



## 03 - measures, conversion tables

- International system of units- tables
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## INTERNATIONAL SYSTEM OF UNITS - TABLE

Size	Name	Symbol
<b>Lenght</b>	Meter	m
<b>Area</b>	square meter	m <sup>2</sup>
<b>Volume</b>	cubic meter	m <sup>3</sup>
<b>Force</b>	Newton	N
<b>Mass</b>	kilogram	Kg
<b>Pressure</b>	Pascal	Pa (N/m <sup>2</sup> )
<b>Work and Energy</b>	Joule	J (Nm)
<b>Power</b>	Watt	W (J/s)
<b>Time</b>	Second	s
<b>Speed</b>	meter / second	m/s
<b>Acceleration</b>	meter / second <sup>2</sup>	m/s <sup>2</sup>
<b>Flow rate</b>	meter <sup>3</sup> /second	m <sup>3</sup> /s
<b>Temperature</b>	Kelvin	°K
<b>Frequency</b>	Hertz	Hz (1/s)
<b>Electric current</b>	Ampere	A
<b>Voltage</b>	Volt	V (W/A)
<b>Electrical resistance</b>	Ohm	Ω (V/A)
<b>Electric power</b>	Volt Ampere	VA (VA)

# Measures, conversion tables



## MEASURE AND CONVERSION UNITS

<b>Length</b>	centimetre (cm)	meter (m)	inch (ln)	Foot (ft)	yard (yd)
1 meter (m)	100	1	39,37	3,281	1,094
1 inch (ln)	2,54	2,54x10 <sup>-2</sup>	1	8,33x10 <sup>-2</sup>	0,028
1 foot (ft)	30,48	0,3048	12	1	0,333
1 yard (yd)	91,44	0,9144	36	3	1

<b>Area</b>	square centimetre (cm <sup>2</sup> )	square meter (m <sup>2</sup> )	square inch (sq in)	square foot (sq ft)	square yard (sq yd)
1 square centimetre (cm <sup>2</sup> )	1	1x10 <sup>-4</sup>	0,155	1,08x10 <sup>-3</sup>	1,2x10 <sup>-4</sup>
1 square meter (m <sup>2</sup> )	1x10 <sup>4</sup>	1	1.550	10,764	1,2
1 square inch (sq in)	6,452	6,45x10 <sup>-4</sup>	1	6,95x10 <sup>-3</sup>	7,72x10 <sup>-4</sup>
1 square foot (sq ft)	929	9,29x10 <sup>-2</sup>	144	1	0,111
1 square yard (sq yd)	8.361	0,8361	1.296	9	1

<b>Volume</b>	Litre (l = dm <sup>3</sup> )	cubic metre (m <sup>3</sup> )	cubic inch (cu in)	cubic foot (cu ft)	Gallon (gal - USA)	Gallon (gal - GBr)
1 liter (l) = 1dm <sup>3</sup>	1	1x10 <sup>-3</sup>	61,02	3,53x10 <sup>-2</sup>	0,2642	0,22
1 cubic meter (m <sup>3</sup> )	1.000	1	6,102x10 <sup>4</sup>	35,31	264,2	220
1 cubic inch (cu in)	1,64x10 <sup>-2</sup>	1,64x10 <sup>-5</sup>	1	5,8x10 <sup>-4</sup>	4,33x10 <sup>-3</sup>	3,6x10 <sup>-3</sup>
1 cubic foot (cu ft)	28,317	2,83x10 <sup>-2</sup>	1.728	1	7,48	6,23
1 Gallon (gal -USA)	3,785	3,79x10 <sup>-3</sup>	231	0,1337	1	0,8327
1 Gallon (gal -GB)	4,546	4,55x10 <sup>-3</sup>	277,4	0,1605	1,2	1

<b>Mass (Weight)</b>	kilogram (Kg)	Pound (lb)	hundred-weight USA	hundred-weight GB
1 kilogram (Kg)	1	2,205	1,102x10 <sup>-3</sup>	9,842x10 <sup>-4</sup>
1 pound (lb)	0,4536	1	5x10 <sup>-4</sup>	4,464x10 <sup>-4</sup>
1 hundred-weight USA	907,2	2.000	1	0,8929
1 hundred-weight GB	1.016	2.240	1,12	1

<b>Force</b>	Newton (N)	Kilopound (kgp)	Poundal (pdl)
1 Newton (N)	1	0,102	7,23
1 Kilopound (kgp)	9,807	1	70,93
1 Poundal (pdl)	0,1383	0,0141	1

