**Beam Reinforcement Detail**

**What to Consider**

- **Design requirements**
- Nominal cover to reinforcements
- Minimum area of reinforcements
- Bar spacing
- Bars along sides of beams
- Links spacing
- Anchorage lengths
- Hanger bars
- Curtailment

- Cover shall be as per the fire and exposure class – for durability.
- Tension reinforcement, compression reinforcement, transverse reinforcement in the top flange and minimum bar diameter
- Minimum horizontal pitch (gap between bars), Minimum vertical pitch (gap between two layers; 25mm or bar diameter, whichever greater, Maximum pitch maximum gap between bars; tension bars – to be as per crack width, compression bars – consider spacing and restrain.
- Provide crack control rebar as per relevant standards
- Minimum and maximum spacing and distance to tension or compression bar from vertical leg shall be limit to 150mm
How to detail Continuous beam

- Lap length
- Tension lap
- Start lap at where no longer required
- As per design requirement
- Contoured bar lap
Lap Length

Tension Lap Length
Compression Lap Length

1.4 x 50 x d – Example – Tension Lap
Consider smaller bar diameter
Consider multiple (50) for tension lap based on rebar type and its yield strength.
Consider factors (1, 1.4, 2.0) depending on the cover on the side, longitudinal bar spacing

45 x d – Example – Compression Lap
Consider smaller bar diameter
Consider multiple (45) for compression lap based on rebar type and its yield strength.

Shear Links

Figure 6.19 Preferred arrangement of links
Figure 6.20 Overlapping of links is not recommended
Figure 6.21 Open links with top locking links
Figure 6.22 Required shape of tension links

Crossbar to be placed 1x (This may not be required where the link reinforcement is connected with links)
Length of 10d or 75
6x minimum
Internal links should not overlap
Minimum lateral spacing of link for effective beam deflection.
The distance of a tension bar from a vertical lap should not be greater than 15d.
Tension Anchorage

Thank you