



CEN/TC 250
CEN/TC 250 - Structural Eurocodes
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Secretariat: BSI (United Kingdom)

N 1229 Luxembourg systematic review comments on EN 1993-1-1

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Template for comments and secretariat observations

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| MB/ NC ¹ | Line number (e.g. 17) | Clause/ Subclause (e.g. 3.1) | Paragraph/ Figure/ Table/ (e.g. Table 1) | Type of comment ² | Comments | Proposed change | Observations of the secretariat | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Do any clauses require editorial or technical correction? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC (Ilnas) | | 5.5/ 5.5.2 | Table 5.2 | te | <p>The design of tubular piles in combined walls is currently leading to extremely uneconomical solutions as mentioned in the document CEN/TC250/SC3/N1981.</p> <p>Thanks to the outcome of the RFCS research project “Combitube” new design verification rules for circular bearing piles of class 4 shall be introduced which will be both simpler and more economic. These modifications can be either introduced in EN 1993-1-1 or in EN 1993-1-6 or in EN1993-5. For more information see document: CEN/TC 250/SC 3 N 1981. The amendments have been already partially discussed in the Evolution Group.</p> | <p>The table 5.2 could be modified:</p> <ul style="list-style-type: none">• a slenderness limit for both bending (D/t of about 200 $\sqrt{f_y}$) and compression based on the actual data of EN 1993-1-1;• for small compression forces, reduced slenderness limits for bending should be provided. <p>An economical design method for class 4 steel tubular piles would be provided in an annex of EN 1993-1-6. This can be devised as a special case of the general rules that have been approved as amendments to EN1993-1-6, using the new Annex E.</p> | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC (Ilnas) | | 6.3.1.2 | Table 6.2 | te | <p>Table 6.2: Amendment for buckling curves for jumbos: This amendment has been already discussed within the Evolution Group. Consideration of this amendment will improve the current code by filling a gap (Buckling curve for h/b >1.2 and thickness > 100mm)</p> | <p>Amendment:</p> <table><tr><th rowspan="2">Cross section</th><th rowspan="2">Limits</th><th rowspan="2">Buckling about axis</th><th colspan="2">Buckling curve</th></tr><tr><th>S235 / S275 / S355 / S420</th><th>S460 / S500</th></tr><tr><td rowspan="8">Rolled sections</td><td rowspan="4">h/b > 1,2</td><td rowspan="2">t_r ≤ 40 mm</td><td>y-y</td><td>a</td><td>a₀</td></tr><tr><td>z-z</td><td>b</td><td>a₀</td></tr><tr><td rowspan="2">40mm < t_r ≤ 100 mm</td><td>y-y</td><td>b</td><td>a</td></tr><tr><td>z-z</td><td>c</td><td>a</td></tr><tr><td rowspan="2">t_r > 100 mm</td><td>y-y</td><td>d</td><td>a</td></tr><tr><td>z-z</td><td>d</td><td>b</td></tr><tr><td rowspan="4">h/b ≤ 1,2</td><td rowspan="2">t_r ≤ 100 mm</td><td>y-y</td><td>b</td><td>a</td></tr><tr><td>z-z</td><td>c</td><td>a</td></tr><tr><td rowspan="2">t_r > 100 mm</td><td>y-y</td><td>d</td><td>c</td></tr><tr><td>z-z</td><td>d</td><td>c</td></tr></table> | Cross section | Limits | Buckling about axis | Buckling curve | | S235 / S275 / S355 / S420 | S460 / S500 | Rolled sections | h/b > 1,2 | t _r ≤ 40 mm | y-y | a | a ₀ | z-z | b | a ₀ | 40mm < t _r ≤ 100 mm | y-y | b | a | z-z | c | a | t _r > 100 mm | y-y | d | a | z-z | d | b | h/b ≤ 1,2 | t _r ≤ 100 mm | y-y | b | a | z-z | c | a | t _r > 100 mm | y-y | d | c | z-z | d | c | 5, see N2031 |
| Cross section | Limits | Buckling about axis | Buckling curve | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | S235 / S275 / S355 / S420 | S460 / S500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rolled sections | h/b > 1,2 | t _r ≤ 40 mm | y-y | a | a ₀ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | z-z | b | a ₀ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 40mm < t _r ≤ 100 mm | y-y | b | a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | z-z | c | a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | t _r > 100 mm | y-y | d | a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | z-z | d | b | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | h/b ≤ 1,2 | t _r ≤ 100 mm | y-y | b | a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | z-z | c | a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| t _r > 100 mm | | y-y | d | c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | z-z | d | c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