<b>Pressure</b>	Pascal (Pa)	Bar (bar)	Poundal/pollice <sup>2</sup> (psi)	Technical atmosphere (at = kg/cm <sup>2</sup> )	Atmosphere (atm)	Column of Mercury (mmHg = Torr)	Column of water (mH <sub>2</sub> O)
1 Pascal (Pa)	1	1x10 <sup>-5</sup>	1,45x10 <sup>-4</sup>	1,02x10 <sup>-5</sup>	9,87x10 <sup>-6</sup>	7,5x10 <sup>-3</sup>	1,02x10 <sup>-4</sup>
1 Bar (bar)	1x10 <sup>5</sup>	1	14,50	1,02	0,9869	750	10,2
1 Poundal/pollice <sup>2</sup> (psi)	6.895	0,069	1	7,03x10 <sup>-2</sup>	0,06805	51,72	0,703
1 Technical atmosphere (at = kg/cm <sup>2</sup> )	9,807x10 <sup>4</sup>	0,9807	14,22	1	0,9678	735,6	10
1 Atmosphere (atm)	1,013x10 <sup>5</sup>	1,013	14,70	1,033	1	760	10,33
1 mm di mercurio (mmHg = Torr)	133,32	1,34x10 <sup>-3</sup>	1,934x10 <sup>-2</sup>	1,36x10 <sup>-3</sup>	1,316x10 <sup>-3</sup>	1	1,36x10 <sup>-2</sup>
1 metro di acqua (mH <sub>2</sub> O)	9.810	9,81x10 <sup>-2</sup>	1,423	0,1	9,682x10 <sup>-2</sup>	73,6	1

<b>Work and Energy</b>	Kilocalorie (kcal)	Kilogrammetre (kgm)	Kilowatt (kWh)	Horse power / hr (Hph) - non Metric	Joule (J)
1 Kilocalorie (kcal)	1	427	1,163x10 <sup>-3</sup>	1,561x10 <sup>-3</sup>	4.190
1 Kilogrammetre (kgm)	2,34x10 <sup>-3</sup>	1	2,724x10 <sup>-6</sup>	3,653x10 <sup>-6</sup>	9,806
1 kilowatt-hour (kWh)	860	367.122	1	1,341	3,6x10 <sup>5</sup>
1 Horsepower/hour-non metric (hph)	641	273.761	0,7457	1	2,685x10 <sup>6</sup>
1 Joule (J)	2,39x10 <sup>-4</sup>	0,102	2,78x10 <sup>-7</sup>	3,725x10 <sup>-7</sup>	1

<b>Temperature</b>	Kelvin (K)	Celsius (°C)	Fahrenheit (°F)
Kelvin (K)	/	K-273 = °C	(K-273)x1,8 = °F
Celsius (°C)	°C+273 = K	/	(°Cx1,8)+32 = °F
Fahrenheit (°F)	273+[(°F-32):1,8] = K	(°F-32):1,8 = °C	/

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## SPECIFIC GRAVITY AND FUSION TEMPERATURE

### SOLID Substances

Substance	Chemical abbreviation	Specific gravity (Kg/dm <sup>3</sup> )	Fusion temperature (°C)
Unalloyed steel		7,8	1480
Stainless steel		7,8	1450
Tungsten steel		8,7	1450
Aluminium	Al	2,7	660
Nickel silver		8,6	1050
Antimony	Sb	6,67	630
Silver	Ag	10,5	960
Bronze	94 Cu 6 Sn	7,4- 8,9	900
Antiacid Bronze		8,78	990
Cadmium	Cd	8,64	321
Calcium	Ca	1,55	851
Cement		1,65	-
Cobalt		8,9	1490
Corundum		3,9 - 4,0	2050
Chromium	Cr	7,1	1890
Diamond	C	3,51	~ 3500
Iron	Fe	7,86	1539
Cast iron		7,25	1150 - 1250
Rubber		1,1	-
Manganese	Mn	7,3	1260
Magnesium	Mg	1,75	650
White metal		7,5 - 10,1	300 ... 400
Hard metal K10		14,7	> 2000
Hard metal P10		11,1	> 2000
Mica		2,6 - 3,6	~ 1300
Molybdenum	Mo	10,2	2600
Nichel	Ni	8,85	1450
Gold	Au	19,83	1063
Iron oxide		5,1	1565
Brass 63/37		8,5	900 - 1000
Paraffin		0,92	54
Lead	Pb	11,34	327
Synthetic plastic		1,4 - 1,5	-
Platinum		21,45	1775
Copper	Cu	8,93	1085
Emery		4	2200
Tin	Sn	7,28	232
Titanium	Ti	4,6	3380
Tungsten	W	19,3	3370
Vanadium	V	6,1	1800
Zinco	Zn	7,15	420
Die-cast zinc		6,8	390

