

DIN EN 1993-3-2:2010-12 (E)

Eurocode 3: Design of steel structures - Part 3-2: Towers, masts and chimneys - Chimneys

Contents

Page

1	General	5
1.1	Scope	5
1.2	Normative references	6
1.3	Assumptions	6
1.4	Distinction between principles and application rules	6
1.5	Terms and definitions	6
1.6	Symbols used in Part 3.2 of Eurocode 3	9
2	Basis of design	9
2.1	Requirements	9
2.2	Principles of limit state design	10
2.3	Actions and environmental influences	10
2.4	Ultimate limit state verifications	12
2.5	Geometrical data	12
2.6	Durability	12
3	Materials	12
3.1	General	12
3.2	Structural steels	12
3.3	Connections	12
4	Durability	13
4.1	Allowance for corrosion	13
4.2	External corrosion allowance	13
4.3	Internal corrosion allowance	13
5	Structural analysis	14
5.1	Modelling of the chimney for determining action effects	14
5.2	Calculation of internal stress resultants and stresses	14
6	Ultimate limit states	16
6.1	General	16
6.2	Structural shells	17
6.3	Safety assessment of other structural elements of the chimney	18
6.4	Joints and connections	18
6.5	Welded connections	19
7	Serviceability limit states	19
7.1	Basis	19
7.2	Deflections	19
8	Design assisted by testing	20
9	Fatigue	20
9.1	General	20
9.2	Fatigue loading	21
9.3	High cycle fatigue resistances	21
9.4	Safety assessment	21
9.5	Partial factors for fatigue	22
	Foreword	4

Annex A [normative] - Reliability differentiation and partial factors for actions	23
A.1 Reliability differentiation for steel chimneys	23
A.2 Partial factors for actions	23
Annex B [informative] - Aerodynamic and damping measures	24
B.1 General	24
B.2 Aerodynamic measures	24
B.3 Dynamic vibration absorber	25
B.4 Cables with damping devices	25
B.5 Direct damping	25
Annex C [informative] - Fatigue resistances and quality requirements	26
C.1 General	26
C.2 Enhancement of fatigue strength for special quality requirements	26
Annex D [informative] - Design assisted by testing	29
D.1 General	29
D.2 Definition of the logarithmic damping decrement	29
D.3 Procedure for measuring the logarithmic damping decrement	29
Annex E [informative] - Execution	30
E.1 General	30
E.2 Execution tolerances	30
E.3 Quality of welds and fatigue	30