

INTERNATIONAL STANDARD

ISO 10806

First edition
1994-08-15

Pipework — Non-alloyed and stainless steel fittings for corrugated flexible metallic hoses

iTeh STANDARD PREVIEW

*Tuyauteries — Raccords en acier non allié et acier inoxydable pour
tuyauteries métalliques flexibles onduleuses*

ISO 10806:1994

<https://standards.iteh.ai/catalog/standards/sist/5ad9dc9a-2427-4dc5-b2f7-243ec2502337/iso-10806-1994>



Reference number
ISO 10806:1994(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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International Standard ISO 10806 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*, Subcommittee SC 11, *Flexible interlocked and convoluted metallic hoses*.

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Pipework — Non-alloyed and stainless steel fittings for corrugated flexible metallic hoses

1 Scope

This International Standard specifies the design characteristics of non-alloyed and stainless steel fittings for corrugated flexible metallic hose in accordance with the requirements of ISO 10380.

The fittings specified in this International Standard are suitable for the majority of applications. Where other types of fittings are used, their characteristics will be the subject of an agreement between the purchaser and the manufacturer.

ISO 228-1:1994, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation.*

ISO 4200:1991, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length.*

ISO 6708—¹⁾, *Pipe components — Definition of nominal size (DN).*

ISO 6761:1981, *Steel tubes — Preparation of ends of tubes and fittings for welding.*

ISO 7005-1:1992, *Metallic flanges — Part 1: Steel flanges.*

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation.*

ISO 7268:1983, *Pipe components — Definition of nominal pressure.*

ISO 7369:—²⁾, *Pipework — Flexible metallic hoses — Vocabulary of general terms.*

ISO 10380:1994, *Corrugated flexible metallic hose and hose assemblies.*

3 Information to be supplied by the purchaser

The purchaser shall supply the manufacturer with all relevant information on the use of the hose assembly, including the fittings specified in this International Standard.

1) To be published. (Revision of ISO 6708:1980)

2) To be published. (Revision of ISO 7369:1983)

4 Materials

The materials for the fittings shall be selected on the basis of their suitability for the conditions under which the hose assemblies shall be used.

The materials to be used for the weldable part of the non-alloyed and stainless steel fittings are shown in table 1 of ISO 10380. The use of copper alloy and materials other than those indicated in table 1 of ISO 10380:1994 shall be subject to agreement between the manufacturer and the user.

The maximum permissible pressure shall comply with the burst requirement specified in ISO 10380:1994, subclause 9.4.

5 Method of assembly

The fittings shall be fitted to the flexible hoses as specified in ISO 10380:1994, subclause 8.3.

6 Types of fittings

The types of fittings specified in this International Standard are shown in table 1.

7 Burst pressure test

The fittings joined to the flexible pipe shall be subjected to the burst test according to the method specified in ISO 10380:1994, subclause 9.4. The connections used for the test shall comply with table 2.

For assemblies of fittings and flexible hoses with different maximum permissible pressures, the lowest value shall be taken into consideration.

Maximum permissible pressures shall only be reached at ambient temperature if allowed by the flexible hose and the method of assembly.

8 Designation

The fittings specified in this International Standard shall be designated, in the order indicated, by the following information:

- a) type of product (fitting or flange);
- b) reference to this International Standard;
- c) symbol (see table 1);
- d) nominal size (see tables 3 to 11);
- e) for flanges, the nominal pressure;
- f) grade of material (see ISO 10380).

NOTE 1 For a loose flange, the grade of material of the flanged connecting piece shall be indicated before that of the flange material (AC for non-alloyed steel).

