AMENDMENT NO. 1 JANUARY 2012
TO
IS 800 : 2007 GENERAL CONSTRUCTION IN STEEL —
CODE OF PRACTICE

(Third Revision)

[(Page (iii), Section 17) — Insert the following new item, as appropriate:

‘17.15 Bedding Requirement 116’

(Page 6, line 38) — Delete the symbols ‘Cmy, Cmz’ and the corresponding explanation.

(Page 8, line 33) — Insert the following symbols and explanations after this line:

‘Kx, Kz, KLT — Moment amplification factors (see 4.4.2, 4.4.3.1, 4.4.3.3 and 9.3.2.2)’

(Page 18, Table 2, col 2) — Substitute ‘d/t’ for ‘D/t’ for entry against ‘Stem of a T-section, rolled or cut from a rolled I- or H-section’.

(Page 18, Table 2, col 3, 4 and 5) — Substitute ‘but ≥ 42ε’ for ‘but ≤ 42 ε’ for entries against ‘Web of an I, H or box section’.

(Page 18, Table 2, Notes, last line) — Substitute ‘overall’ for ‘overll’.

(Page 19, Fig. 2, ROLLED CHANNELS) — Substitute ‘d’ for ‘h’ in the figure.

(Page 24, clause 4.4.2, line 10) — Substitute ‘Kx, Kz’ for ‘Cx, Cz’.

(Page 24, clause 4.4.3.1, line 9) — Substitute ‘Kx and Kz’ for ‘Cx and Cz’.

(Page 24, clause 4.4.3.3, line 3) — Substitute ‘(Kx, Kz)’ for ‘(Cmy, Cmz)’

(Page 25, clause 4.5.2, line 19) — Insert ‘less’ between ‘be’ and ‘than’.

(Page 31, clause 5.6.1, line 6) — Substitute ‘using load factors of Table 4.’ for ‘using a load factor of 1.0.’

(Page 31, clause 5.6.1, third sentence) — Insert the following at the end:

‘In Table 6, live load should include all post construction loads including superimposed dead loads.’

(Page 33, clause 6.3.3, line 6) — Substitute ‘0.9 f_u γ_m0/γ_m1’ for ‘f_u γ_m0/γ_m1’.

(Page 34, clause 7.1.2, line 1) — Substitute the following for the existing:

‘The factored design compression, P in members shall satisfy the following requirement:

\[ P < P_{d} \]

(Page 34, clause 7.1.2.1, line 20) — Substitute ‘γ_m’ for ‘γ_m’.

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(Page 35, Fig. 8) — Insert ‘λ’ as the title of the abscissa (x-axis).

(Page 44, Table 10, col 2, line 3) — Substitute ‘40 mm < t ≤ 100 mm’ for ‘40 ≤ mm < t ≤ 100 mm’.

(Page 45, Table 11, second row, col 1 and 2) — Substitute the following for the existing entries:

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrained</td>
<td>Free</td>
</tr>
</tbody>
</table>

(Page 48, clause 7.5.1.2, line 4) — Add the following in the end:

“, in place of λ in 7.1.2.1 and using curve ‘c’ (α = 0.49)”

(Page 48, clause 7.5.1.2, line 9, formula) — Substitute the following for the existing:

\[
\lambda_v = \left( \frac{l}{r_v} \right) \frac{2}{\pi E} \frac{1}{\sqrt{250}} \quad \text{and} \quad \lambda_p = \left( \frac{b_1 + b_2}{2t} \right) \frac{2}{\pi E} \frac{1}{\sqrt{250}}
\]

(Page 49, Fig. 10) — Substitute the following figure for the existing as appropriate, and substitute ‘Members’ for ‘Numbers’ in the sub-title of Fig. 10C and substitute the existing title of Fig. 10 with ‘TOP RESTRRAINT CONDITIONS’:

![Figure 10](image)

(Page 53, clause 8.2.1.1, line 3) — Substitute ‘d/t > 67ε’ for ‘d/t ≤ 67ε’.

(Page 54, clause 8.3.1, second para) — Substitute the following for the existing:

‘In simply supported beams with intermediate lateral restraints against lateral torsional buckling, the effective length for lateral torsional buckling, L_{LT} to be used in 8.2.2.1 shall be taken as the length of the relevant segment in between the lateral restraints. In the case of intermediate partial lateral restraints, the effective length, L_{LT} shall be taken as equal to 1.2 times the length of the relevant segment in between the partial lateral restraints.’

