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Replacing GB/T 246-2007

Metallic Materials – Tube – Flattening

Test (ISO 8492:2013, IDT)

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Quarantine;
Standardization Administration of PRC.**

Table of Contents

Foreword.....	3
1 Scope.....	4
2 Symbols, Names and Units.....	4
3 Test Principle.....	4
4 Test Equipment.....	5
5 Specimen.....	5
6 Test Procedures.....	5
7 Test Report.....	6

Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 246-2007 Metal Materials – Tube – Flattening Test; compared with GB/T 246-2007, the major technical changes are as follows:

- Modify the standard name into “Metallic Materials – Tube – Flattening Test”;
- Modify the description of “Range” (see Clause 1);
- Add titles to Table 1 and Figure 1; modify the note of wall thickness symbol in Table 1 (see Table 1, Figure 1);
- Modify the description of “Test Principle” (see Clause 3)
- Make editorial change for “Test Procedures” (see Clause 6);
- Replace Clause 7 Item d) “pressure plate spacing” with “distance between two pressure plates under force (H)”.

The translation method used in this Standard equivalently adopts ISO 8492:2013 Metallic Materials – Tube – Flattening Test.

This Standard makes the following editorial changes:

- Add titles to Table 1 and Figure 1.

This Standard was proposed by China Iron and Steel Industry Association.

This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Steel (SAC/TC 183).

Drafting organizations of this Standard: Changshu Entry-Exit Inspection and Quarantine Bureau of the People’s Republic of China, Zhejiang Kingland Pipeline and Technologies Co., Ltd., National Center for Quality Supervision & Test of Steel Material Products, and China Metallurgical Information and Standardization Institute.

Chief drafting staffs of this Standard: Wang Weizhong, Lu Shuyuan, Yang Weifang, Liu Yan, Dong Li, Yu Lu, Xu Haibin, and Huang Fei.

The historical editions *replaced* by this Standard are as follows:

- GB 246-1963, GB 246-1982, GB/T 246-1997, GB/T 246-2007.

Metallic Materials – Tube – Flattening Test

1 Scope

This Standard specifies the flattening test method for determining the plastic deformability of metal tube with circular cross-section, it can also be used for revealing the tube defects.

Except for the provisions of relevant product standards, this Standard is applicable to the metal tubes with outer diameter no greater than 600mm, and wall thickness no greater than 15% outer diameter.

2 Symbols, Names and Units

The symbols, names and units used in this Standard can refer to Table 1 and Figure 1.

Table 1 -- Symbols, Names and Units

Symbols	Names	Units
a^a	Wall thickness of tube	mm
b	Inner width of specimen after flattening	mm
D	Outer diameter of metal tube	mm
H	Distance between two pressure plates under force	mm
L	Specimen length	

^a such parameter can also be expressed by other symbols in the steel tube standards.

3 Test Principle

The Force IS APPLIED TO the specified-length metal tube specimen cut from the direction perpendicular to the longitudinal axis of the metal tube OR specimen on metal tube end to perform flatten test [see Figure 1a) and Figure 1b)] till the distance between two pressure plates under such force reaches the value specified in the relevant product standard.

If it is closed flattening, the width of contact area on the inner surface of the specimen shall be at least half of the width b of the specimen after normal flattening [see Figure 1c)].