

## AD 393: Minimum requirements for column splices in accordance with Eurocodes.

Clause 6.2.7.1(14) of BS EN 1993-1-8:2005 specifies minimum requirements for component in bearing type **splices**. The Standard specifies splice material to be provided to transmit at least 25% of the maximum compressive force in the column. This requirement can be satisfied relatively easily in medium rise structures. For very large structures, accumulating load from a number of storeys, the compression in the column can be very significant, resulting in large and expensive splice details.

It is understood that the requirements in the Eurocode are to provide a degree of continuity of stiffness about both axes. Previously, UK designers would have observed the recommended detailing practice in the **Green Books**, where minimum component sizes were specified to achieve this continuity of stiffness.

SCI recommend that if the Eurocode rules lead to splices which are significantly larger than previous practice, the issue should be discussed between the connection designer and the Engineer with responsibility for the overall **design**. It may be that agreement can be reached to detail the splices in a way which meets the essential requirements, which are:

- To provide a connection capable of carrying the design forces. The design forces should include the second order effects described in Advisory Desk notes 243, 244 and 314;
- To ensure the members are held accurately in position relative to each other;
- To provide a degree of continuity of stiffness about both axes;
- To provide sufficient strength and stiffness to hold the upper column shaft during **erection**;
- To provide resistance in tension, if the structure is to be designed for **vertical tying**.

As many designers will be aware, the **Eurocodes** are to be revised; this clause, and 6.2.7.1(13) covering non-bearing splices, have been proposed for revision. Unfortunately, any revisions are some years away, so to wait for the revised Standard is not a solution.

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