

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

~~ISO RECOMMENDATION R 955~~

FLATTENING TEST
iTeh STANDARD PREVIEW
ON ALUMINIUM AND ALUMINIUM ALLOY TUBES
(standards.iteh.ai)

ISO/R 955:1969

<https://standards.iteh.ai/catalog/standards/sist/27add583-b699-449a-b13e-b99c818bcd91/iso-r-955-1969>

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BRIEF HISTORY

The ISO Recommendation R 955, *Flattening test on aluminium and aluminium alloy tubes*, was drawn up by Technical Committee ISO/TC 79, *Light metals and their alloys*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led, in 1966, to the adoption of a Draft ISO Recommendation.

In March 1967, this Draft ISO Recommendation (No. 1135) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Belgium	Israel	Switzerland
Canada	Italy	Thailand
Chile	Japan	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	New Zealand	United Kingdom
Germany	Norway	U.S.A.
Greece	Poland	U.S.S.R.
Hungary	South Africa, Rep. of	Yugoslavia
India	Sweden	

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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 January 1969, to accept it as an ISO RECOMMENDATION.

FLATTENING TEST ON ALUMINIUM AND ALUMINIUM ALLOY TUBES

1. SCOPE

This ISO Recommendation applies to aluminium and aluminium alloy tubes. Individual material specifications may specify the maximum diameter and thickness of tube to which this test is to be applied.

2. PRINCIPLE OF TEST

The test consists in flattening the end of a tube or test piece of specified length cut from a tube in a direction perpendicular to the longitudinal axis of the tube.

When the test is carried out so that, after the test, the internal surfaces of the test piece are in contact over at least half of the internal width of the flattened test piece, the test is called "close-flattened".

In other cases, the test is carried out until the distance between platens measured under load in the direction of flattening reaches a value fixed by the relevant material specification.

The test piece should be removed from the testing machine for examination.

The test is carried out at ambient temperature unless otherwise specified.

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3. SYMBOLS AND DESIGNATIONS

Reference number	Symbol	Designation
1	D	External diameter of test piece
2	a	Wall thickness of test piece
3	b	Internal width of flattened test piece
4	d	Internal diameter of test piece
5	z	Distance between platens measured under load
	L	Length of test piece

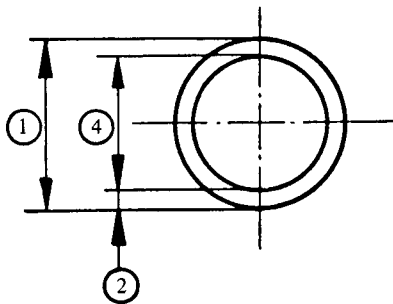


FIG. 1 - Test piece



FIG. 2 - Distance between platens measured under load

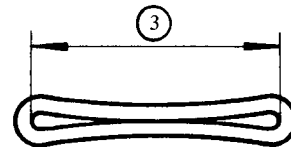


FIG. 3 - Close-flattened

4. TEST PIECE

4.1 The test piece should consist of a length of the tube with the ends perpendicular to the axis. The length L should normally be approximately equal to $1.5 D$, but neither less than 10 mm (0.4 in) nor more than 100 mm (4 in); other lengths may, however, be used depending on machine capacity and convenience.

The test may be made on the end of the tube without removing the test piece. In this case, unless otherwise required by the material specification, the length submitted to the test should be the length L specified above.

4.2 The cut ends of the test piece may be suitably rounded. However, a test on a test piece, the cut ends of which have not been rounded, is permissible provided that the requirements of the material specification are satisfied.

5. METHOD OF TEST

5.1 The test piece should be placed between two plane, parallel, rigid platens, extending over the length L and wide enough to cover the flattened tube, i.e. at least $1.6 D$. A gradually increasing load should then be applied until the specified limit of the test is reached or until failure occurs.

5.2 In the case of welded tube, care should be taken to ensure that the weld is in the position required by the material specification.

5.3 In cases of dispute or for purposes of arbitration, the rate of movement of the platens should not exceed 25 mm (1 in) per minute.

6. INTERPRETATION OF TEST RESULTS

The degree of flattening and the interpretation of the visual appearance of the test piece after testing should be specified in the material specification.