(Page 57, Table 14) — Substitute ‘L_{LT}/r_y’ and ‘h/t_l’ for ‘KL/r’ and ‘h/l’.

(Page 58, clause 8.3.2, line 9) — Insert ‘centre’ between ‘shear’ and ‘and’.

(Page 58, Table 15, col 3, first row) — Substitute ‘Both flanges partially restrained’ for ‘Both flanges fully restrained’.
(Page 59, clause 8.4.2.1) — Substitute ‘\( \varepsilon_w \)’ for ‘\( \varepsilon \)’ and ‘\( f_{yw} \)’ for ‘\( f_y \)’, wherever appearing.

(Page 60, clause 8.4.2.2, col 1, line 18 from top) — Substitute ‘\( \tau_{cr,e} \)’ for ‘\( \tau_{cr,e} \)’.

(Page 60, clause 8.4.2.2, col 2, line 52) — Substitute ‘\( \text{nearby} = \tan^{-1}\left( \frac{d}{c} \right) \)’ for ‘\( \tan^{-1}\left( \frac{d}{c} \right) \)’.

(Page 60, clause 8.4.2.2, col 2, line 55) — Substitute ‘\( d \cos \phi - (c - s_c - s_t) \sin \phi \)’ for the existing.

(Page 60, clause 8.4.2.2, col 2, lines 59 and 60) — Delete the lines.

(Page 60, clause 8.5.1, line 3) — Insert ‘out’ between ‘carried’ and ‘in’.

(Page 61, Table 16, last row, col 1) — Substitute the following for the existing figure:

(Page 62, Fig. 12) — Substitute the following for the existing figure:

NOTES
1 Panel A is designed utilizing tension field action as given in 8.4.2.2(b).
2 Panel B is designed using simple post critical method as given in 8.4.2.2(a).
3 Bearing stiffener is designed for the compressive force due to bearing plus compressive force due to the moment \( M_{ef} \) as given in 8.5.3.

FIG. 12 END PANEL DESIGNED NOT USING TENSION FIELD ACTION

(Page 63, Fig. 13, Notes) — Delete NOTE 2 and renumber the subsequent Note accordingly.

(Page 63, clause 8.6.1.1) — Substitute ‘\( \varepsilon_w \)’ for ‘\( \varepsilon \)’ wherever appearing.

(Page 63, clause 8.6.1.1, line 13) — Substitute ‘\( c < 0.74d \)’ for ‘\( c < d \)’.

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(Page 64, clause 8.6.1.2, line 15) — Substitute ‘ε_f = yield stress ratio of flange = \( \sqrt{\frac{250}{f_{ys}}} \)’ for ‘ε_f = yield stress ratio of web = \( \sqrt{\frac{250}{f_{ys}}} \).’

(Page 65, clause 8.7.1.2, second para, line 1) — Insert ‘stiffener’ between the words ‘web’ and ‘is’.

[Page 70, clause 9.3.1.2(c)] — Substitute the following for the existing:

‘c) For standard I or H sections

\[ M_{dmax} = 1.11 M_{dz} (1 - n) \leq M_{dz} \]

for \( n \leq 0.2, \quad M_{doy} = M_{dy} \)

for \( n > 0.2, \quad M_{doy} = 1.56 M_{dy} (1 - n) (n + 0.6) \)’

(Page 72, Table 18) — Substitute the following for the existing table:

<table>
<thead>
<tr>
<th>Bending Moment Diagram (1)</th>
<th>Range (2)</th>
<th>( C_{my} ), ( C_{mz} ), ( C_{mLT} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uniform Loading (3)</td>
<td>Concentrated Load (4)</td>
</tr>
<tr>
<td></td>
<td>-1 ≤ ψ ≤ 1</td>
<td>0.6 + 0.4 ψ ≥ 0.4</td>
</tr>
<tr>
<td></td>
<td>0 ≤ α_s ≤ 1</td>
<td>-1 ≤ ψ ≤ 1</td>
</tr>
<tr>
<td></td>
<td>-1 ≤ α_s ≤ 0</td>
<td>0 ≤ ψ ≤ 1</td>
</tr>
<tr>
<td></td>
<td>0 ≤ ψ ≤ 1</td>
<td>0.1 - 0.8 α_s ≥ 0.4</td>
</tr>
<tr>
<td></td>
<td>-1 ≤ ψ ≤ 0</td>
<td>0.1(1 - ψ) - 0.8 α_s ≥ 0.4</td>
</tr>
<tr>
<td></td>
<td>0 ≤ ψ ≤ 1</td>
<td>0.95 - 0.05 α_h</td>
</tr>
<tr>
<td></td>
<td>-1 ≤ α_h ≤ 0</td>
<td>0 ≤ ψ ≤ 1</td>
</tr>
<tr>
<td></td>
<td>-1 ≤ ψ ≤ 0</td>
<td>0.95 + 0.05 α_h (1 + 2 ψ)</td>
</tr>
</tbody>
</table>

For members with sway buckling mode, the equivalent uniform moment factor \( C_{my} = C_{mz} = 0.9 \).

