මෙය රාජ්‍ය භාෂාවෙන් වෙනම මුද්‍රණය කර ඇත.

ලංකා ප්‍රමිති 93 : 1970
CEYLON STANDARD 93: 1970

(විශ්ව දශම වර්ග කිරීම U. D. C. 669.14 : 620.17)

වානේ තහඩුවලත් තීරුවලත් සරල නැමුම් පරීක්ෂාව පිළිබඳ ලංකා ප්‍රමිති පිරිවිතර

CEYLON STANDARD METHOD FOR SIMPLE BEND TESTING OF STEEL SHEET AND STRIP

ලංකා ප්‍රමිති කාර්යාංශය
BUREAU OF CEYLON STANDARDS

CEYLON STANDARD METHOD FOR SIMPLE BEND TESTING OF STEEL SHEET AND STRIP

C. S. 93 : 1970

Gr.3

BUREAU OF CEYLON STANDARDS
53, DHARMAPALA MAWATHA
COLOMBO 3.

Ceylon Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

BUREAU OF CEYLON STANDARDS
53, DHARMAPALA MAWATHA
COLOMBO 3.

Telephone: 26051, 26054, 26055 *Telegrams:* " PRAMIKA "

CEYLON STANDARD METHOD FOR SIMPLE BEND TESTING OF STEEL SHEET AND STRIP

FOREWORD

This Ceylon Standard has been prepared by the Drafting Committee on Steel. It was approved by the Civil Engineering Divisional Committee of the Bureau of Ceylon Standards and was authorised for adoption and publication by the Council of the Bureau on 14th August 1970.

This is one of a series of Ceylon Standards on methods of bend test for steel products. Other standards in the series are as follows:-

C. S. 13 Method of bend test for steel products other than sheet, strip, wire and tube.

C. S. 94 Method for reverse bend testing of steel sheet and strip less than 3mm thick.

C. S. .... Method for reverse bend testing of steel wire.*

This standard is based on ISO/R 87 - 1959

1. SCOPE

This standard prescribes the method of conducting simple bend test on steel sheet and strip less than 3mm (0.12 in) thick.

2. PRINCIPLE OF TEST

The test consists in submitting a straight test piece to plastic deformation by bending without reversing the direction of flexure during the test. The bending is carried out until one leg of the test piece makes, under load, a specified angle α with the extension of the other (see Fig. 2) The axes of the two legs of the test piece remain in a plane perpendicular to the axis of bending. In the case of 180° bend, the two lateral surface may, depending on the requirements of the specification, lie flat against each other or be parallel at a specified distance, an instermediate piece may be used for the control of this distance (see Fig. 4).

---

* under preparation.

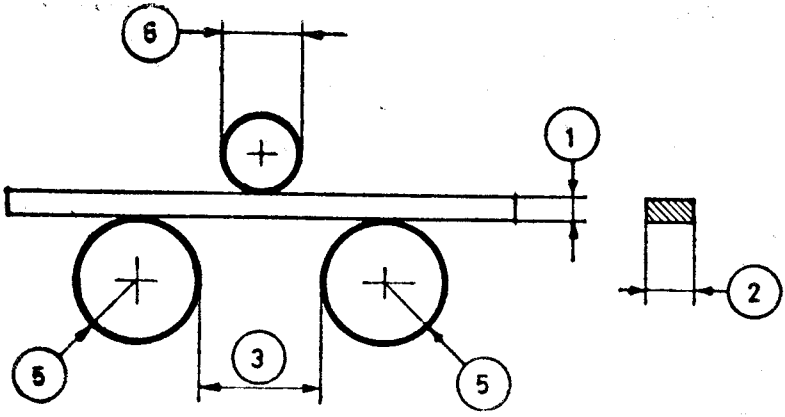

Fig. 1

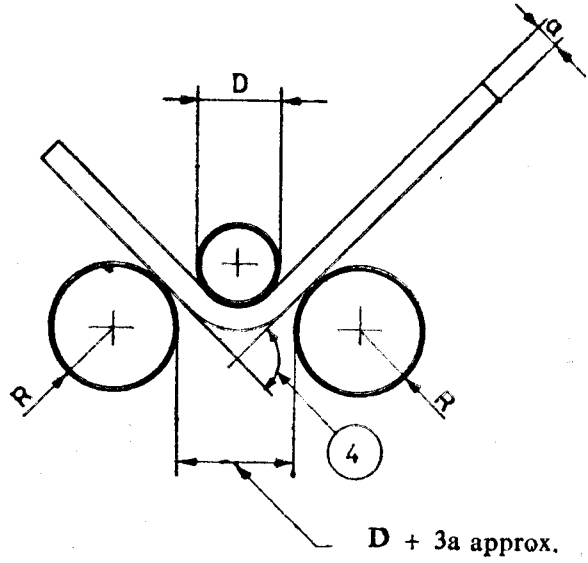

Fig. 2

3. SYMBOLS AND DESIGNATIONS

Number	Symbol	Designation
1	a	Thickness of test piece
2	b	Width of test piece
3	—	Distance between supports (see Fig. 1 & 2)
4	α	Angles of bend
5	R	Radius of supports
6	D	Diameter of mandrel
7	r	Internal radius of bent portion of test piece after bending.

