

# DIN EN 1993-1-3:2025-04 (E)

## Eurocode 3 - Design of steel structures - Part 1-3: Cold-formed members and sheeting

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
0	Introduction .....	6
1	Scope .....	9
2	Normative references .....	9
3	Terms, definitions and symbols .....	10
3.1	Terms and definitions .....	10
3.2	Symbols .....	17
3.3	Symbols for cross-sectional dimensions .....	35
3.4	Symbols for member axes .....	35
4	Basis of design .....	36
4.1	Basic requirements .....	36
4.2	Specific rules for cold-formed members and sheeting .....	36
5	Materials .....	38
5.1	General .....	38
5.2	Structural steel .....	40
5.3	Connecting devices .....	43
6	Durability .....	43
7	Structural analysis .....	44
7.1	Structural modelling for analysis .....	44
7.2	Global analysis .....	44
7.3	Structural modelling of cold-formed steel sections .....	48
7.4	Cross-sectional analysis -- Geometric proportions and application range .....	52
7.5	Cross-sectional analysis -- Flange curling .....	54
7.6	Cross-sectional analysis -- Local and distortional buckling .....	55
7.7	Cross-sectional analysis -- Local buckling between fasteners .....	81
8	Ultimate limit states .....	82
8.1	Resistance of cross-sections .....	82
8.2	Buckling resistance of members .....	105
9	Serviceability limit states .....	112
9.1	General .....	112
9.2	Plastic deformation .....	112
9.3	Deflections .....	113
9.4	Walkability of trapezoidal sheeting .....	113
10	Design of joints .....	114
10.1	General .....	114
10.2	Splices and end joints of members subject to compression .....	114
10.3	Connections with mechanical fasteners .....	114
10.4	Spot welds .....	122
10.5	Lap welds .....	123

11	Special considerations for members, liner trays and sheeting .....	128
11.1	Members restrained by sheeting, liner trays or sandwich panels .....	128
11.2	Liner trays restrained by sheeting .....	143
11.3	Special considerations for sheeting .....	150
11.4	Lateral and torsional restraints of members provided by sheeting, liner trays or sandwich panels .....	163
11.5	Stressed skin design .....	173
12	Design assisted by testing .....	178
Annex A (normative) Testing procedures .....		180
A.1	General .....	180
A.2	Tests on materials .....	181
A.3	Tests on single beams and columns .....	181
A.4	Tests on structures and sub-assemblies .....	184
A.5	Tests on profiled sheeting and liner trays .....	186
A.6	Tests on torsionally restrained members .....	195
A.7	Tests on fastenings .....	197
A.8	Tests on components of storage equipment .....	198
A.9	Evaluation of test results .....	198
Annex B (informative) Durability of fasteners .....		203
B.1	Use of this annex .....	203
B.2	Scope and field of application .....	203
Annex C (normative) Mixed effective width/effective thickness method for outstand elements .....		206
C.1	Use of this annex .....	206
C.2	Scope and field of application .....	206
C.3	Cross-sectional resistance .....	206
Bibliography .....		208