EXAMPLES

A male fitting with a nominal size DN 50 and of stainless steel grade type 10 shall be designated as follows:

Fitting ISO 10806 M - 50 - 10

A loose flange with a nominal size DN 50 and nominal pressure PN 16, having a flanged connecting piece of stainless steel grade type 10 and a non-alloyed steel flange, shall be designated as follows:

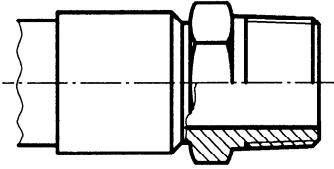
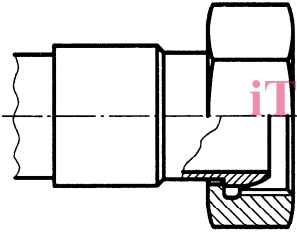
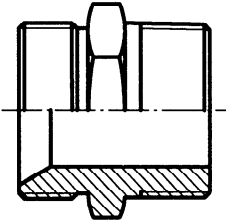
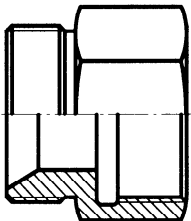
Flange ISO 10806 B - 50 - 16 - 10 - AC

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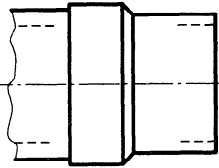
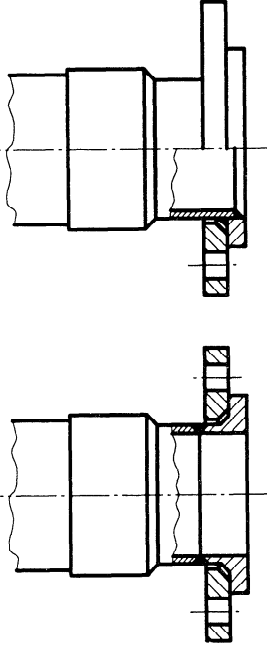
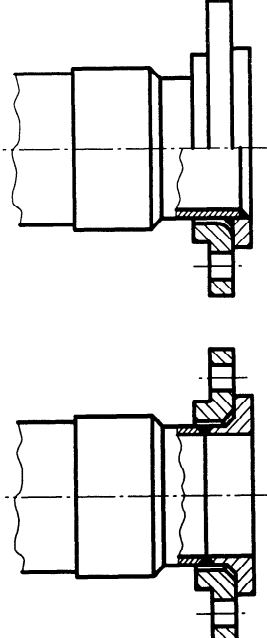
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Table 1 — Types of fittings, their symbols and dimensions

Diagram	Type	Symbol	Dimensions Figure/table
	Male	M	1/3
	Loose female on spherical support	F	2/4
	Male nipple for loose female	MM	3/5
	Female nipple for loose female	MF	4/6

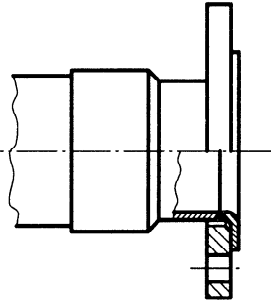
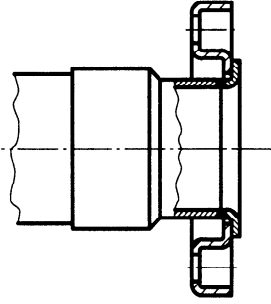
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Diagram	Type	Symbol	Dimensions Figure/table
	<p>Pipe for flash-butt welding</p>	<p>T</p>	<p>5/7</p>
	<p>Loose flange ISO 7005-1, types 02 and 04</p> <p>PN 6; PN 10; PN 16; PN 25; PN 40</p>	<p>B</p>	<p>6/8</p>
	<p>Loose flange ISO 7005-1, type 15</p> <p>PN 20; PN 50; PN 100; PN 150; PN 250</p>	<p>B</p>	<p>7/9</p>

