

# TECHNICAL REPORT

# ISO TR 10193

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## Round general use light gauge metal containers — Nominal filling volumes and nominal diameters

*Réipients métalliques légers ronds à usage général — Volumes nominaux de  
remplissage et diamètres nominaux*



Reference number  
ISO/TR 10193 : 1989 (E)

## 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.

The main task of ISO technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a technical report of one of the following types:

- type 1, when the necessary support within the technical committee cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development requiring wider exposure;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical reports are accepted for publication directly by ISO Council. Technical reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 10193, which is a technical report of type 3, was prepared by Technical Committee ISO/TC 52, *Light gauge metal containers*.

Data of a similar nature to those presented in this Technical Report, but for non-round containers, are given in ISO/TR 10194:1989, *Non-round general use light gauge metal containers — Nominal filling volumes and nominal cross-sections*.

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## Introduction

This Technical Report presents the results of a survey on the sizes of different types of round general use light gauge metal containers in current use. The way in which these data can be reduced sufficiently to establish an International Standard is under consideration.

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# Round general use light gauge metal containers — Nominal filling volumes and nominal diameters

## 1 Scope

This Technical Report gives a current list of nominal filling volumes and related nominal diameters for round general use light gauge metal containers.

## 2 Reference

ISO 90-2:1986, *Light gauge metal containers — Definitions and determination methods for dimensions and capacities — Part 2: General use containers.*

## 3 Designation of containers (types and construction)

The definitions, designations and special features of these types of containers (necked-in and/or step-sided) are given in ISO 90-2.

This Technical Report concerns the following containers:

- full friction can, cylindrical;
- full friction can, tapered;
- friction closure can, cylindrical;
- friction closure can, tapered;
- slip cover can, cylindrical;
- slip cover can, tapered;
- flat top can, cylindrical;

- flat top can, tapered;
- cone top can, cylindrical.

## 4 Characteristics

### 4.1 Nominal diameters: tolerances

Tolerances on the diameters at the top end and at the bottom end are the following:

diameter  $\leq$  155 mm:  $\pm$  2 mm

diameter  $>$  155 mm:  $\pm$  3 mm

### 4.2 Head spaces and nominal filling volumes: special case of the transport of dangerous goods

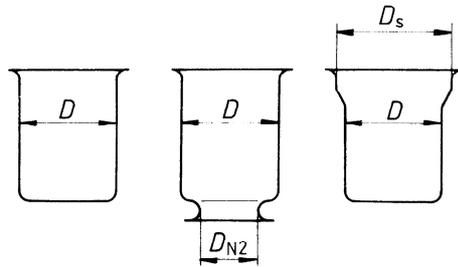
With regard to head spaces required for the transport of dangerous goods, reference has to be made to valid regulations.

## 5 Current list of nominal filling volumes and nominal diameters

For each type of container mentioned in clause 3, the following are given:

- a figure showing the type of container;
- a table giving values of nominal filling volumes and of nominal diameters.

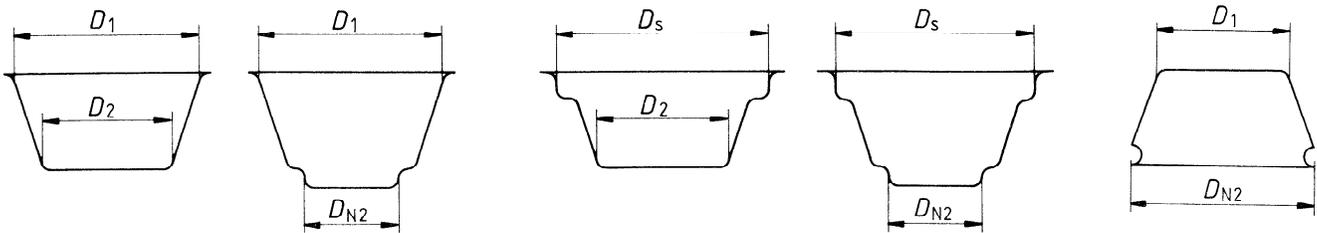
5.1 Full friction can, cylindrical



Nominal filling volumes ml	Nominal diameters mm		
	D	DN2	Ds
100	52		
	55		
125	52		
	55		
	60		
250	65		
	73		
	99		
375	73		
	83		
	99		
500	83		
	99		
	105		
	108		
750	99		
	108		
1 000	99		
	108		
	140		
2 000	140	135	
	140		
	153		
	160	147	
	160	153	
200	187		
2 500	140	135	
	153		
	160	147	
	165		
200	187		
3 000	153		
	160	147	
	160	153	
	165		
	200	187	

Nominal filling volumes ml	Nominal diameters mm		
	D	DN2	Ds
4 000	153		
	160		
	160	147	
	160	153	
	180		
	200	173	
5 000	180	165	
	180	173	
	180	187	
	200	187	
10 000	220		
	230		
	230	225	
	240		
11 500	230	225	
	230		
12 500	220		
	230		
15 000	230	295	
	305		
17 500	305	295	
20 000	280	274	
	280	295	
	305		
25 000	280		
	300	295	
	305		
27 000	300		
28 000	328	322	
	328		
30 000	300	295	
	305		
	328		
	328	322	
40 000	305	295	
	328		

5.2 Full friction can, tapered

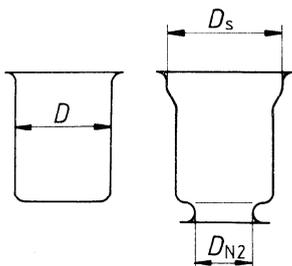


This figure is applicable only for those dimensions marked by an asterisk for a full friction can, tapered, of nominal filling volume 5 000 ml.