¹ **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

² **Type of comment:** **ge** = general **te** = technical **ed** = editorial

Template for comments and secretariat observations

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| Date: | Document: | GEN/TC 250 N 1229 Project: EN 1993-1-1 |
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| MB/ NC ¹ | Line number (e.g. 17) | Clause/ Subclause (e.g. 3.1) | Paragraph/ Figure/ Table/ (e.g. Table 1) | Type of comment ² | Comments | Proposed change | Observations of the secretariat | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------------------|---|----------------------------------|---|--|------------------------------------|--|--------|---------------------------|----------------|--|--|--|--|----------------------------------|-------|-----------|---|---------------------|-----|---|---|---|--------------------------|---|---|-----------------|
| NC (Ilna s) | | 6.3.1.2 | Table 6.2 | te | Table 6.2: Amendment for buckling curves for angles. This amendment has been already discussed within the Evolution Group. Consideration of this amendment will improve the current code by differentiating between hot rolled and welded section; the present code with Buckling curve b for both is unsafe. | Amendment: <table><tr><th colspan="2">Cross section</th><th>Limits</th><th rowspan="2">Buckling about axis</th><th colspan="2">Buckling curve</th></tr><tr><th colspan="2"></th><th></th><th>S 235 S 275 S 355 S 420</th><th>S 460</th></tr><tr><td rowspan="2">L-section</td><td></td><td>Hot rolled sections</td><td rowspan="2">any</td><td>b</td><td>a</td></tr><tr><td></td><td>Welded sections t ≤ 40mm</td><td>c</td><td>c</td></tr></table> | Cross section | | Limits | Buckling about axis | Buckling curve | | | | | S 235 S 275 S 355 S 420 | S 460 | L-section |  | Hot rolled sections | any | b | a |  | Welded sections t ≤ 40mm | c | c | 5, see N2017 |
| Cross section | | Limits | Buckling about axis | Buckling curve | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 235 S 275 S 355 S 420 | S 460 | | | | | | | | | | | | | | | | | | | | | | | |
| L-section |  | Hot rolled sections | any | b | a | | | | | | | | | | | | | | | | | | | | | | | |
| |  | Welded sections t ≤ 40mm | | c | c | | | | | | | | | | | | | | | | | | | | | | | |
| NC (Ilna s) | | 3.2/3.2.1 | Table 3.1 | te | Table 3.1 should be updated according to the new version of EN 10025 (should be finalized at very short term) considering S500 | Introduce the steel grade S500 according to the new version of EN 10025 in Table 3.1. | 2 | | | | | | | | | | | | | | | | | | | | | |
| Which clauses would benefit from improvements in clarity? | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC (Ilna s) | | 6.3.1.2 | Table 6.2 | te | Amendment conc. Buckling curves for jumbos: Consideration of this amendment will improve the current code by filling a gap (Buckling curve for h/b >1.2 and thickness > 100mm) | See above | 5 | | | | | | | | | | | | | | | | | | | | | |
| NC (Ilna s) | | 6.3.1.2 | Table 6.2 | te | Amendment conc. Buckling curves for angles: Consideration of this amendment will improve the current code by clarifying the choice in case of between hot rolled or welded section; the present code with Buckling curve b for both is unsafe. | See above | 5 | | | | | | | | | | | | | | | | | | | | | |

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| Where should the scope of the EN be extended? | | | | | | | |
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Where could the EN be shortened?

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Are there any clauses whose application leads to uneconomic construction?

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Are there any clauses whose application necessitates excessive design effort?

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