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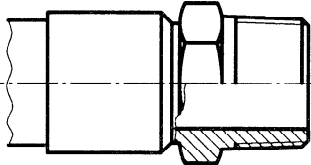
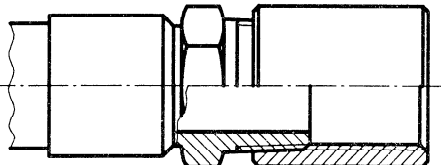
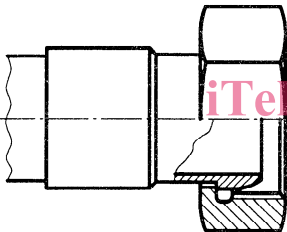
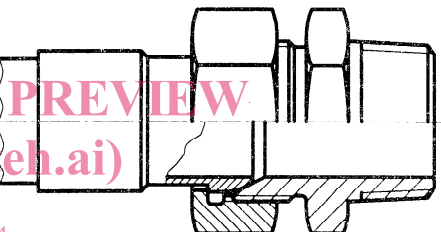
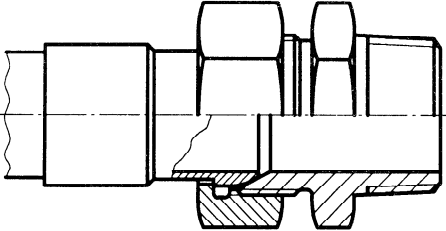
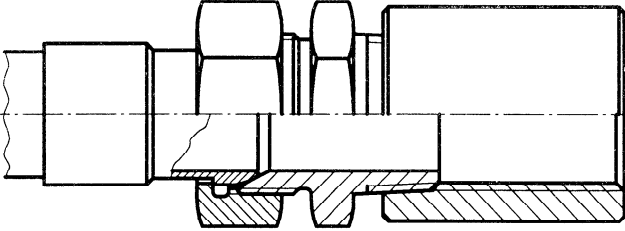
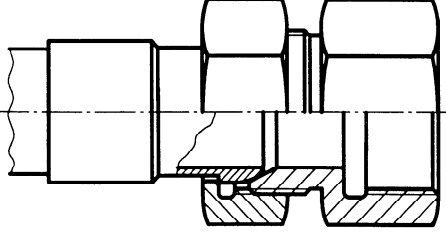
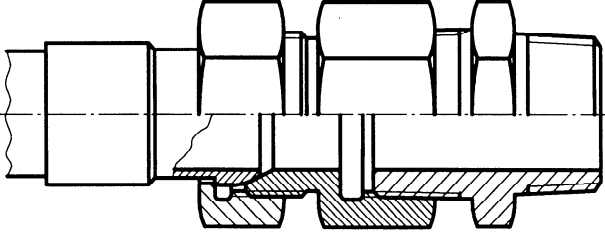
Diagram	Type	Symbol	Dimensions Figure/table
	<p>Loose flange ISO 7005-1, types 03 and 15 PN 6; PN 10; PN 16; PN 20</p>	<p>B1</p>	<p>8/10</p>
	<p>Loose flange, type 03 PN 16 (plate flange)</p>	<p>B2</p>	<p>9/11</p>

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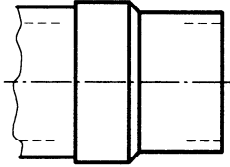
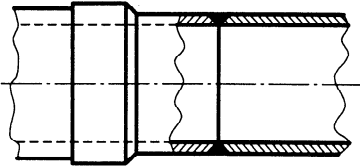
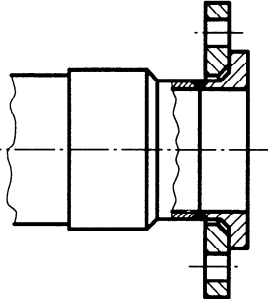
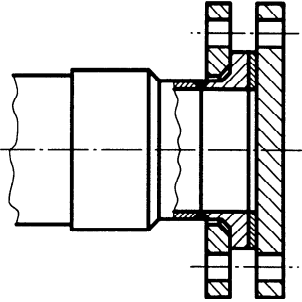
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Table 2 — Connections on test bench

Fitting assembled on flexible hose	Fitting on test bench
<p>See figure 1</p> 	<p>Female fitting in accordance with ISO 4144 or ISO 4145.</p> 
<p>See figure 2</p> 	<p>Fitting as shown in figure 3 or 4</p> 
<p>See figure 3 with figure 2</p> 	<p>Female fitting in accordance with ISO 4144 or ISO 4145</p> 
<p>See figure 4 with figure 2</p> 	<p>Male fitting in accordance with ISO 4144 or ISO 4145</p> 

