

DIN EN 13084-2:2007-08 (E)

Free-standing chimneys - Part 2: Concrete chimneys

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Materials	6
4.1	Concrete	6
4.1.1	Normal-weight concrete for cast-in-situ chimneys	6
4.1.2	Concrete for prefabricated chimneys	6
4.2	Mortar for bedding of prefabricated elements	6
4.3	Reinforcing steel	6
5	Material properties	7
6	Structural design	8
6.1	Actions	8
6.2	Effect of actions	8
6.2.1	General	8
6.2.2	Partial safety factors	8
6.2.3	Moments of 2 nd order	9
6.2.4	Superposition of effects from thermal and other actions	11
6.3	Verification	11
6.3.1	General	11
6.3.2	Ultimate limit state	11
6.3.3	Serviceability limit state	14
7	Detailing provisions	15
7.1	Cast-in-situ chimneys	15
7.1.1	Minimum vertical reinforcement	15
7.1.2	Minimum horizontal reinforcement	15
7.1.3	Minimum reinforcement around openings	15
7.1.4	Distance between bars	16
7.1.5	Minimum concrete cover	16
7.1.6	Minimum wall thickness	16
7.1.7	Splices	16
7.2	Prefabricated concrete chimneys	16
7.2.1	Minimum reinforcement for transportation of prefabricated elements	16
7.2.2	Minimum horizontal reinforcement	16
7.2.3	Minimum concrete cover	16
7.2.4	Minimum wall thickness	17
7.2.5	Vertical continuous bundles of bars	17
7.2.6	Openings	18
8	Workmanship	19
8.1	General	19
8.2	Bedding joints	19
8.3	Reinforcement ducts	19
9	Quality control	19

9.1	Cast-in-situ chimneys	19
9.2	Prefabricated chimneys	19
Annex A (normative) Analysis of stresses due to thermal and other actions		20
A.1	Moment-curvature-relation	20
A.2	Calculation procedure	23
Annex B (normative) Limitations of crack widths		25