DIN EN ISO 15630-1:2011-02 (E)

Steel for the reinforcement and prestressing of concrete - Test methods - Part 1: Reinforcing bars, wire rod and wire (ISO 15 630-1:2010)

Contents

Page

Foreword .....

Introduction 5

1 Scope 6

2 Normative references 6

3 Symbols 6

4 General provisions concerning test pieces 8

5 Tensile test 8
5.1 Test piece 8
5.2 Test equipment 8
5.3 Test procedure 9

6 Bend test 10
6.1 Test piece 10
6.2 Test equipment 10
6.3 Test procedure 10
6.4 Interpretation of test results 11

7 Rebend test 11
7.1 Test piece 11
7.2 Test equipment 11
7.2.1 Bending device 11
7.2.2 Rebending device 11
7.3 Test procedure 11
7.3.1 General 11
7.3.2 Bending 12
7.3.3 Artificial ageing 12
7.3.4 Rebending 12
7.4 Interpretation of test results 12

8 Axial force fatigue test 13
8.1 Principle of test 13
8.2 Test piece 13
8.3 Test equipment 13
8.4 Test procedure 14
8.4.1 Provisions concerning the test piece 14
8.4.2 Upper force (Fup) and force range (Fr) 14
8.4.3 Stability of force and frequency 14
8.4.4 Counting of force cycles 14
8.4.5 Frequency 14
8.4.6 Temperature 14
8.4.7 Validity of the test 14

9 Chemical analysis 14

10 Measurement of the geometrical characteristics 15

10.1 Test piece 15
10.2 Test equipment 15
10.3 Test procedure 15
10.3.1 Heights of transverse ribs or depths of indentations 15
10.3.2 Height of longitudinal ribs (a) 15
10.3.3 Transverse rib or indentation spacing (c) 15
10.3.4 Pitch (P) 16
10.3.5 Part of the circumference without ribs or indentations (ei) 16
10.3.6 Transverse rib or indentation angle () 16
10.3.7 Transverse rib flank inclination () 16
10.3.8 Width of transverse rib or width of indentation (b) 18

11 Determination of the relative rib or indentation area (fR or fP) 18
11.1 Introduction 18
11.2 Measurements 18
11.3 Calculation of fR 18
11.3.1 Relative rib area 18
11.3.2 Simplified formulae 19
11.3.3 Formula used for the calculation of fR 19
11.4 Calculation of fP 20
11.4.1 Relative indentation area 20
11.4.2 Simplified formulae 20
11.4.3 Formula used for the calculation of fP 21

12 Determination of deviation from nominal mass per metre 21
12.1 Test piece 21
12.2 Accuracy of measurement 21
12.3 Test procedure 21

13 Test report 22

Bibliography 23