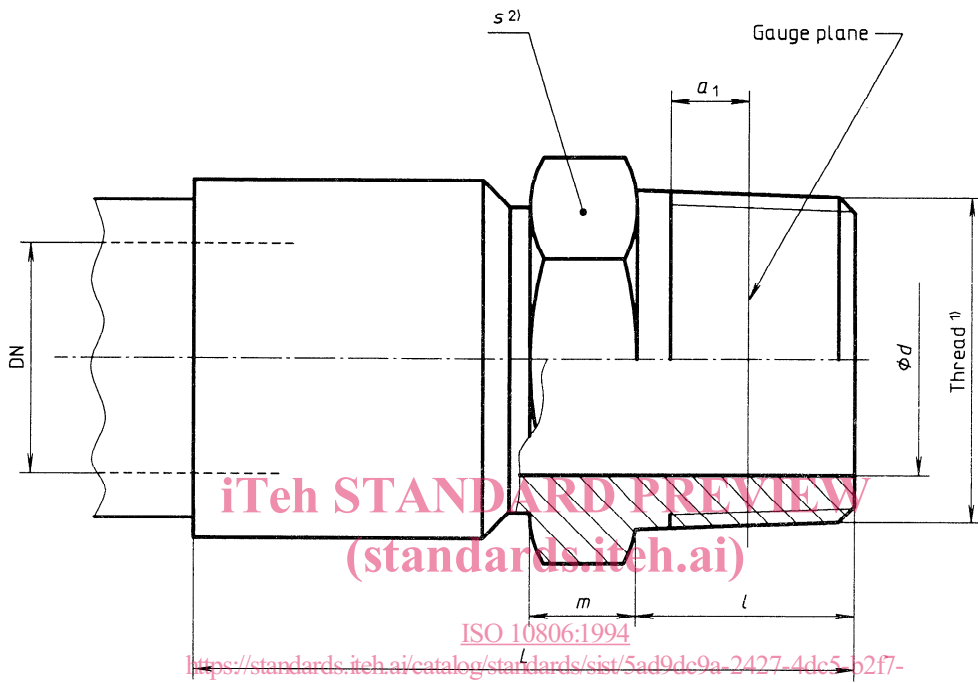
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Fitting assembled on flexible hose	Fitting on test bench
<p data-bbox="427 300 555 331">See figure 5</p> 	<p data-bbox="954 300 1401 331">Butt-welded tube with equal dimensions</p> 
<p data-bbox="395 560 587 591">See figures 6 to 9</p> 	<p data-bbox="932 560 1426 591">Loose or fixed flange with equal dimensions</p> 

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- 1) External tapered thread in accordance with ISO 7-1-R...
- 2) Width across flats (hexagonal plates up to DN 25, hexagonal or octagonal from DN 32 to DN 100)

Figure 1 — Male fitting (M)

Table 3 — Dimensions (see figure 1)

Dimensions in millimetres

DN	Thread	d	l min.	a_1	s	m min.	L max.
6	R 1/8	6	8,5	2,5	12	4	40
8	R 1/4	8	12,5	3,7	14	4	45
10	R 3/8	10	13	3,7	17 ¹⁾	5	50
12	R 1/2	12	17	5	22	5	55
15	R 1/2	15	17	5	22	5	60
20	R 3/4	20	18,5	5	27 ¹⁾	5,5	65
25	R 1	25	21,5	6,4	36	6	75
32	R 1 1/4	32	24	6,4	46	6,5	85
40	R 1 1/2	40	24	6,4	50	6,5	95
50	R 2	50	29,5	7,5	65	7	100
65	R 2 1/2	65	35	9,2	80	7	105
80	R 3	80	39	9,2	90	8,5	110
100	R 4	100	46,5	10,4	115	8	120

1) Width across flats values of 19 and 30 may be used. In all cases the manufacturer shall ensure that the threads are complete along the entire working length of the thread.