

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1555

COPPER AND COPPER ALLOY ROLLED FLAT PRODUCTS
(THICKNESS LESS THAN 2.5 mm (0.1 in))

TENSILE TEST

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1555, *Copper and copper alloy rolled flat products (thickness less than 2.5 mm (0.1 in)) – Tensile test*, was drawn up by Technical Committee ISO/TC 26, *Copper and copper alloys*, the Secretariat of which is held by the Deutscher Normenausschuss (DNA).

Work on this question led to the adoption of Draft ISO Recommendation No. 1555, which was circulated to all the ISO Member Bodies for enquiry in March 1968.

The Draft was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Israel	Switzerland
Belgium	Italy	Thailand
Canada	Netherlands	Turkey
Chile	New Zealand	U.A.R.
Finland	Norway	United Kingdom
France	Poland	U.S.A.
Germany	South Africa, Rep. of	Yugoslavia
India	Spain	
Iran	Sweden	

No Member Body opposed the approval of the Draft.

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

COPPER AND COPPER ALLOY ROLLED FLAT PRODUCTS

(THICKNESS LESS THAN 2.5 mm (0.1 in))

TENSILE TEST

1. SCOPE

This ISO Recommendation describes a method of tensile testing rolled flat products of copper and copper alloys of thickness less than 2.5 mm (0.1 in) and not less than 0.15 mm (0.006 in).

By agreement between the purchaser and the supplier, the test may also be applied to material having a thickness less than 0.15 mm, but it is emphasized that special precautions are necessary in order to obtain reproducible results.

2. PRINCIPLE

The test consists in subjecting a test piece to increasing tensile stress, generally to fracture, with a view to determining one or more of the mechanical properties enumerated hereafter. The test is carried out at ambient temperature, unless otherwise specified.

3. DEFINITIONS

3.1 *Gauge length*. At any moment during the test, the length of the portion of the test piece on which an increase in length is measured. In particular, a distinction should be made between the following :

- (a) *the original gauge length (L_0)*. Gauge length before the test piece is strained, and
- (b) *the gauge length after fracture (L_u)*. Gauge length after the test piece has been fractured and the fractured parts have been carefully fitted together so that they lie in a straight line.

3.2 *Stress* (actually "nominal stress"). At any moment during the test, load divided by the original cross-sectional area of the test piece.

3.3 *Percentage permanent elongation*. Increase in the gauge length of a test piece subjected to a stress after removal of that stress, expressed as a percentage of the original gauge length.

3.4 *Stress at specified permanent set (R_r)*. Stress at which, after removal of load, the specified percentage permanent elongation occurs.

3.4.1 The symbol used for this stress is supplemented by an index giving the specified percentage elongation.