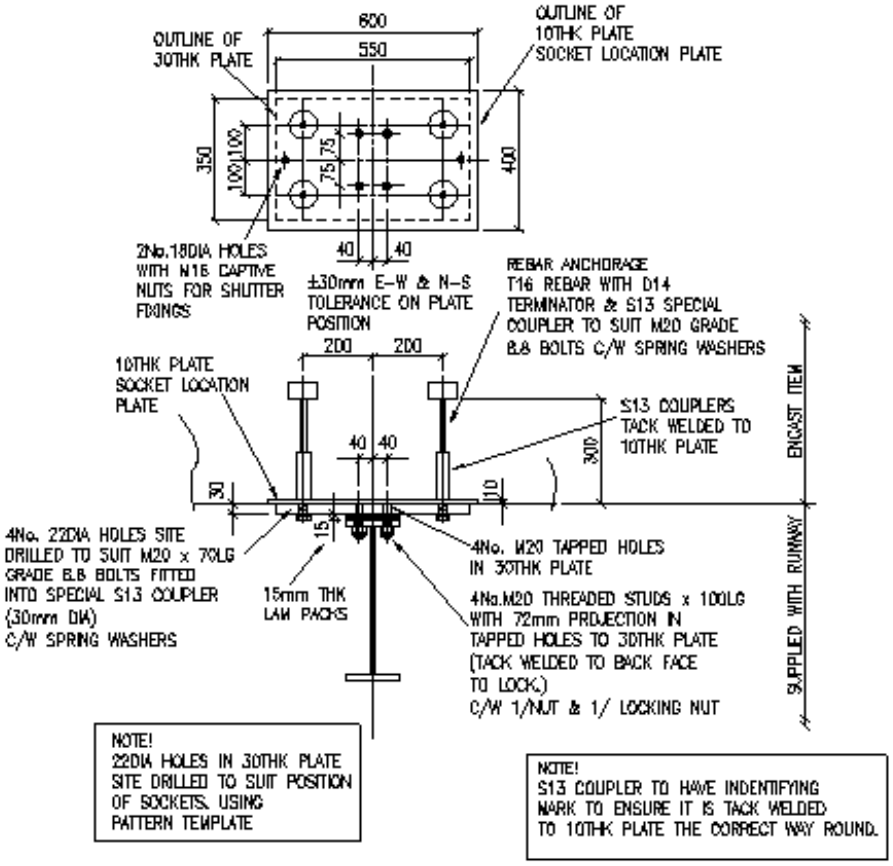
Bolted Connection of Steelwork to Concrete Soffit/Walls

Traditionally steelwork connections to concrete have been achieved by welding to encast plates or drilling directly into the concrete. Welded connections expose operatives to fumes particularly in restricted spaces. The drilled solution relies on missing the reinforcement and carries significant issues of vibration, noise and dust.

Using a combination of cast-in inserts and cast-in plate it is possible to create a bespoke bolted solution that simplifies the installation process. The specified plate to be cast in is predrilled and supplied with inserts tack welded to the back surface. The plate is fixed to the soffit or wall shutter using the threaded holes supplied. Supplementary inserts can be cast in to aid final steel work positioning. The whole assembly is cast into the reinforced concrete. Once the shutters have been stripped off standard setting out checks allow the transition plate to be accurately drilled and bolted into position. The steelwork can be offered up, held in position using the supplementary inserts and the final bolted connection executed.

Capacity of assembly will depend on; position relative to edges of concrete, transition plate thickness, or slab/wall thickness. Components can be standardised to suit maximum of range of conditions, or tailored to individual situations, whichever gives greater economies of manufacture or installation.



Benefits using this method include:

- **No fumes, vibration, noise or dust.**
- **Significant reduction in fixing time e.g. no feroscanning, no abortive drilling.**
- **Drilling of steelwork carried out in workshop at ground level.**
- **Reduced working at height time.**
- **Built-in tolerance allowance.**
- **Temporary support capacity to facilitate final fixing.**

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