### LIQUID Substances

Substance	Chemical abbreviation	Specific gravity (Kg/dm <sup>3</sup> )	Fusion temperature (°C)
Distilled water		1	0
Ethanol		0,79	-117
Gasoline		0,68 - 0,75	-30 - -50
Pure benzol		0,88	64
Gas oil		0,88 - 1	-5
Mercury	Hg	13,59	-38,9
Lube oil		0,91	-20
Machine oil		0,91	-5
Petroleum		0,81	-70
Perchloroethylene		1,62	

### GASEOUS Substances

Substance	Chemical abbreviation	Specific gravity (Kg/dm <sup>3</sup> )	Fusion temperature (°C)
Acetylene	C <sub>2</sub> H <sub>2</sub>	0,91	-81
Carbon dioxide	CO <sub>2</sub>	1,53	-57
Air		1	-220
Nitrogen	N <sub>2</sub>	0,97	-210
Illumination gas		0,47	-230
Hydrogen	H <sub>2</sub>	0,07	-257
Neon	Ne	0,69	-249
Carbon monoxide	CO	0,97	-205
Oxygen	O <sub>2</sub>	1,1	-218
Water vapor 100°C		0,62	0

## ISO METRIC THREAD UNI 4535-64

### Coarse ISO metric thread

Thread	Pitch (mm)	Ø Drilling (mm)	Ø Drill point (mm)
M 1,6	0,35	1,321	1,20
M 1,8	0,35	1,521	1,45
M 2	0,40	1,679	1,60
M 2,2	0,45	1,838	1,75
M 2,5	0,45	2,138	2,05
M 3	0,50	2,599	2,5
M 3,5	0,60	3,010	2,9
M 4	0,70	3,422	3,3
M 4,5	0,75	3,878	3,7
M 5	0,80	4,334	4,2
M 6	1	5,153	5
M 7	1	6,153	6
M 8	1,25	6,912	6,8
M 9	1,25	7,912	7,8
M 10	1,5	8,676	8,5
M 11	1,5	9,676	9,5
M 12	1,75	10,441	10,2
M 14	2	12,210	12
M 16	2	14,210	14
M 18	2,5	15,744	15,5
M 20	2,5	17,744	17,5
M 22	2,5	19,744	19,5
M 24	3	21,252	21
M 27	3	24,252	24
M 30	3,5	26,771	26,5
M 33	3,5	29,771	29,5
M 36	4	32,270	32
M 39	4	35,270	35
M 42	4,5	37,799	37,5
M 45	4,5	40,799	40,5
M 48	5	43,297	43
M 52	5	47,297	47
M 56	5,5	50,796	50,5
M 60	5,5	54,796	54,5
M 64	6	58,305	58
M 68	6	62,305	62

### Fine ISO metric thread

Thread	Pitch (mm)	Ø Drilling (mm)	Ø Drill point (mm)
M 3	0,35	2,721	2,65
M 4	0,50	3,599	3,5
M 5	0,50	4,599	4,5
M 6	0,75	5,378	5,2
M 7	0,75	6,378	6,2
M 8	0,75	7,378	7,2
M 8	1	7,153	7
M 9	1	8,153	8
M10	0,75	9,378	9,2
M 10	1	9,153	9
M 10	1,25	8,912	8,8
M 11	1	10,153	10
M 12	1	11,153	11
M 12	1,25	10,912	10,8
M 12	1,5	10,676	10,5
M 14	1	13,153	13
M 14	1,25	12,912	12,8
M 14	1,5	12,676	12,5
M 15	1	14,153	14
M 15	1,5	13,676	13,5
M 16	1	15,153	15
M 16	1,5	14,676	14,5
M 18	1	17,153	17
M 18	1,5	16,676	16,5
M 18	2	16,210	16
M 20	1	19,153	19
M 20	1,5	18,676	18,5
M 20	2	18,210	18
M 22	1	21,153	21
M 22	1,5	20,676	20,5
M 21	2	20,210	20
M 24	1	23,153	23
M 24	1,5	22,676	22,5
M 24	2	22,210	22
M 24	1	24,153	24
M 25	1,5	23,676	23,5
M 26	1,5	24,676	24,5
M 27	1,5	25,676	25,5
M 27	2	25,210	25
M 28	1,5	26,676	26,5
M 30	1,5	28,676	28,5
M 30	2	28,210	28
M 32	1,5	30,676	30,5
M 33	2	31,210	31
M 35	1,5	33,676	33,5
M 36	1,5	34,676	34,5
M 36	2	34,210	34
M 36	3	33,252	33
M 38	1,5	36,676	36,5
M 39	3	36,252	36
M 40	1,5	38,676	38,5
M 42	1,5	40,676	40,5
M 45	1,5	43,676	43,5
M 50	1,5	48,676	48,5

