

5.3.3.2 – In fully encased framed web panels of beam/column connections, the panel zone resistance may be computed as the sum of contributions from the concrete and steel shear panel, if all the following conditions are satisfied:

$$0.6 < h_b / h_c < 1.4 \quad (5.2)$$

$$V_{wp,Ed} < 0.8 V_{wp,Rd} \quad (5.3)$$

where h_b / h_c is the aspect ratio of the panel zone; where $V_{wp,Ed}$ is the design shear force in the web panel due to the action effects, taking into account the plastic resistance of the adjacent composite dissipative zones in beams or connections; $V_{wp,Rd}$ is the shear resistance of the composite steel - concrete web panel in accordance with EN 1994-1-1:2004.

5.3.3.3 – In partially encased stiffened web panels, an assessment similar to that in **5.3.3.2** is permitted if, in addition to the requirements of **5.3.3.4**, one of the following conditions is fulfilled:

(a) Straight links of the type defined in **5.4.5.4** and complying with **5.4.5.5** and **5.4.5.6** are provided at a maximum spacing $s_l = c$ in the partially encased stiffened web panel; these links are oriented perpendicularly to the longest side of the column web panel and no other reinforcement of the web panel is required; or

(b) No reinforcement is present, provided that $h_b / b_b < 1,2$ and $h_c / b_c < 1,2$.

5.3.3.4 – When a dissipative steel or composite beam is framing into a reinforced concrete column, vertical column reinforcement with design axial strength at least equal to the shear strength of the coupling beam should be placed close to the stiffener or face bearing plate adjacent to the dissipative zone. It is permitted to use vertical reinforcement placed for other purposes as part of the required vertical reinforcement. The presence of face bearing plates is required; they should be full depth stiffeners of a combined width not less than $(b_b - 2 t)$; their thickness should be not less than $0,75 t$ or 8 mm; b_b and t are respectively the beam flange width and the panel web thickness.

5.3.3.5 – When a dissipative steel or composite beam is framing into a fully encased composite column, the beam column connection may be designed either as a beam/steel column connection or a beam/composite column connection. In the latter case, vertical column reinforcements may be calculated either as in **5.3.3.4** or by distributing the shear strength of the beam between the column steel section and the column reinforcement. In both instances, the presence of face bearing plates as described in **5.3.3.4** is required.

5.3.3.6 – The vertical column reinforcement specified in **5.3.3.4** and **5.3.3.5** should be confined by transverse reinforcement that meets the requirements for members defined in **5.4**.