
**Rubber and plastics hoses — Hose sizes,
minimum and maximum inside diameters,
and tolerances on cut-to-length hoses**

*Tuyaux en caoutchouc et en plastique — Diamètres nominaux,
diamètres intérieurs minimaux et maximaux, et tolérances sur la
longueur de coupe*

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ISO 1307:2006

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Foreword

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ISO 1307 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This fourth edition cancels and replaces the third edition (ISO 1307:1992), which has been technically revised. The revision includes classifying the hoses by type according to the manufacturing process, adding additional sizes, and changing the inside-diameter tolerances to minimum and maximum dimensions to be consistent with the latest hose standards.

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Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses

1 Scope

This International Standard specifies the sizes of rubber and plastics hoses and the minimum and maximum inside diameters permitted for each hose size. For this purpose, hoses are divided into four types according to the process by which they are manufactured. The standard also specifies tolerances on cut-to-length rubber and plastics hoses for industrial and automotive applications. This standard is intended to be used with the relevant hoses product standard unless there is justification for using a different hose size or unless a hose size needs a different inside-diameter range for a particular application.

2 Hose sizes and ID tolerances by manufacturing type

The sizes of rubber and plastic hoses and their respective inside-diameter ranges shall be in accordance with Table 1. Four types are specified, according to the process used to manufacture them:

- type A: hoses built using a rigid mandrel for inside-diameter control;
- type B: hoses built using a flexible mandrel for inside-diameter control (plus plastic hydraulic hoses made with or without a mandrel);
- type C: hoses built without using a mandrel (non-mandrel-built);
- type D: flexible extruded plastics hoses (type D does not include spiral-reinforced plastics suction and discharge hoses, which are classified as type C).

Table 1 — Hose sizes and inside-diameter tolerances

Nominal size	Minimum and maximum inside-diameters							
	mm							
	Type A Built on rigid mandrel		Type B Built on flexible mandrel		Type C Non-mandrel-built (standard tolerance)		Type D Extruded plastic Non-mandrel-built (tight tolerance)	
	min.	max.	min.	max.	min.	max.	min.	max.
3,2	3,2	3,8	N/A	N/A	N/A	N/A	3,0	3,4
4	4,0	4,8	4,0	4,8	3,4	4,6	3,7	4,3
5	4,6	5,4	4,6	5,4	4,2	5,4	4,7	5,3
6,3	6,2	7,0	6,2	7,0	5,6	7,2	6,0	6,6
8	7,7	8,5	7,7	8,5	7,2	8,8	7,7	8,3
10	9,3	10,1	9,3	10,1	8,7	10,3	9,7	10,3
12,5	12,3	13,5	12,3	13,5	11,9	13,5	12,2	12,8
16	15,5	16,7	15,5	16,7	15,1	16,7	15,7	16,3
19	18,6	19,8	18,6	19,8	18,3	19,9	18,4	19,6
20	19,6	20,8	19,6	20,8	19,3	20,9	N/A	N/A
25	25,0	26,4	25,0	26,4	24,2	26,6	24,4	25,6
31,5	31,4	33,0	31,4	33,0	30,2	33,4	30,9	32,1
38	37,7	39,3	37,7	39,3	36,5	39,7	37,4	38,6
40	39,7	41,3	39,7	41,3	38,5	41,7	N/A	N/A
50	49,4	51,0	N/A	N/A	48,1	51,6	N/A	N/A
51	50,4	52,0	N/A	N/A	49,1	52,6	50,2	51,8
63	63,1	65,1	N/A	N/A	61,5	65,5	62,2	63,8
76	74,6	77,8	N/A	N/A	74,2	78,2	75,0	77,0
80	78,6	81,8	N/A	N/A	78,2	82,2	N/A	N/A
90	87,3	90,5	N/A	N/A	N/A	N/A	N/A	N/A
100	100,0	103,2	N/A	N/A	99,4	103,9	N/A	N/A
125	125,4	128,6	N/A	N/A	124,8	129,3	N/A	N/A
150	150,4	154,4	N/A	N/A	150,2	154,7	N/A	N/A
160	N/A	N/A	N/A	N/A	162,9	167,4	N/A	N/A
200	200,7	205,7	N/A	N/A	200,2	206,2	N/A	N/A
250	251,0	257,0	N/A	N/A	251,0	257,0	N/A	N/A
305	301,8	307,8	N/A	N/A	301,8	307,8	N/A	N/A
315	314,5	320,5	N/A	N/A	N/A	N/A	N/A	N/A
350	N/A	N/A	N/A	N/A	351,6	359,6	N/A	N/A
400	N/A	N/A	N/A	N/A	402,4	410,4	N/A	N/A

N/A = Not available.

3 Tolerances on length

The tolerances on cut-to-length hoses shall be in accordance with Table 2.

Table 2 — Tolerances on cut lengths of hose

Length mm	Tolerance
≤ 300	± 3 mm
> 300 but ≤ 600	$\pm 4,5$ mm
> 600 but ≤ 900	± 6 mm
> 900 but $\leq 1\,200$	± 9 mm
$> 1\,200$ but $\leq 1\,800$	± 12 mm
$> 1\,800$	± 1 %

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