ISO 16204:2012-09 (E)

Durability - Service life design of concrete structures

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Symbols and abbreviated terms 5
4.1 Abbreviated terms 5
4.2 Main letters 5
4.3 Subscripts 6

5 Basis of design 6
5.1 Requirements 6
5.2 Principles of limit state design 7
5.3 Basic variables 8
5.4 Verification 8

6 Verificationofservicelifedesign 10
6.1 Carbonation-induced corrosion - uncracked concrete 10
6.2 Chloride-induced corrosion - uncracked concrete 13
6.3 Influenceofcracksuponreinforcementcorrosion 14
6.4 Risk of depassivation with respect to pre-stressed steel 15
6.5 Freeze/thaw attack 15
6.6 Chemical attack 17
6.7 Alkali-aggregate reactions 18

7 Execution 19
7.1 General 19
7.2 Executionspecification 19
7.3 Formwork 19
7.4 Materials 19
7.5 Inspection 20
7.6 Action in the event of non-conformity 20

8 Maintenance and condition assessment 20
8.1 General 20
8.2 Maintenance 20
8.3 Condition assessment 21

9 Action in the event of non-conformity 21

Annex A (informative) Basis of design 22

Annex B (informative)Verificationofservicelifedesign 24

Annex C (informative) Execution 28

Annex D (informative) Maintenance and condition assessment 29

Annex E (informative) Guidance on a national annex 30

Bibliography 31