INTERNATIONAL STANDARD ISO 2546

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

Seamless plain end tubes made from unalloyed steel and without quality requirements

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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.

International Standard ISO 2546 was drawn up by Technical Committee ISO/TC 5, *Metal pipes and fittings*, and circulated to the Member Bodies in April 1972.

It has been approved by the Member Bodies of the following countries:

Australia	Germany	Romania
Austria	India	South Africa, Rep. of
Belgium	Ireland	Spain
Chile	Israel	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Japan	Thailand
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Finland	Norway	U.S.S.R.
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The Member Bodies of the following countries expressed disapproval of the document on technical grounds:

Canada
United Kingdom
U.S.A.

Printed in Switzerland

Seamless plain end tubes made from unalloyed steel and without quality requirements

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the characteristics of seamless plain end tubes made from unalloyed steel and without quality requirements, intended for the conveyance of fluids and for other purposes where leak tightness is required.

2 REFERENCES

ISO 134, *Plain end steel tubes for general purposes.**

ISO/R 404, *General technical delivery requirements for steel.*

3 GENERAL REQUIREMENTS

3.1 The tubes shall be made by a seamless process and may be hot finished or cold finished.

3.2 The tubes shall be suitable for fabrication and shaping by normal techniques.

3.3 The tubes shall be weldable.

3.4 Mechanical tests and chemical analyses are not required.

4 MATERIAL

The tubes shall be made of steel of commercial quality without verified test values.

For guidance, the steel shall have the following properties on longitudinal test pieces cut from the tube.

Steel designation (symbol)	Tensile strength	Minimum elongation after fracture[2]	Chemical composition (ladle analysis)	
	N/mm²	%	P % max.	S % max
TS.O[1]	320 to 520	15	0,06	0,06

1) Provisional symbol.

2) $L_0 = 5{,}65\sqrt{S_0}$

* At present at the stage of draft; revision of ISO/R 134.

5 APPEARANCE

5.1 The tubes shall have smooth external and internal surfaces, the degree of smoothness depending on the method of manufacture. The tubes shall have a workmanlike finish but small imperfections are permissible provided that the thickness remains within the lower tolerance limit.

5.2 Surface imperfections may be dressed provided that the thickness after dressing remains within the lower tolerance limit.

5.3 Peening of surface defects is not permitted.

5.4 The tubes shall be cut square with the axis of the tube, and shall be free from burrs and reasonably straight. Straightness cannot be guaranteed.

6 DIMENSIONS

6.1 The preferred values of outside diameter and thickness shall be those quoted in ISO 134.

6.2 The tubes are normally supplied in random lengths of 4 to 8 m. If specified in the order, they may be supplied in longer lengths.

6.2.1 If specified in the order, they may be supplied in limited lengths or exact lengths.

7 TOLERANCES

7.1 On the outside diameter

– up to and including 50 mm : ± 0,5 mm
– above 50 mm : ± 1 %

} Tolerance grade ISO D_2

The ovality shall not exceed the limits on diameter.

7.2 On the thickness

Upper deviation : not limited.