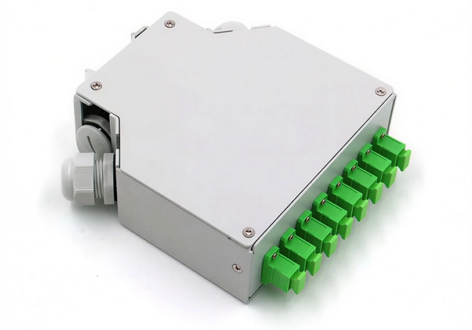


Bridge Column Frame Erection



Article Overview

Bridge column frames are erected using cranes to lift and position columns onto anchor bolts, secured with temporary supports, aligned precisely, and connected with bracing and bolts before releasing lifting equipment.

Erection Process Overview

- **Material Handling and Preparation** Steel columns and frame components are unloaded using cranes and arranged near their installation locations. Pre-assembly of rafter members or bracing on the ground is recommended to reduce crane lifts and improve efficiency .
- **Column Installation** Columns are lifted into position using mobile, crawler, or tower cranes depending on site access, height, and weight . They are set on anchor bolts and temporarily secured with cables or braces until permanent bolting is completed .
- **Frame Assembly** Rafters and bracing are connected to the erected columns. The erection crew uses wedges, jacks, pull-lifts, or proprietary devices to align, level, and plumb the frame accurately. Survey instruments are used to verify alignment before final bolting .
- **Bracing and Stability** Temporary and permanent bracing is installed to ensure structural stability during erection. Proper anchor bolt installation is critical to prevent column instability or collapse . Misalignment is corrected using shims or adjustable connections.
- **Sequential Erection** Columns and frames are erected in a sequence that maintains stability and minimizes crane lifts. Pre-assembled units are preferred to reduce handling time and improve safety .

Equipment Considerations...

Article Content

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Aligning the structure, principally by checking that column bases are lined and level and columns are

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For more information, pricing, or custom solutions, please contact us:

Website: <https://www.greatpremiersolutions.co.za>

Email: sales@greatpremiersolutions.co.za

Phone: +27 82 914 3675

Address: Unit 5, Silicon Heights, 22 Electron Avenue, Cape Town, 8001, South Africa

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