ISO 19595:2017-07 (E)

Natural aggregates for concrete

Contents

Page

Foreword v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 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)Guidanceonthedescriptionofcoarseness/finenessoffineaggregates 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