

DIN EN 1993-1-11:2010-12 (E)

Eurocode 3: Design of steel structures - Part 1-11: Design of structures with tension components (includes Corrigendum AC:2009)

Contents		Page
Foreword		3
1	General	4
1.1	Scope	4
1.2	Normative references	5
1.3	Terms and definitions	6
1.4	Symbols	7
2	Basis of design	8
2.1	General	8
2.2	Requirements	8
2.3	Actions	9
2.4	Design situations and partial factors	11
3	Material	11
3.1	Strength of steels and wires	11
3.2	Modulus of elasticity	11
3.3	Coefficient of thermal expansion	13
3.4	Cutting to length of Group B tension components	14
3.5	Lengths and fabrication tolerances	14
3.6	Friction coefficients	14
4	Durability of wires, ropes and strands	14
4.1	General	14
4.2	Corrosion protection of individual wires	15
4.3	Corrosion protection of the interior of Group B tension components	15
4.4	Corrosion protection of the exterior of Group B tension components	15
4.5	Corrosion protection of Group C tension components	16
4.6	Corrosion protection at connections	16
5	Structural analysis	16
5.1	General	16
5.2	Transient construction phase	16
5.3	Persistent design situation during service	17
5.4	Non-linear effects from deformations	17
6	Ultimate limit states	18
6.1	Tension rod systems	18
6.2	Prestressing bars and Group B and C components	18
6.3	Saddles	19
6.4	Clamps	22
7	Serviceability limit states	23
7.1	Serviceability criteria	23
7.2	Stress limits	23
8	Vibrations of cables	24
8.1	General	24
8.2	Measures to limit vibrations of cables	25
8.3	Estimation of risks	25

9	Fatigue	25
9.1	General	25
9.2	Fluctuating axial loads	26
Annex A (informative) Product requirements for tension components		27
Annex B (informative) Transport, storage, handling		30