Connection Design in Cellular Beams

This advice from SCI is for Cellular beams designed using Westok software written by the SCI and made from rolled section. This ensures the Cellular beam designs are not inadvertently compromised by the connection details.

This advice is in addition to the standard checking procedures for any simple beam connection. Depth of any notch should not exceed 1/5 of the beam depth without referral to the connection designer.

CELLULAR BEAM- SIMPLE CONNECTIONS

Simple connections transfer vertical shear with or without axial load. Simple connections do not transfer moment.

This advice applies to all simple beam connections for composite and non-composite application.

These details are for use by an experienced detailer without the need for direct design input and represent robust details for best practice.

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**Beams without notched ends**
End web post width $S_e$ must not be less than $S_o/2$.

**Notched detail**

Web post width $S_e$ must not be less than:
- $S_o/2$ or $2 \times N_t$ or $2 \times N_b$ or $3 \times n_t$ or $3 \times n_b$
- But not greater than $2 \times S_o + D_o$, where $D_o$ is a cell diameter. (i.e. second cell does not require infilling)

**Note! In most circumstances Westok will fit full or half infills only**

These details are designed to ensure the SCI minimum end post width is always met. The extended infill width reduces or eliminates vierendeel bending to the connection side of the last cell. Notching often causes the first cell to be completely infilled. If this is not desirable a more detailed check should be carried out.

*This new advice from SCI does not imply any need to check constructed projects where these details were not used*