\( C_{my} \), \( C_{mz} \), \( C_{mLT} \) shall be obtained according to the bending moment diagram between the relevant braced points.

<table>
<thead>
<tr>
<th>Moment factor</th>
<th>Bending axis</th>
<th>Points braced in direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_{my} )</td>
<td>z - z</td>
<td>y - y</td>
</tr>
<tr>
<td>( C_{mz} )</td>
<td>y - y</td>
<td>z - z</td>
</tr>
<tr>
<td>( C_{mLT} )</td>
<td>z - z</td>
<td>z - z</td>
</tr>
</tbody>
</table>

Not for sale
(Page 75, clause 10.3.2, line 3) — Substitute the following for the existing:

‘\( V_{sb} \leq V_{db} \)’

(Page 76, clause 10.4.3, first sentence) — Substitute the following for the existing:

‘Design for friction type bolting, where slip resistance is required at factored design force \( V_{sf} \), shall satisfy the following:’

(Page 76, clause 10.4.3, line 14) — Substitute ‘\( \mu_f \leq 0.55 \)’ for ‘\( \mu_f = 0.55 \)’.

(Page 76, clause 10.4.3, Note, line 1) — Substitute ‘\( V_{nsf} \)’ for ‘\( V_{ns} \)’.

(Page 77, clause 10.4.5, col 1, line 6, from top, formula) — Substitute ‘\( 0.9 \frac{f_{ub} A_n}{f_{yb} A_{sb} (\gamma_m / \gamma_m)} \leq \gamma_{m1} / \gamma_{m0} \)’ for ‘\( 0.9 \frac{f_{ub} A_n}{f_{yb} A_{sb} (\gamma_m / \gamma_m)} \)’.

(Page 80, clause 10.5.10.2.2, line 7) — Substitute ‘\( 2bf \)’ for ‘\( 2bf \)’.

(Page 89, clause 12.8.2.1, first sentence) — Substitute the following for the existing:

‘Bracing members shall be made of E250B steel of IS 2062 or of steel having Charpy V-notch energy, E > 27J.’

(Page 90, clause 12.11.1, line 2) — Insert ‘or of steel having Charpy V-notch energy, E > 27J’ between ‘IS 2062’ and ‘and’.

(Page 106, clause 16.4.1, line 4, formula) — Substitute \( \frac{f_y (T)}{f_y (20)} = \frac{905 - T}{690} \leq 1.0 \) for the existing.

(Page 121, Annex B, clause B-3.2, line 10 from top, formula) — Substitute \( \phi_u = \frac{\delta_{ui} - \delta_{Li}}{h_i} \) for \( \phi_u = \frac{\delta_u - \delta_{L}}{h} \) ,

(Page 121, Annex B, clause B-3.2, lines 12, 13 and 16 from top) — Substitute ‘\( h_i \)’, ‘\( \delta_{ui} \)’ and ‘\( \delta_{Li} \)’ for ‘\( h \)’, ‘\( \delta_u \)’ and ‘\( \delta_{L} \)’.

(Page 128, Annex E, clause E-1.2, line 5, formula) — Substitute ‘\( (L_{L1})^2 \)’ for ‘\( (L_{L1})^2 \)’.

(Page 128, Annex E, clause E-1.2, line 30) — Substitute ‘\( (z^2 + y^2)^2 \)’ for ‘\( (z^2 - y^2)^2 \)’.

(Page 129, Annex E, clause E-1.2, col 1, line 18 from top) — Insert ‘St. Venant’s’ before ‘torsion’.

(Page 130, Table 42, col 5, row 7) — Substitute ‘1.267’ for ‘1.257’.

(Page 129, Table 42, col 6, rows 5 and 10) — Substitute ‘1.730’ for ‘1.780’ and ‘1.890’ for ‘1.390’, respectively.

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