

International Standard



8495

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Metallic materials — Tube — Ring expanding test

Matériaux métalliques — Tubes — Essai de dilatation d'anneaux

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Descriptors : metals, metal tubes, tests, drift expanding tests, ring tests.

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8495 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*.

It cancels and replaces ISO Recommendation R 374-1964, of which it constitutes a technical revision.

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Metallic materials — Tube — Ring expanding test

1 Scope and field of application

This International Standard specifies a method for a ring expanding test on tubes, that is used to reveal surface and internal defects in the tubes by expanding the test piece using a drift until fracture occurs. It may also be used to assess the plastic formability of tubes.

The ring expanding test is applicable to tubes having an outside diameter from 18 up to and including 150 mm and wall thickness from 2 up to and including 16 mm.

2 Principle

Expanding a ring cut from the end of a tube, over a conical mandrel until fracture, or until the expansion of the test piece reaches a value specified in the relevant standard.

3 Symbols, designations and units

Symbols, designations and units used for the ring expanding test are given in the table and the figure.

Table — Symbols, designations and units

Symbol	Designation	Unit
D	Original outside diameter of the tube	mm
a	Wall thickness of the tube	mm
D_u	Maximum outside diameter of the expanded part of the test piece	mm
L	Length of the test piece before the test	mm
$D_{m \max.}$	Maximum diameter of the mandrel	mm
$D_{m \min.}$	Minimum diameter of the mandrel	mm

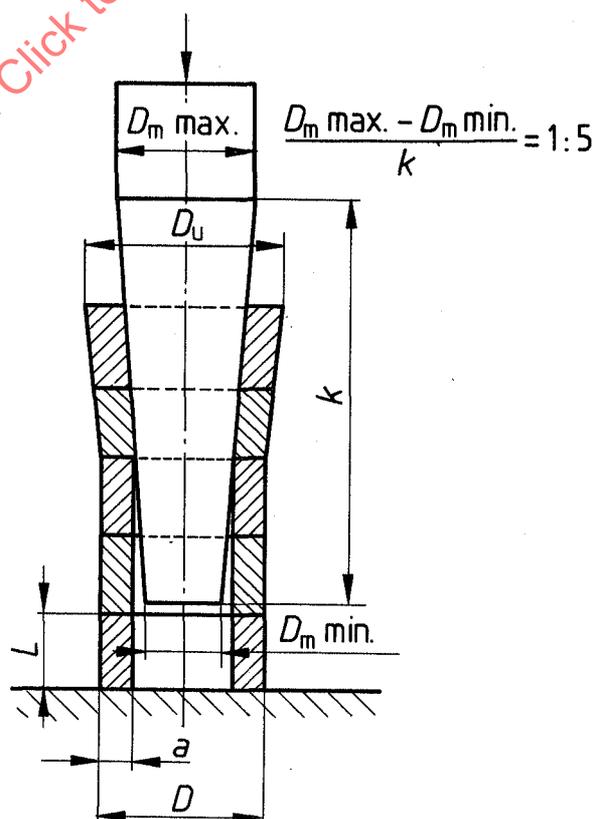


Figure — Symbols for ring expanding test