

DIN EN ISO 15630-3:2025-11 (E)

Steel for the reinforcement and prestressing of concrete - Test methods - Part 3: Prestressing steel (ISO 15630-3:2025)

Contents		Page
Foreword		vi
Introduction		vii
1 Scope		1
2 Normative references		1
3 Terms, definitions and symbols		1
3.1 Terms and definitions.....		1
3.2 Symbols.....		2
4 General provisions concerning test pieces		3
5 Tensile test		4
5.1 Test piece.....		4
5.2 Test equipment.....		4
5.3 Test procedure.....		4
5.3.1 General.....		4
5.3.2 Determination of the modulus of elasticity.....		5
6 Bend test		6
6.1 Test piece.....		6
6.2 Test equipment.....		6
6.3 Test procedure.....		6
6.4 Interpretation of test results.....		6
7 Reverse bend test		7
7.1 Test piece.....		7
7.2 Test equipment.....		7
7.3 Test procedure.....		8
8 Wrapping test		8
8.1 Test piece.....		8
8.2 Test equipment.....		8
8.3 Test procedure.....		8
9 Isothermal stress relaxation test		8
9.1 Principle of test.....		8
9.2 Test piece.....		9
9.3 Test equipment.....		9
9.3.1 Frame.....		9
9.3.2 Force-measuring device.....		9
9.3.3 Length-measuring device (extensometer).....		10
9.3.4 Anchoring device.....		10
9.3.5 Loading device.....		10
9.4 Test procedure.....		10
9.4.1 Provisions concerning the test piece.....		10
9.4.2 Application of force.....		10
9.4.3 Initial force.....		11
9.4.4 Force during the test.....		11
9.4.5 Maintenance of strain.....		11
9.4.6 Temperature.....		11
9.4.7 Frequency of force recording.....		12
9.4.8 Frequency of strain recording.....		12
9.4.9 Duration of the test.....		12

10	Axial force fatigue test	12
10.1	Principle of test	12
10.2	Test piece	13
10.3	Test equipment	13
10.4	Test procedure	13
10.4.1	Provisions concerning the test piece	13
10.4.2	Stability of force and frequency	13
10.4.3	Counting of force cycles	14
10.4.4	Frequency	14
10.4.5	Temperature	14
10.4.6	Validity of the test	14
11	Stress corrosion test in a solution of thiocyanate	14
11.1	Principle of test	14
11.2	Sample and test piece	14
11.3	Test equipment	14
11.3.1	Frame	14
11.3.2	Force-measuring device	14
11.3.3	Time-measuring device	15
11.3.4	Test cell containing the test solution	15
11.3.5	Test solution	15
11.4	Test procedure	15
11.4.1	Provisions concerning the test pieces	15
11.4.2	Application and maintenance of force	16
11.4.3	Filling of the test cell	16
11.4.4	Temperature during the test	16
11.4.5	Termination of the test	16
11.4.6	Determination of median lifetime to fracture	16
12	Deflected tensile test	16
12.1	Principle of test	16
12.2	Sample and test pieces	16
12.3	Test equipment	17
12.3.1	General description	17
12.3.2	Dimensions	17
12.3.3	Anchorage	17
12.3.4	Mandrel	18
12.3.5	Loading device	19
12.4	Test procedure	19
13	Chemical analysis	20
14	Measurement of the geometrical characteristics	20
14.1	Test piece	20
14.2	Test equipment	20
14.3	Test procedures	20
14.3.1	Rib measurements	20
14.3.2	Indentation measurements	21
14.3.3	Lay length of strand (P)	22
14.3.4	Straightness	22
15	Determination of the relative rib area (f_R)	22
15.1	General	22
15.2	Calculation of f_R	23
15.2.1	Relative rib area	23
15.2.2	Simplified formulae	23
15.2.3	Formula used for the calculation of f_R	24
16	Determination of deviation from nominal mass per metre	24
16.1	Test piece	24
16.2	Accuracy of measurement	24
16.3	Test procedure	25

17	Test report	25
Annex A (informative)	Options for agreement between the parties involved	26
Annex B (informative)	Stress corrosion test in thiocyanate solution with galvanostatic current	27
Annex C (informative)	Stress corrosion test in distilled water	33
Bibliography		38