

Bar Bending Schedule [BBS]



1. Hook Length:-

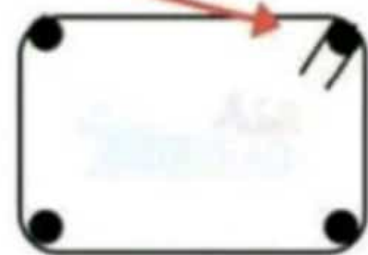
The hook length is commonly provided for stirrups.

Hook Length = $9D$ [D is Diameter of the Bar]

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Hook Length



$9D$



L

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HOOK LENGTH = $9D$

Total Length of stirrup = Total length of Bar + 2 x Hook Length (Two hooks)

Total Length = $L + 2(9D)$

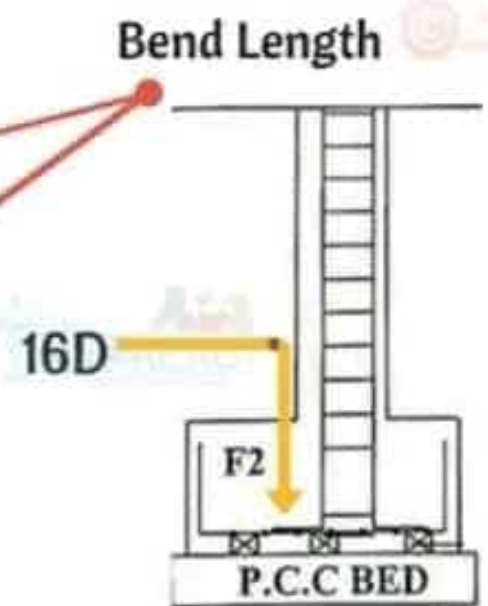
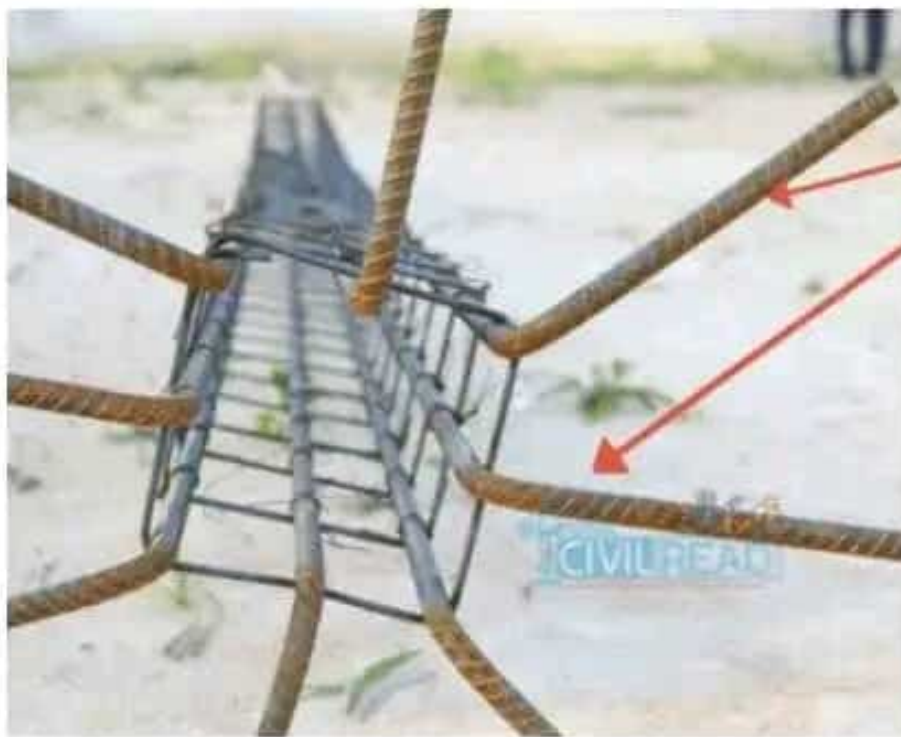
Therefore Total length = $L + 18D$ (D is Diameter of bar)



2. Bend Length:-

Bend Length is usually provided in columns at ends to tie the columns to the footings.

