
International Standard



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Rubber and plastics hoses — Bore diameters and tolerances on length

Tuyaux en caoutchoucs et plastiques — Diamètres intérieurs et tolérances sur la longueur

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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

International Standard ISO 1307 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*, and was circulated to the member bodies in May 1982.

It has been approved by the member bodies of the following countries:

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Italy	Sri Lanka
Canada	Korea, Rep. of	Sweden
China	Malaysia	Thailand
Denmark	New Zealand	Turkey
Egypt, Arab Rep. of	Poland	United Kingdom
France	Portugal	USA
Germany, F.R.	Romania	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds:

Czechoslovakia
Netherlands

This second edition, in conjunction with ISO 7751, cancels and replaces the first edition (i.e. ISO 1307-1975).

Rubber and plastics hoses — Bore diameters and tolerances on length

1 Scope and field of application

This International Standard specifies preferred bore diameters and tolerances on length for rubber and plastics hoses.

2 References

ISO 3, *Preferred numbers — Series of preferred numbers.*

ISO 4397, *Fluid power systems and components — Connectors and associated components — Outside diameters of tubes and inside diameters of hoses.*

3 Bore diameters

The bore diameters of rubber and plastics hoses shall be in accordance with the requirements of table 1 or 2, as appropriate.

4 Tolerance on length

4.1 For textile reinforced hoses for general purpose industrial applications the tolerances on cut lengths shall be as shown in table 3 unless otherwise stated for special types of hose.

Table 1 — Bore diameters for textile reinforced hoses for general purpose industrial applications

Values in millimetres

Nominal bore diameter	Tolerance max.	Nominal bore diameter	Tolerance max.
3,2	± 0,5	40	± 1,50
4	± 0,5	50	± 1,50
5	± 0,5	63	± 1,50
6,3	± 0,75	80	± 2,00
8	± 0,75	100	± 2,00
10	± 0,75	125	± 2,00
12,5	± 0,75	160	± 2,00
16	± 0,75	200	± 2,00
20	± 0,75	250	± 3,00
25	± 1,25	315	± 3,00
31,5	± 1,25		

NOTE — For larger bore diameters, multiply one of the above bore diameters by 10. Select appropriate tolerances for larger bore diameters from the R 20 series of preferred numbers (see ISO 3).

Table 2 — Permitted ranges for bore diameters for textile and wire reinforced hoses for hydraulic applications

Values in millimetres

Nominal bore diameter	Hoses of braided and light spiral construction	Hoses of heavy spiral construction
3,2	3,0 to 3,6	—
4,0	3,8 to 4,4	—
5	4,5 to 5,4	4,5 to 5,4
6,3	6,1 to 6,9	6,1 to 6,9
8	7,7 to 8,5	7,7 to 8,5
10	9,3 to 10,1	9,3 to 10,1
12,5	12,3 to 13,5	12,3 to 13,7
16	15,4 to 16,7	15,7 to 16,9
19	18,6 to 19,8	19,0 to 20,2
22	21,8 to 23,0	—
25	25,0 to 26,4	25,4 to 27
31,5	31,3 to 33,0	31,8 to 33,4
38	37,7 to 39,3	38,1 to 39,7
51	50,4 to 52,0	50,8 to 52,5

NOTE — The bore diameters for hydraulic hoses do not follow exactly any of the preferred number series in ISO 3. The dimensions specified in the above table are in accordance with several national standards which are in use throughout the world and must be maintained for technical reasons of hose to coupling compatibility. These dimensions have been used for many years in International Standards which have been issued for various types of hydraulic hoses (see ISO 4397).

Table 3 — Tolerance on length for textile reinforced hoses for general purpose industrial applications

Values in millimetres

Length	Tolerance max.	
	Radiator hoses	All other hoses
Up to 300	± 1,5	± 3
Over 300 to 600	± 3	± 4,5
Over 600 to 900	± 6	± 6
Over 900 to 1 200	—	± 9
Over 1 200 to 1 800	—	± 12
Over 1 800	—	± 1 %

4.2 Textile and wire reinforced hoses for hydraulic applications shall be supplied in lengths as specified by the purchaser subject to a tolerance on the specified lengths of ± 1 % or ± 3 mm, whichever is the greater.

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