

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

TC 12

## ISO RECOMMENDATION R 203

INTERRUPTED CREEP TESTING OF STEEL  
AT ELEVATED TEMPERATURES  
(LOAD AND TEMPERATURE INTERRUPTED)

1st EDITION  
June 1961

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Printed in Switzerland

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## BRIEF HISTORY

The ISO Recommendation R 203, *Interrupted Creep Testing of Steel at Elevated Temperatures (Load and Temperature Interrupted)*, was drawn up by Technical Committee ISO/TC 17, *Steel*, the Secretariat of which is held by the British Standards Institution (B.S.I.).

Work on this matter, which was begun by the Technical Committee in 1955 was completed in 1958, with the adoption of a proposal as a Draft ISO Recommendation.

On 4 November 1959, the Draft ISO Recommendation (No. 292) was distributed to all the ISO Member Bodies and was approved, subject to some editorial amendments, by the following Member Bodies:

Australia	France	Poland
Austria	Germany	Portugal
Belgium	Greece	Romania
Brazil	Hungary	Spain
Bulgaria	India	Sweden
Burma	Israel	Turkey
Chile	Italy	United Kingdom
Czechoslovakia	Japan	U.S.S.R.
Denmark	Netherlands	
Finland	Norway	

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in June 1961, to accept it as an ISO RECOMMENDATION.

**INTERRUPTED CREEP TESTING OF STEEL  
AT ELEVATED TEMPERATURES  
(LOAD AND TEMPERATURE INTERRUPTED)**

**1. SCOPE**

This ISO Recommendation applies to those tests in which the strain is measured under tensile creep stress and lies between 0.1 and 1.0 per cent, and in which the period of testing does not exceed 10 000 hours.\*

It applies to tests in single machines and to each test in multiple testing machines.

**2. PRINCIPLE OF TEST**

The test consists of heating a test piece to a uniform temperature and subjecting it to constant tensile load at that temperature, except that, during any interruptions, the load is removed and the test piece returns to ambient temperature, and determining the strain as a function of time, the measurement of elongation being carried out at ambient temperature after removal of load.

**3. DEFINITIONS**

- 3.1 *Gauge length.* At any moment during the test, the prescribed part of the cylindrical or prismatic portion of the test piece on which elongation is measured. In particular,  
Original gauge length ( $L_0$ ). Gauge length measured at ambient temperature, before applying the load.
- 3.2 *Stress* (actually "nominal stress"). At any moment during the test, load divided by the original cross-sectional area of the test piece (at ambient temperature).
- 3.3 *Percentage permanent elongation.* Variation of the gauge length of a test piece, subjected to a prescribed stress (see clause 3.2) and, after removal of same, expressed as a percentage of the original gauge length.

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\* This limit of 10 000 hours is fixed as a function of the conditions of test, and in particular of the temperature limits in section 7. For tests of more than 10 000 hours, the tolerances should be agreed between the parties.