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METALLIC MATERIALS - TENSILE STRESS RELAXATION TESTING - PART 2: PROCEDURE FOR BOLTED JOINT MODELS

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Metallische Werkstoffe - Relaxationsversuch unter Zugbeanspruchung - Teil 2: Prüfverfahren mit Schraubenverbindungsmodellen

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Foreword

This document (EN 10319-2:2006) has been prepared by Technical Committee ECISS/TC 1 “Steel - Mechanical testing”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2007, and conflicting national standards shall be withdrawn at the latest by April 2007

This European Standard consist of the following parts under the general title *Metallic materials – Tensile stress relaxation testing:*

— *Part 1: Procedure for testing machines*

— *Part 2: Procedure for bolted joint models*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This part of EN 10319 specifies the test method for determining the stress relaxation of bolts tensioned in bolted joint models subjected throughout the test to overall constant strain and constant temperature conditions.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Not applicable.

3 Terms and definitions

For the purpose of this European Standard, the following terms and definitions apply.

3.1
nominal diameter (d)
diameter of the bolt in the cylindrical length L_c

3.2
thread diameter (D)
diameter of the threaded ends of the bolt

3.3
cylindrical length (L_c)
length of the cylindrical reduced section of the bolt

3.4
reference length (L_r)
base length of the bolt used for calculating strain

3.5
overall length (L_t)
overall length of the bolt

3.6
original cross-sectional area (S_o)
cross-sectional area of the cylindrical length of the bolt determined at ambient temperature prior to testing:

$$S_o = \pi d^2 / 4$$

3.7
extension
increase in the overall length L_t

A distinction is made between:

3.7.1
extension during tensioning (ΔL_o)
extension of the overall length L_t of the bolt during tensioning

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