

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

To be withdrawn
(to become ISO 7500/1-1986)

ISO RECOMMENDATION

R 147

LOAD CALIBRATION OF TESTING MACHINES FOR TENSILE TESTING OF STEEL

1st EDITION

February 1960

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Printed in Switzerland

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BRIEF HISTORY

The ISO Recommendation R 147, *Load Calibration of Testing Machines for Tensile Testing of Steel*, was drawn up by Technical Committee ISO/TC 17, *Steel*, the Secretariat of which is held by the British Standards Institution (B.S.I.).

During a meeting held by Working Group ISO/TC 17/WG 1, *Methods of Mechanical Testing for Steel*, in Paris, in May 1953, study was begun on the draft proposal concerning this ISO Recommendation.

The draft proposal drawn up by the Working Group was submitted to the Technical Committee for examination during its meeting, held in Stockholm, in June 1955. As a result of the comments put forward at that meeting, the draft proposal was referred back to the Working Group, which modified it accordingly. The Technical Committee re-examined this draft proposal during its plenary meeting, held in London, in March 1957. At that time it was decided that the Technical Committee Secretariat would set up a new draft proposal; this latter was submitted by correspondence to the members of the Technical Committee, which accepted it with slight changes, the draft proposal thus revised being adopted as a Draft ISO Recommendation.

On 11 July 1958, the Draft ISO Recommendation (No. 206) was distributed to all the ISO Member Bodies and was approved, subject to small modifications, by the following (23 out of a total of 40) Member Bodies:

Austria	Hungary	Romania
Belgium	India	Spain
Bulgaria	Israel	Sweden
Burma	Italy	Switzerland
Chile	Japan	United Kingdom
Czechoslovakia	New Zealand	U.S.S.R.
Denmark	Norway	Yugoslavia
Finland	Poland	

Two Member Bodies opposed the approval of the Draft: France, Germany.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in February 1960, to accept it as an ISO RECOMMENDATION.

LOAD CALIBRATION OF TESTING MACHINES FOR TENSILE TESTING OF STEEL

1. SCOPE

- 1.1** This ISO Recommendation applies to the load calibration of machines used for the tensile testing of steel in accordance with ISO Recommendation R 82, *Tensile Testing of Steel*. The machine is calibrated under conditions of increasing load.

- 1.1.1** The following methods of load calibration are described:

- (a) by means of weights (masses), see section 3, page 4
- (b) by means of elastic devices (dynamometers), see section 4, page 5
- (c) by means of proving levers, see section 5, page 6.

- 1.2** Whatever method is used, the calibration should check both the repeatability and the accuracy of the machine.

- 1.2.1** This check involves the comparison between

the load determined by means of the calibrating device,
designated hereinafter by convention as true load (F), and

the load read on the machine being calibrated,
designated hereinafter by convention as indicated load (F_i).

2. DEFINITIONS

2.1 Repeatability

- 2.1.1** Repeatability for a given true load: the greatest difference observed between the indicated loads corresponding to repeated application of the true load.

- 2.1.2** Repeatability for a given indicated load: The greatest difference observed between the true loads corresponding to repeated values of the indicated load.

NOTE: The larger the difference, the worse the repeatability.

2.2 Error

- 2.2.1** Error for a given true load: the difference between the true load and the arithmetic mean of readings corresponding to repeated applications of the load. It is expressed as a percentage of the true load.

- 2.2.2** Error for a given indicated load: the difference between the indicated load and the arithmetic mean of the readings of the true loads corresponding to repeated values of the indicated load. It is expressed as a percentage of the indicated load.