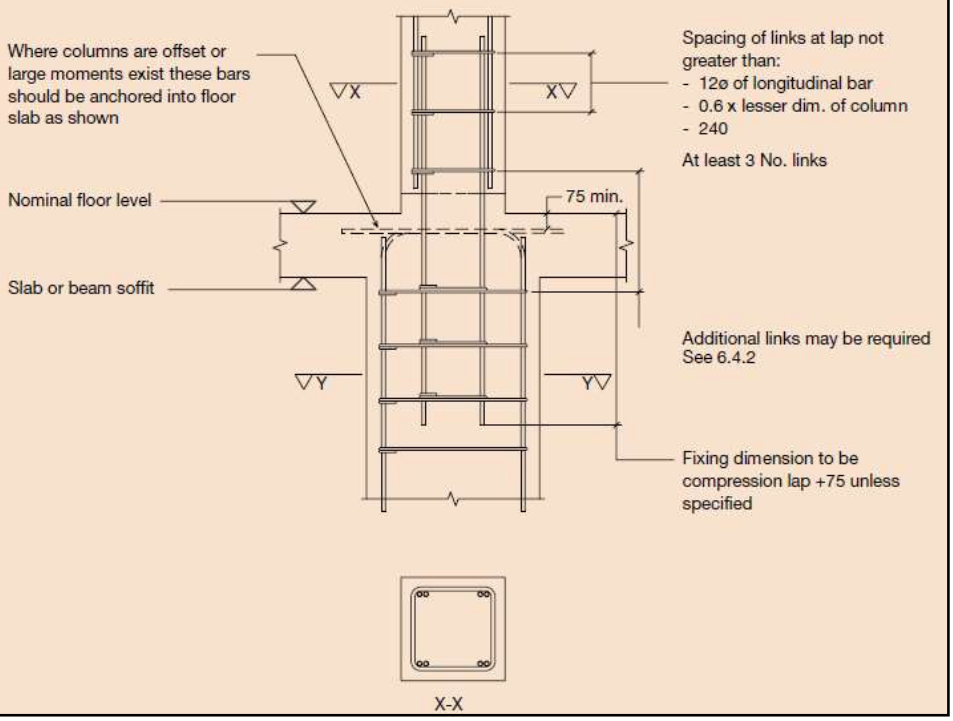




Rebar at Lap



Column Size Change



Thank you

Structural Guide

Civil & Structural Engineering Knowledge Base