

DIN EN 197-1:2011-11 (E)

Cement - Part 1: Composition, specifications and conformity criteria for common cements

Contents		Page
Foreword		4
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	8
4	Cement	9
5	Constituents	10
5.1	General	10
5.2	Main constituents	10
5.2.1	Portland cement clinker (K)	10
5.2.2	Granulated blast furnace slag (S)	11
5.2.3	Pozzolanic materials (P, Q)	11
5.2.4	Fly ashes (V, W)	11
5.2.5	Burnt shale (T)	12
5.2.6	Limestone (L, LL)	13
5.2.7	Silica fume (D)	13
5.3	Minor additional constituents	13
5.4	Calcium sulfate	14
5.5	Additives	14
6	Composition and notation	14
6.1	Composition and notation of common cements	14
6.2	Composition and notation of sulfate resisting common cements (SR-Cements)	16
6.3	Composition and notation of low early strength common cements	17
7	Mechanical, physical, chemical and durability requirements	17
7.1	Mechanical requirements	17
7.1.1	Standard strength	17
7.1.2	Early strength	17
7.2	Physical requirements	18
7.2.1	Initial setting time	18
7.2.2	Soundness	18
7.2.3	Heat of hydration	18
7.3	Chemical requirements	18
7.4	Durability requirements	19
7.4.1	General	19
7.4.2	Sulfate resistance	19
8	Standard designation	20
9	Conformity criteria	22
9.1	General requirements	22
9.2	Conformity criteria for mechanical, physical and chemical properties and evaluation procedure	24
9.2.1	General	24

9.2.2	Statistical conformity criteria	24
9.2.3	Single result conformity criteria	27
9.3	Conformity criteria for cement composition	28
9.4	Conformity criteria for properties of the cement constituents	29
Annex A	(informative) List of common cements considered as sulfate resisting by National Standards in different CEN member countries but not included in Table 2 or not fulfilling the requirements given in Table 5	30
Annex ZA	(informative) Clauses of this European standard addressing the provisions of the EU Construction Products Directive	31
ZA.1	Scope and relevant characteristics	31
ZA.2	Procedure for the attestation of conformity of products	33
ZA.2.1	System of attestation of conformity	33
ZA.2.2	EC certificate of conformity	34
ZA.3	CE marking and labelling	35
Bibliography	38