

INTERNATIONAL STANDARD

ISO
1823-1

First edition
1997-08-01

Rubber hoses and hose assemblies —

Part 1: On-shore oil suction and discharge — Specification

Tuyaux et flexibles en caoutchouc —

Partie 1: Aspiration et refoulement à quai d'hydrocarbures — Spécification



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.

International Standard ISO 1823-1 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

Together with part 2, this part of ISO 1823 cancels and replaces ISO 1823:1975 which has been technically revised.

ISO 1823 consists of the following parts, under the general title *Rubber hoses and hose assemblies*:

- *Part 1: On-shore oil suction and discharge — Specification*
- *Part 2: Ship/dockside discharge — Specification*

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Printed in Switzerland

Rubber hoses and hose assemblies —

Part 1:

On-shore oil suction and discharge — Specification

1 Scope

This part of ISO 1823 specifies requirements for cargo hose suitable for dockside loading and unloading of vessels transporting petroleum-based products that are liquid at ambient temperatures and atmospheric pressure. The hoses are suitable for use in the temperature range $-20\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$.

Hose assemblies made with an inner lining of flexible metal and hoses designed for off-shore applications are not included.

2 Normative references

The following standards contains 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 471 : 1995, *Rubber - Temperatures, humidities and times for conditioning and testing*.

ISO 1307 : 1992, *Rubber and plastics hoses for general-purpose industrial applications - Bore diameters and tolerances, and tolerances on length*.

ISO 1402 : 1994, *Rubber and plastics hoses and hose assemblies -Hydrostatic testing*.

ISO 1817 : 1985, *Rubber, vulcanized - Determination of the effect of liquids*.

ISO 4649 : 1985, *Rubber - Determination of abrasion resistance using a rotating cylindrical drum device*.

ISO 4661-1 : 1993, *Rubber, vulcanized or thermoplastic - Preparation of samples and test pieces - Part 1: Physical tests*.

ISO 4672 : 1997, *Rubber and plastics hoses - Sub-ambient temperature flexibility tests.*

ISO 7233 : 1991, *Rubber and plastics hoses and hose assemblies - Determination of suction resistance.*

ISO 7326 : 1991, *Rubber and plastics hoses - Assessment of ozone resistance under static conditions.*

ISO 8031 : 1993, *Rubber and plastics hoses and hose assemblies - Determination of electrical resistance.*

ISO 8033 : 1991, *Rubber and plastics hose - Determination of adhesion between components.*

3 Types, classes and grades

Two types of hose are specified, each type being divided into two classes depending on the type of service. Each class is further divided into four grades depending on the working pressure:

- Types

Type S - Smooth bore

Type R - Rough bore

- Classes

Class 1 - For oil and gasoline service (up to and including 50 % aromatics content)

Class 2 - For aromatics service (suitable for 100 % aromatics content)

- Grades

The grades are given in table 1.

Table 1 - Grades corresponding to different maximum working pressures

Grade	Maximum working pressure
	MPa
A	0,7
B	1,0
C	1,5
D	2,0

4 Dimensions

4.1 Bore

The bore shall be one of the following:

50 mm; 75 mm; 80 mm; 100 mm; 125 mm; 150 mm; 160 mm;

200 mm; 205 mm; 250 mm; 255 mm; 315 mm; 400 mm; 500 mm.

The tolerances on bore diameters shall be in accordance with ISO 1307.

For the purposes of this International Standard, the bore is numerically the same as the nominal bore (undimensioned) referred to in table 3, table 4, clause 6 and clause 7.

4.2 Length

The length of hose shall be specified by the purchaser and shall be subject to the tolerances given in table 2.

Table 2 - Tolerances on length

Hose length	Tolerance
m	
Up to 5	+ - 50 mm
Over 5,0	+ - 1 %

Hose assembly lengths are overall measurements, including the fittings. Measurements shall be made at a hydrostatic pressure of 0,07 Mpa.