Bend Length = 16D [D is Diameter of the Bar]



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BEND LENGTH = 16D

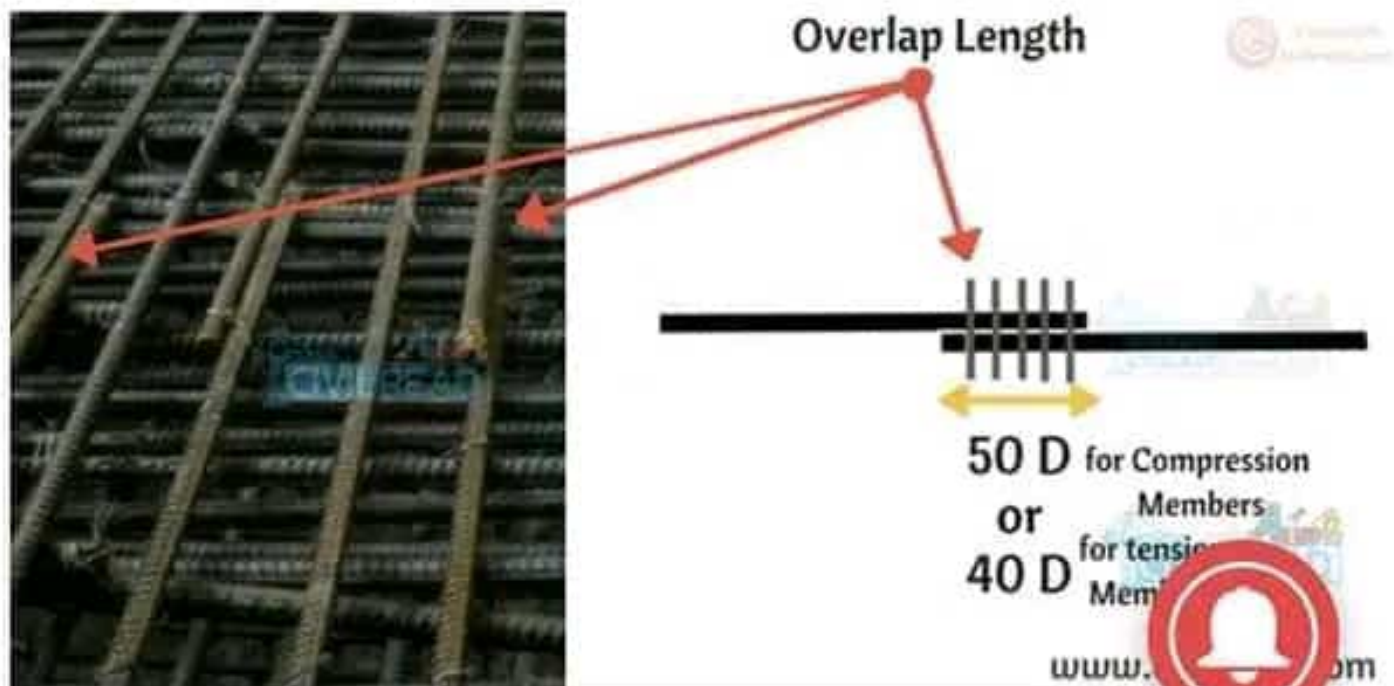
3. Overlap Length / Lap Length in Reinforcement (Bar Bending Schedule) :-

Suppose the length of building is 20 m. The standard length of Rebar is 12m. We have to join two Re-bars for the total length of building. In order to Join the two bars (overlap). Overlap length is adopted.

