International Standard

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION MEX DYNAPODHAR OPFAHUSAUUR NO CTAHDAPTUSAUUMORGANISATION INTERNATIONALE DE NORMALISATION

Steel tubes and tubular shaped accessories with circular cross-section — Symbols to be used in specifications

Tubes en acier et accessoires de forme tubulaire à section circulaire - Symboles à utiliser dans les spécifications

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<u>ISO 3545:1981</u> https://standards.iteh.ai/catalog/standards/sist/7869c95d-25df-4591-bc5ee1b21a110040/iso-3545-1981

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3545

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.

IFW International Stanard ISO 3545 was developed by Technical Committee ISO/TC 5, Metallic pipes and fittings, and was circulated to the member bodies in June 1979. standards.iten.al

It has been approved by the member bodies of the following countries :

Australia Austria Belgium Brazil Canada Chile Denmark Egypt, Arab Rep. of Finland

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The member bodies of the following countries expressed disapproval of the document on technical grounds :

> Czechoslovakia Italy United Kingdom USA

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Steel tubes and tubular shaped accessories with circular cross-section — Symbols to be used in specifications

1 Scope and field of application	5.2 Flattening test (see figure 4)
This International Standard defines the most common symbols with the aim of standardising and facilitating the use of ter- minology used in standards for steel tubes and associated pro- ducts.	H = distance between the platens of the test machine
	L = length of the test piece
	K = constant factor of deformation for the formula :
2 Fundamental symbols (see figure 1)	$H = \frac{(1 + K) \times T}{K + (T/D)}$
D = specified outside diameter	
P = pressure	5.3 Drift expanding test (see figure 5)
T = specified thickness iTeh STAND	C = outside diameter of expansion
M = mass per unit length (standa)	L = length of test piece before testing
	5.4 Flanging test (see figure 6)
3 Symbols for service conditions	<u>3545:1981</u> ndards/s G / 78 (outside flange -diameter_
DN = nominal size e1b21a1100	$\frac{40}{100}$ $L = 100$ length of test piece before testing
PN = nominal pressure	
PS = service pressure	6 Symbols for specifications
TS = service temperature	$I = \text{moment of inertia} \\ (\text{second moment of area}) = \frac{\pi}{64} [D^4 - (D - 2T)^4]^*$
4 Symbols for tolerances	$Z =$ section modulus $= \frac{I}{D/2}^*$
See ISO 5252, Steel tubes - Tolerance systems.	77
	$A = \text{section} = \frac{\pi}{4} [D^2 - (D - 2T)^2]^{**}$
5 Symbols for tests	
5.1 Pressure test	$R = \text{radius of gyration} = \sqrt{\frac{I}{A}}$
PE = test pressure	$B =$ diameter-thickness ratio $= \frac{D}{T}$

* The moment of inertia is calculated on the basis of any axis.

S = stress which occurs in the metal during the test

** This is a cross-sectional area which is perpendicular to the axis of the tube or the accessory.

O = ovality = difference between the maximum and the minimum outside diameter in the same cross-section divided by the outside diameter. The ovality is expressed as a percentage (see figure 2).

$$O = 100 \times \frac{D_{\max} - D_{\min}}{D}$$

E = eccentricity = difference between the maximum and the minimum thickness in the same cross-section divided by the thickness. The eccentricity is expressed as a percentage (see figure 3).

$$E = 100 \times \frac{T_{\text{max}} - T_{\text{min}}}{T}$$

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