4. TEST PIECE

4.1 The thickness of the test piece shall be that of the sheet or the strip from which the sample is taken, the skins remaining intact.

4.2 The width of the test piece shall be 20mm $^{+\ 0}_{-\ 5}$mm (13/16 in $^{+\ 0}_{-\ 3/16}$ in).

4.2.1 Strip material of a smaller width may be tested with the full width as supplied.

4.3 The test piece shall be prepared so that the edges are free from burrs and cracks. Cold - worked zones may be removed by machining or filing. However, the test shall be acceptable whether, or not the edges have been prepared provided the resultant bend is satisfactory.

5. METHOD OF TEST

5.1 A common method of carrying out the test is to lay the test piece on two parallel supports and bending it in the middle by means of a mandrel (see Fig. 1 and 2).

5.1.1 The legs of the test piece may be:

(*a*) brought to a specified angle (see Fig. 1 and 2).

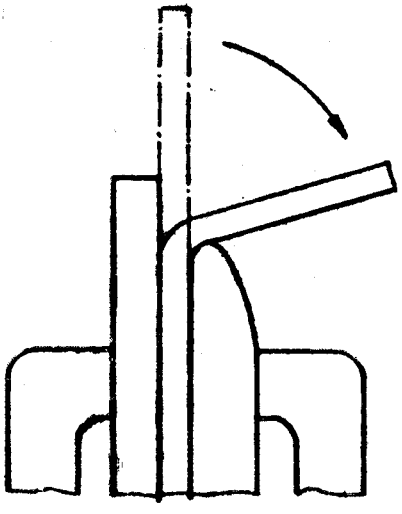

Fig. 3

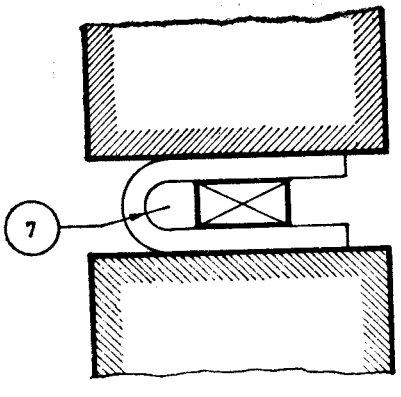

Fig. 4

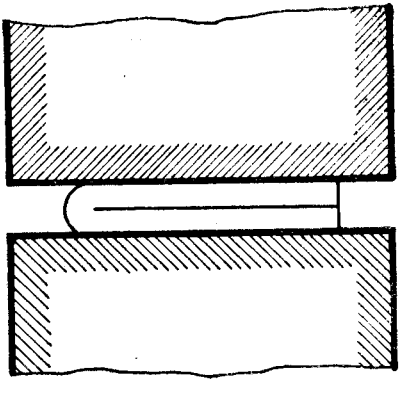

Fig. 5

(*b*) brought parallel to each other at a given distance apart (see Fig. 4), or

(*c*) brought into contact with each other (see Fig. 5), according to the material specification.

5.2 Another method of test is by holding one end of the test piece between two blocks and bending the specimen over one of the blocks which is rounded to the specified radius (see Fig. 3) and is of sufficient hardness.

5.3 In both the methods the bending force shall be applied slowly, with the object of permitting free plastic flow of the meterial.

6. TEST REQUIREMENTS

6.1 The test shall be carried out at ambient temperature, unless otherwise specified.

6.2 After bending the outside of the bent portion should be examined.

6.3 The interpretation of the appearance of the outside of the bent portion shall be done in accordance with the material specification.

BUREAU OF CEYLON STANDARDS

The Bureau of Ceylon Standards (BCS) is the national standards organisation of Ceylon and was established by the Hon. Minister of Industries & Fisheries, as provided for by the Bureau of Ceylon Standdards Act, No. 38 of 1964.

The principal objects of the Bureau as set out in the Act are to promote standards in industry and commerce, prepare national Standards Specifications and Codes of Practice and operate a Standardisation Marks Scheme and provide testing facilities, as the need arises.

The Bureau is financed by Government grants and the sale of its publications. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The detailed preparation of Standard Specifications are done by Drafting Committees composed of experts in each particular field assisted by permanent officers of the Bureau. These Committees are appointed by Divisional Committees, which are appointed by the Council. All members of the Drafting and Divisional Committees render their services in an honorary capacity. In preparing the Standard Specifications the Bureau endeavours to ensure adequate representation of all view points.

In the international field the Bureau represents Ceylon in the International Organisation for Standardisation (ISO) and will participate in such fields of Standardisation as are of special interest to Ceylon.