**Overlap Length for compression members =
40D**

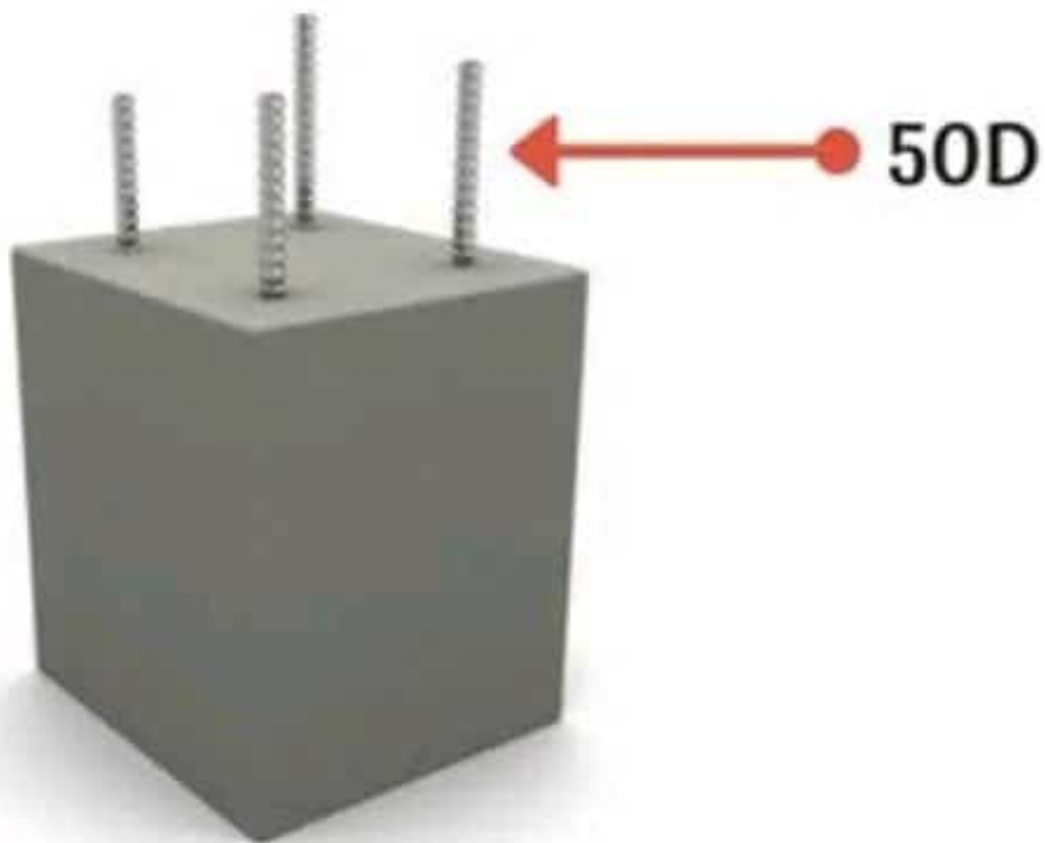
Overlap Length for tension members = 50D

[D is the Diameter of the bar]



OVERLAP LENGTH = 50D OR 40D

Have You seen the below picture on your top floor of the building? We generally leave some length of Bar in last floor i.e., $50D$. It is used for further construction purpose. (Constructing a new floor)



4. Crank Length :-

Crank length is provided in Slab Shear stress is maximum at supports in Slab. So, to resist this stress we usually crank the bars at the ends of supports in slab.

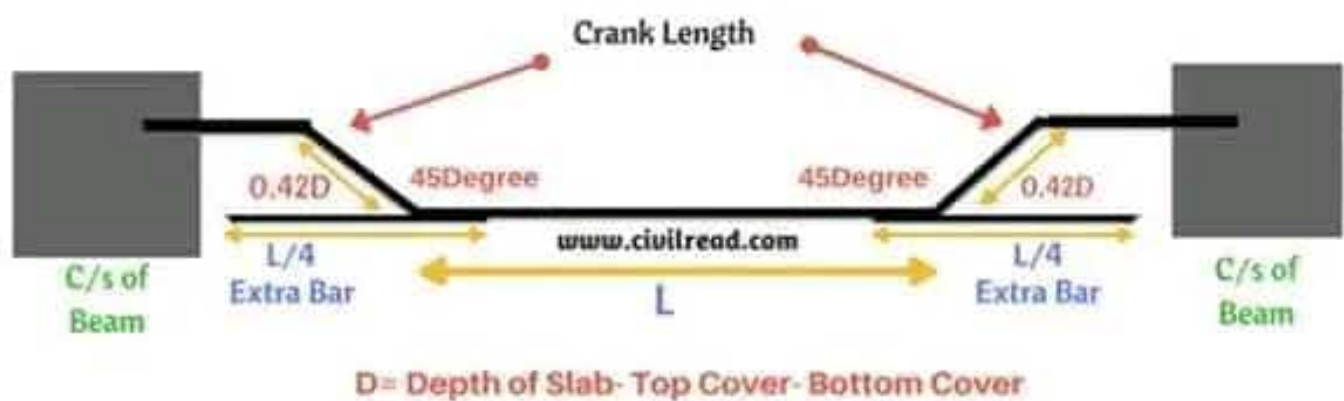


4. Crank Length :-

Crank length is provided in Slab Shear stress is maximum at supports in Slab. So, to resist this stress we usually crank the bars at the ends of supports in slab.

Crank bar is bent up at an angle of 45degree with the length of $0.42D$

D = Depth of Slab-Top Cover-Bottom cover



5. Extra Bar:-

Now a days Extra bar is also provided under every crank bar. To keep crank bar in position. (Refer above image for clear idea)



The length of Extra bar is $L/4$.



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