ISO 22904:2020 (E)

Additions for concrete

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Specifications

4.1 General
4.2 Silica fume
4.2.1 General
4.2.2 Chemical requirements
4.2.2.1 Silicon dioxide
4.2.2.2 Elemental silicon
4.2.2.3 Free calcium oxide
4.2.2.4 Sulfate
4.2.2.5 Total content of alkalis
4.2.2.6 Chloride
4.2.2.7 Loss on ignition
4.2.3 Physical requirements
4.2.3.1 Specific surface area
4.2.3.2 Dry mass content in slurry
4.2.3.3 Activity index
4.3 Fly ash
4.3.1 Chemical requirements
4.3.1.1 General
4.3.1.2 Loss on ignition
4.3.1.3 Chloride
4.3.1.4 Sulphate (SO_3) content
4.3.1.5 Free calcium oxide
4.3.1.6 Reactive calcium oxide
4.3.1.7 Reactive silicon dioxide
4.3.1.8 Silicon dioxide (SiO_2), aluminium oxide (Al_2O_3) and iron oxide (Fe_2O_3)
4.3.1.9 Total content of alkalis
4.3.1.10 Magnesium oxide
4.3.1.11 Phosphate
4.3.1.12 Moisture content
4.3.2 Physical requirements
4.3.2.1 Fineness
4.3.2.2 Activity index
4.3.2.3 Soundness
4.3.2.4 Particle density
4.3.2.5 Initial setting time
4.3.2.6 Water requirement
4.3.3 Specific provisions for fly ash from co-combustion
4.3.3.1 Co-combustion materials
4.3.3.2 Establishment of suitability of fly ash from co-combustion
4.4 Ground granulated blastfurnace slag
4.4.1 General
4.4.2 Chemical requirements
4.4.3 Physical requirements
4.4.3.1 Fineness

4.4.3.2 Requirements when combined with the test cement
4.4.3.2.1 Test cement
4.4.3.2.2 Initial setting time
4.4.3.2.3 Activity index
4.5 Durability requirements
4.6 Release of dangerous substances and emission of radioactivity
4.7 Information to be supplied upon request

5 Sampling

6 Conformity control and evaluation of conformity

7 Packaging, labelling and marking

Annex A (normative) Method of determining the moisture content of ground granulated blastfurnace slag

A.1 Principle
A.2 Apparatus
A.3 Procedure
A.4 Calculation
A.5 Report

Annex B (normative) Determination of the water requirement for Category S fly ash

B.1 Principle
B.2 Apparatus
B.3 Materials
B.4 Mix proportions
B.5 Procedure
B.6 Calculation
B.7 Reporting

Annex C (normative) Determination method on the content of soluble phosphate in fly ash (expressed as P2O5)

C.1 Principle of the method
C.2 Sample for analysis
C.3 Reagents
C.4 Apparatus
C.5 Procedure
C.6 Calculation
C.7 Report

Annex D (informative) Guidance on conformity control and evaluation of conformity

Page count: 23