

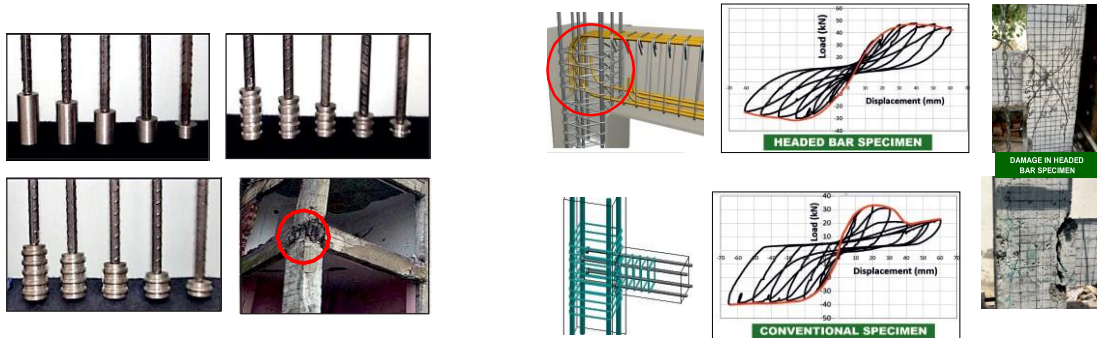
# Process Know how to provide Headed Bars as Mechanical Anchorage System in RC Beam- Column Joints

## Technology in Brief

Beam-column joint is a critical region in reinforce concrete (RC) buildings which demands appropriate reinforcement detailing. Current practice of bending beam longitudinal bar for anchorage in beam-column joints is labor intensive, time consuming and costly. The deformed head is attached to the end of steel reinforcement bar through electric arc welding. Two types of head anchors are developed and evaluated i.e., grooved and ribbed, which respectively have 3.9 mm grooves and ribs over their surface, thus designated as deformed heads.

## Salient Features/Advantages

- Easy workmanship & cost-effective.
- Excellent performance of ribbed/groove headed bar with better bond capacity.
- Head design with different option i.e., grooved or ribbed.
- Length variations as per the structural requirement.
- Diameter option available in different diameter to suit specific design & reinforcement needs of structures customization.



End Product(s)	Headed Bar
Size & Specification	<p>a) Headed bars avoid congestion of reinforcement, and it consists of Fe500, 27 mm diameter steel anchor, having same length as the diameter. It establishes the relationship between head length and head diameter considering head anchors with varying lengths of 0.4, 0.7, 1, 1.3 and 1.6 times the head diameter.</p> <p>b) These deformed head anchors have a hole of <math>12 \pm 0.2</math> mm, with a chamfer of 45°, making diameter of <math>18 \pm 0.2</math> mm at the end to easily accommodate reinforcement bar of 12 mm diameter.</p>
Environmental Impact	The adoption of headed bars for beam column joints offers a range of environment benefits, including reduced resources consumption, minimized waste generation, improved energy efficiency and enhanced structural resilience, contributing to sustainable construction practices.
License/Commercialization	M/s B.G Shirke Construction Technology Pvt. Ltd.
TRL	6
Setup-Equipment required	Manual/Semi-Mechanized/Automatics