Nominal filling volumes ml	Nominal diameters mm				
	D <sub>1</sub>	D <sub>2</sub>	D <sub>N2</sub>	D <sub>s</sub>	
1 000	140	130			
2 000	160	148			
2 500	160	148	148		
	160				
	165	153			
	190	175			
3 000	160	148	148	168	
	160		148		
	160	150			
	165	153			
	165		155		
	180 171	165			
4 000	160	148	168		
	180	168			
	180	165			
	180				
	180	171			
	200	185			
	200	190			
5 000	180	168	188*		
	180				
	180	165			
	165*)				
	180	171			
	185	175			
	195	180			
	195				185
	200	185			
200	190				
10 000	220	205	212		
	230	220			
	230	217			
	230				216
	240	216			
	240	225			
	240	230			
	275	255			
	286				271
	286				
11 500	230		216		
	230	217			
12 500	220	205	216		
	230				
	230	217			
	240	225			
	275	255			
	286	268			
	286				271

Nominal filling volumes ml	Nominal diameters mm				
	D <sub>1</sub>	D <sub>2</sub>	D <sub>N2</sub>	D <sub>s</sub>	
13 500	240	225	271		
	286				
	292	275			
15 000	230	220	271		
	275	255			
	286	271			
	286				
	292	275			
	305 286	286			
17 500	275	255	271		
	286	271			
	286				
	292	275			
	305	286			
	305				290
20 000	275	255	271		
	280	265			
	286				
	286	271			
	286	268			
	292	275			
	305	286			
	305				286
290					
22 000	292	275			
	305	286			
25 000	286	268	271		
	286	271			
	286				
	292	275			
	305 286	286			
27 000	286		271		
	292	275			
	305	286			
28 000	292	275			
	305	286			
	328	312			
30 000	286	271	271		
	286				
	292	275			
	305	286			
	305				286
	305 328	312			290
40 000	305	286	290		
	305				
	380	360			

5.3 Friction closure can, cylindrical

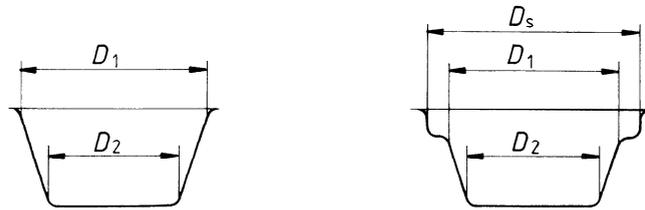


Nominal filling volumes ml	Nominal diameters mm		
	D	D <sub>N2</sub>	D <sub>s</sub>
50	45		
100	55 60 65		
118	63		
125	52 55 60 65 69		
236	69 73		
250	69 73 99		
375	73 83 86 95 99		
500	73 83 86 90 95 99 108		
750	99 108		
946	105		
1 000	99 108 114 127 140		
2 000	127 140 153 160		
2 500	140 153 160 165 171		

Nominal filling volumes ml	Nominal diameters mm		
	D	D <sub>N2</sub>	D <sub>s</sub>
3 000	153 160 165		
4 000	153 160 165 171 175 180		
5 000	165 171 175 195 180		
10 000	216 220 225 230 240		
11 500	230 240		
12 500	230		
13 500	240		
15 000	240		
20 000	280 292		
25 000	292 280 300		
28 000	292 300 328		
30 000	292 300 328		
40 000	328		

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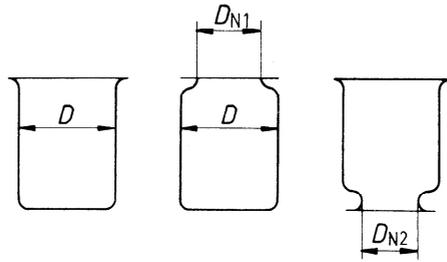
5.6 Slip cover can, tapered



Nominal filling volumes ml	Nominal diameters mm		
	D <sub>1</sub>	D <sub>2</sub>	D <sub>s</sub>
1 000	140	130	
2 500	190	175 153	168
3 000	190	175	
5 000		216	230

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5.7 Flat top can, cylindrical



Nominal filling volumes ml	Nominal diameters mm		
	D	DN1	DN2
100	52		
	55		
	60		
	65		
125	52		
	55		
	60		
	65		
250	52		
	55		
	65		
	73		
	83		
375	73		
	83		
	99		
500	65		
	73		
	78		
	83		
	86		
	99		
750	73		
	78		
	99		
1 000	73		
	78		
	83		
	86		
	90		
	99		
	108		
1 500	86		
	127		
	140		
2 000	127		
	140		
	153		
	165		

Nominal filling volumes ml	Nominal diameters mm		
	D	DN1	DN2
2 500	140	135	135
	140		
	140		
	153		
	165		
3 000	153	155	
	160		
	160		
	165		
4 000	153		
	160		
	165		
	175		
5 000	153	155	155
	160		
	160		
	165		
	171		
	175		
	180		
10 000	216	212	212
	220		
	220		
	220		
	225		
	230		
	240		
11 500	230	225	225
	230		
	230		
	240		
12 500	230		
13 500	230 240		
15 000	240	278 295	
	286		
	286		
	305		

Nominal filling volumes ml	Nominal diameters mm		
	D	D <sub>N1</sub>	D <sub>N2</sub>
17 500	286 305		
20 000	230 280 280 280 286 286 305 305 314	273    278   295	273
25 000	280 280 286 286 292 300 305 305	273  278    295	
27 000	286 292 300 300 328		
28 000	300 328 328	322	322
30 000	286 286 300 305 314 328 328 328	278   295  322	322
40 000	328 360 360	350	

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