3.2.2.3 – At a beam end where the beam is supported indirectly by another beam, instead of framing into a vertical member, the beam end moment $M_{i,d}$ there may be taken as being equal to the acting moment at the beam end section in the seismic design situation.

3.2.2.4 – End moments $M_{i,d}$ need not exceed those obtained from seismic analysis with $(q/I) = 1$.

3.2.3. Seismic detailing of beams

3.2.3.1 – The regions of a beam up to a distance $l_{cr} = h_w$ (where h_w denotes the depth of the beam) from an end cross-section where the beam frames into a beam-column joint, as well as from both sides of any other cross-section liable to yield in the seismic design situation, shall be considered as being critical regions.

3.2.3.2 – In beams supporting discontinued (cut-off) vertical elements, the regions up to a distance of $2h_w$ on each side of the supported vertical element should be considered as being critical regions.

3.2.3.3 – The following conditions shall be met at both flanges of the beam along the critical regions:

(a) At the compression zone, reinforcement of not less than half of the reinforcement provided at the tension zone shall be placed, in addition to any compression reinforcement needed for the verification of the beam in the seismic design situation.

(b) The reinforcement ratio of the tension zone, ρ, shall not exceed a value ρ_{max} equal to:

$$\rho_{max} = \rho' + \frac{0.0018}{\mu_\varphi \, \varepsilon_{sy,d}} \frac{f_{cd}}{f_{yd}} \qquad (3.7)$$

with the reinforcement ratios of the tension zone and compression zone, ρ and ρ', both normalised to bd, where b is the width of the compression flange of the beam. If the tension zone includes a slab, the amount of slab reinforcement parallel to the beam within the effective flange width defined in **3.2.1.3** is included in ρ.

3.2.3.4 – Along the entire length of a beam, the reinforcement ratio of the tension zone, ρ, shall be not less than the following minimum value ρ_{min}:

$$\rho_{min} = 0.5 \frac{f_{ctm}}{f_{yk}} \qquad (3.8)$$

3.2.3.5 – Within the critical regions of beams, hoops satisfying the following conditions shall be provided:

(a) The diameter d_{bw} of hoops shall be not less than 6 mm.

(b) The spacing, s, of hoops (in millimetres) shall not exceed:

$$s \leq \min\{h_w, 24d_{bw}, 225, 8d_{bL}\} \qquad (3.9)$$

(c) The first hoop shall be placed not more than 50 mm from the beam end section.