

International Standard



8449

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

**Pipework — Single overlap flexible metal hoses (asbestos packing, limited tightness, circular or polygonal section, in protected carbon steel)**

*Tuyauteries — Tuyaux métalliques flexibles à agrafage simple (joint amiante, étanchéité limitée, section circulaire ou polygonale, en acier non allié protégé)*

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[ISO 8449:1986](#)

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Descriptors : metal tubes, hoses, lock-seamed metal hoses, specifications, dimensions, designation.

Price based on 2 pages

## 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.

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 8449 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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# Pipework — Single overlap flexible metal hoses (asbestos packing, limited tightness, circular or polygonal section, in protected carbon steel)

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## 1 Scope and field of application

This International Standard lays down diameters of single overlap flexible metal hoses with asbestos packing<sup>1)</sup>, of limited tightness, of circular or polygonal section, in protected carbon steel, and specifies requirements to be verified in accordance with ISO 7658.

This International Standard applies to uncoated flexible metal hoses (without external coating as defined in sub-clause 4.1.10 of ISO 7369) used under low pressure with permissible leakage, at temperatures from  $-20$  to  $+230$  °C.

NOTE — For the specifications and temperature-related requirements for use, see ISO 7657.

## 2 References

ISO 6708, *Pipe components — Definition of nominal size.*

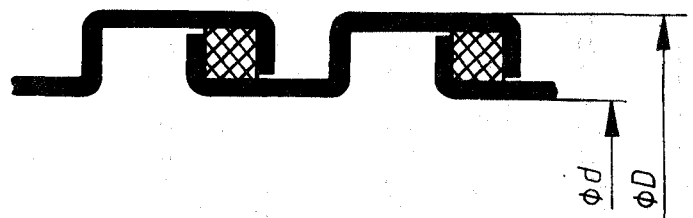
ISO 7369, *Pipework — Flexible metal hoses — Vocabulary of general terms.*

ISO 7657, *Pipework — Stripwound flexible metal hoses — Specifications and temperature-related requirements for use.*

ISO 7658, *Pipework — Stripwound flexible metal hoses — Testing and verification of characteristics.*

## 3 Dimensions and performance

Dimensions and performance are shown in the figure and table.



Figure

NOTE — The figure is not intended to specify a given manufacturing method nor to define coil dimensions.

## 4 Test methods

For test methods, see ISO 7658.

1) The use of asbestos may be limited by national regulations.

**5 Designation**

A single overlap flexible metal hose that meets the requirements of this International Standard shall be designated as follows:

- a) the four letters: TMFA (Tuyau Métallique Flexible Agrafé — Stripwound Flexible Metal Hose);
- b) a reference to this International Standard;
- c) pressure tightness;

d) nominal size DN;

e) the type of material and protective covering.

*Example:*

Designation of a flexible metal hose with single overlap, asbestos packing, limited tightness, circular (or polygonal) section of nominal size DN 40, in galvanized steel:

**TMFA ISO 8449 - limited tightness, circular (or polygonal) section - DN 40 - galvanized steel**

**Table**

| Nominal size <sup>1)</sup><br>DN | Minimum internal diameter | Maximum outside diameter | Bend radius | Tensile strength | Crush strength |
|----------------------------------|---------------------------|--------------------------|-------------|------------------|----------------|
|                                  | <i>d</i><br>mm            | <i>D</i><br>mm           | max.<br>mm  | min.<br>N        | N              |
| 6                                | 5                         | 8,2                      | 55          | 220              | 3 500          |
| 8                                | 7                         | 10,2                     | 65          | 300              | 3 500          |
| 10                               | 9,5                       | 13,5                     | 85          | 400              | 3 500          |
| 12                               | 12                        | 17                       | 95          | 500              | 3 500          |
| 15                               | 13                        | 21                       | 110         | 600              | 3 500          |
| 20                               | 18                        | 26                       | 150         | 800              | 3 500          |
| 25                               | 23                        | 32                       | 175         | 1 000            | 3 500          |
| 32                               | 31                        | 39                       | 210         | 1 300            | 3 500          |
| 40                               | 37                        | 49                       | 240         | 1 600            | 3 500          |
| 50                               | 48                        | 59                       | 270         | 2 000            | 3 500          |
| 65                               | 62                        | 76                       | 330         | 2 600            | 3 500          |
| 80                               | 75                        | 89                       | 390         | 3 400            | 3 500          |
| 100                              | 97                        | 111                      | 475         | 4 200            | 3 500          |
| 125                              | 120                       | 136                      | 570         | 5 400            | 3 500          |
| 150                              | 144                       | 163                      | 640         | 6 500            | 3 500          |
| 200                              | 192                       | 216                      | 890         | 9 000            | 3 500          |
| 250                              | 245                       | 266                      | 1 140       | 11 000           | 3 500          |
| 300                              | 295                       | 317                      | 1 330       | 13 000           | 3 500          |
| 350                              | 327                       | 367                      | 1 525       | 16 000           | 3 500          |
| 400                              | 378                       | 418                      | 1 715       | 18 000           | 3 500          |
| 450                              | 428                       | 468                      | 1 970       | 20 000           | 3 500          |
| 500                              | 478                       | 520                      | 2 210       | 23 000           | 3 500          |

1) See ISO 6708.

**NOTES**

- 1 The relationship between the bend radius and the coiling diameter of a hose is given in ISO 7658.
- 2 These hoses may be coated externally for special uses, in which case dimensions and performance will be modified.