

ISO 19595:2017-07 (E)

Natural aggregates for concrete

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	3
5	Geometrical requirements	3
5.1	General	3
5.2	Aggregate sizes	3
5.3	Grading	4
5.3.1	General	4
5.3.2	Coarse aggregates	4
5.3.3	Fine aggregates	5
5.3.4	All-in aggregates	5
5.3.5	Special use aggregates and declared grading categories	6
5.3.6	Grading for filler aggregate	6
5.3.7	Natural graded 0/8 mm aggregates	6
5.4	Fines content	7
5.5	Fines quality	7
5.6	Particle shape of coarse and all-in aggregates -- Flakiness index and shape index	7
5.7	Shell content of coarse and all-in aggregates	8
6	Physical requirements	8
6.1	General	8
6.2	Resistance to fragmentation	8
6.3	Resistance to wear	8
6.4	Particle density and water absorption	8
6.4.1	Particle density	8
6.4.2	Water absorption	8
6.5	Bulk density	8
6.6	Resistance to polishing for surface courses	8
6.7	Resistance to surface abrasion	9
6.8	Resistance to abrasion from studded tyres to be used for surface courses	9
7	Chemical requirements	9
7.1	General	9
7.2	Petrographic description	9
7.3	Sulfur containing compounds	9
7.3.1	Acid-soluble sulfate	9
7.3.2	Total sulfur	9
7.4	Chlorides	10
7.5	Constituents which alter the rate of setting and hardening of concrete	10
8	Durability	11
8.1	General	11
8.2	Soundness of coarse aggregates	11
8.3	Freeze-thaw resistance	11
8.3.1	Water absorption as a screening test for freeze-thaw resistance	11

8.3.2	Resistance to freezing and thawing	12
8.3.3	Resistance to freezing and thawing in the presence of salt (extreme conditions)	12
8.4	Volume stability -- Drying shrinkage	13
8.5	Alkali-silica reactivity	13
9	Evaluation of conformity	13
10	Designation	14
10.1	Designation and description	14
10.2	Additional information for the description of an aggregate	14
11	Marking and labelling	14
Annex A (informative) Guidance on the description of coarseness/fineness of fine aggregates		15
Annex B (informative) Guidance on the effects of some chemical constituents of aggregates on the durability of concrete in which they are incorporated		16
Bibliography		18