
International Standard



8029

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Plastics hose — General purpose collapsible water hose, textile reinforced — Specification

Tuyaux plastiques — Tuyaux d'eau écrasables d'usage général renforcés textiles — Spécifications

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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 8029 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

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Plastics hose — General purpose collapsible water hose, textile reinforced — Specification

1 Scope and field of application

This International Standard specifies the requirements for two types of textile reinforced thermoplastics collapsible water hoses for general applications to a maximum temperature of 55 °C.

It is not a specification for products used for fire-fighting, agriculture or irrigation purposes.

The two types of hose specified are

type 1 — low pressure;

type 2 — high pressure.

2 References

ISO 176, *Plastics — Determination of loss of plasticizers — Activated carbon method.*

ISO 471, *Rubber — Standard temperatures, humidities and times for the conditioning and testing of test pieces.*

ISO 1307, *Rubber and plastics hoses — Bore sizes and tolerances on length.*

ISO 1402, *Rubber and plastics hoses and hose assemblies — Hydrostatic testing.*

ISO 1746, *Rubber or plastics hoses and tubing — Bending tests.*

ISO 8033, *Rubber and plastics hoses — Determination of adhesion between components.*

3 Materials and construction

The hose shall be as uniform as commercially practicable in colour, opacity and other physical properties and shall consist of:

- a flexible thermoplastics lining;
- a reinforcing layer or layers of natural or synthetic textile applied by any suitable technique;
- a flexible thermoplastics cover which may have a smooth or fluted finish. The colour may be different from that of the lining.

The cover and the lining shall be fully gelled and shall be free from visible cracks, porosity, foreign inclusions or other defects causing the hose to be unserviceable.

4 Dimensions and tolerances

4.1 Bore

The bore of the hose shall meet the requirements of table 1, which is in accordance with ISO 1307.

Table 1 — Nominal bores and tolerances

Values in millimetres

Nominal bore	Tolerance
20	± 0,75
25	± 1,25
31,5	± 1,25
40	± 1,5
50	± 1,5
63	± 1,5
80	± 2
100	± 2
125	± 2
160	± 2
200	± 2

NOTE — If special cases call for extra sizes:

- For smaller or larger dimensions, further numbers shall be chosen from the R 10 series of preferred numbers, with tolerances as given in ISO 1307.
- for intermediate dimensions, numbers shall be chosen from the R 20 series of preferred numbers, with the tolerances as given for the next larger sizes.

4.2 Length

The tolerances on cut lengths shall be as specified in ISO 1307.

5 Physical tests on finished hoses

5.1 Hydrostatic test

When tested at standard laboratory temperature as specified in ISO 471, by the method described in ISO 1402, the hose shall withstand the appropriate proof and minimum burst pressures specified in table 2.

Table 2 — Proof and minimum burst pressure

Nominal bore mm	Pressure [MPa (bar)]					
	Type 1			Type 2		
	working	proof	minimum burst	working	proof	minimum burst
20	—	—	—	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
25	—	—	—	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
31,5	—	—	—	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
40	0,55 (5,5)	0,88 (8,8)	1,73 (17,3)	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
50	0,55 (5,5)	0,88 (8,8)	1,73 (17,3)	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
63	0,55 (5,5)	0,88 (8,8)	1,73 (17,3)	1,55 (15,5)	2,48 (24,8)	4,89 (48,9)
80	0,40 (4,0)	0,64 (6,4)	1,26 (12,6)	1,15 (11,5)	1,84 (18,4)	3,62 (36,2)
100	0,35 (3,5)	0,56 (5,6)	1,10 (11,0)	1,00 (10,0)	1,60 (16,0)	3,15 (31,5)
125	0,35 (3,5)	0,56 (5,6)	1,10 (11,0)	0,70 (7,0)	1,12 (11,2)	2,20 (22,0)
160	0,35 (3,5)	0,56 (5,6)	1,10 (11,0)	0,70 (7,0)	1,12 (11,2)	2,20 (22,0)
200	—	—	—	0,45 (4,5)	0,72 (7,2)	1,41 (14,1)

At the working pressure appropriate to the type and size of hose as specified, the change in length of the hose shall not exceed $\pm 7\%$ and the change in diameter of the hose shall not exceed $\pm 10\%$ when tested by the method described in ISO 1402.

During and after the proof pressure hold test described in ISO 1402, the hose shall be examined for evidence of leakage, cracking, abrupt distortion or other signs of failure indicating irregularities in material or manufacture. No such defects shall be observed.

5.2 Adhesion test

When tested in accordance with ISO 8033 (type 2 test piece) at standard laboratory temperature as specified in ISO 471, the adhesion between the lining and the reinforcement, between the layers of reinforcement and between the reinforcement and the cover, shall not be less than 1,5 kN/m.

5.3 Minimum bend radius test

When tested after conditioning for 24 h at standard laboratory temperature as specified in ISO 471, in accordance with ISO 1746 using an internal hydraulic pressure equal to the design working pressure and a minimum radius of curvature of 8 times the nominal bore of the hose, the hose shall show no signs of leakage or cracks.

When tested after conditioning in accordance with ISO 1746 at $0 \pm 2\text{ }^\circ\text{C}$ using an internal hydraulic pressure equal to the

design working pressure and a minimum radius of curvature of 16 times the nominal bore of the hose, the hose shall show no signs of leakage or cracks.

5.4 Ultraviolet light test

To be added later.

6 Loss in mass on heating

When tested by method B specified in ISO 176, samples of the lining and the cover shall have a loss in mass not greater than 4 %.

7 Marking

The hose shall be marked using a durable contrasting indelible ink, or other method, with the following information:

- a) the manufacturer's name or trademark;
- b) the number of this International Standard;
- c) the hose type;
- d) the nominal bore;
- e) the year of manufacture;
- f) the working pressure.