Estimation & Costing (DI04006021)

Lecture 21: Bar Bending Schedule (BBS): Basics

What is Bar Bending Schedule?

- A tabular statement containing all details of reinforcement bars.
- Includes shape, diameter, length, number of bars, and total weight.

Standard Hook and Bend Allowances

- 45° bend: add $1d$
- 90° bend: add $2d$
- 135° bend (hook): add $3d$
- 180° standard hook length: $9d$ (Total hook addition $= 9d \times 2 = 18d$ for both ends)

where d = diameter of the bar.

BBS Format

Bar Mark	Shape	Dia (mm)	No.	Length (m)	Total L (m)	Wt/m	Total Wt (kg)
1	[shape]	12	10	1.5	15.0	0.89	13.35

Unit Weight of Steel $= \frac{D^2}{162}$ kg/m (where D is in mm).

BBS for Footing

- Footing reinforcement generally consists of a mesh (grid) of straight bars with U-hooks at ends.
- **Cutting Length** = Total dimension - (2 × clear cover) + (2 × hook length).