## WHITWORTH THREAD UNI 2709

### «W»

Thread	Ø External (mm)	Ø Drilling (mm)	Ø Drill point (mm)
W 1/16" - 60	1,588	1,18	1,2
W 3/32" - 48	2,381	1,87	1,9
W 1/8" - 40	3,175	2,56	2,6
W 5/32" - 32	3,969	3,21	3,2
W 3/16" - 24	4,762	3,74	3,8
W 7/32" - 24	5,556	4,54	4,6
W 1/4" - 20	6,350	5,13	5,2
W 5/16" - 18	7,938	6,58	6,6
W 3/8" - 16	9,525	8,01	8,0
W 7/16" - 14	11,112	9,37	9,4
W 1/2" - 12	12,700	10,66	10,5
W 9/16" - 12	14,288	12,25	12,0
W 5/8" - 11	15,875	13,66	13,5
W 3/4" - 10	19,050	16,61	16,5
W 7/8" - 9	22,225	19,51	19,5
W 1" - 8	25,400	22,35	22,5
W 1 1/8" - 7	28,575	25,09	25,0
W 1 1/4" - 7	31,750	28,26	28,0
W 1 3/8" - 6	34,925	30,86	31,0
W 1 1/2" - 6	38,100	34,03	34,0
W 1 5/8" - 5	41,275	36,39	36,5
W 1 3/4" - 5	44,450	39,56	39,5
W 1 7/8" - 4,5	47,625	42,20	42,0
W 2" - 4,5	50,800	45,37	45,5
W 2 1/4" - 4	57,150	51,04	51,0
W 2 1/2" - 4	63,500	57,39	57,5
W 2 3/4" - 3,5	69,850	62,87	63,0
W 3" - 3	76,200	69,22	69,5

### «BSF»

Thread	Ø External (mm)	Ø Drilling (mm)	Ø punta (mm)
W 3/16" - 32	4,762	4,00	4,0
W 7/32" - 28	5,556	4,69	4,7
W 1/4" - 26	6,350	5,41	5,4
W 5/16" - 22	7,938	6,83	6,8
W 3/8" - 20	9,525	8,30	8,3
W 7/16" - 18	11,113	9,76	9,8
W 1/2" - 16	12,700	11,17	11,0
W 9/16" - 16	14,288	12,76	12,5
W 5/8" - 14	15,875	14,13	14,0
W 3/4" - 12	19,050	17,01	17,0
W 7/8" - 11	22,225	20,00	20,0
W 1" - 10	25,400	22,96	23,0
W 1 1/8" - 9	28,575	25,86	26,0
W 1 1/4" - 9	31,750	29,04	29,0
W 1 3/8" - 8	34,925	31,87	32,0
W 1 1/2" - 8	38,100	35,05	35,0
W 1 5/8" - 8	41,275	38,22	38,0
W 1 3/4" - 7	44,450	40,96	41,0
W 1 7/8" - 7	47,625	44,14	44,0
W 2" - 7	50,800	47,31	47,5
W 2 1/4" - 6	57,150	53,08	53,0
W 2 1/2" - 6	63,500	59,43	59,5
W 2 3/4" - 6	69,850	65,78	66,0
W 3" - 5	76,200	71,32	71,5

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## GAS THREAD

### «G» UNI 338-66

Thread	Ø External (mm)	Ø Drilling (mm)	Ø Drill point (mm)
G 1/8" - 28	9,73	8,68	8,70
G 1/4" - 19	13,16	11,62	11,75
G 3/8" - 19	16,66	15,12	15,25
G 1/2" - 14	20,95	18,86	19,00
G 5/8" - 14	22,91	20,82	21,00
G 3/4" - 14	26,44	24,35	24,50
G 7/8" - 14	30,20	28,11	28,25
G 1" - 11	33,25	30,59	30,50
G 1 1/8" - 11	37,90	35,24	35,50
G 1 1/4" - 11	41,91	39,25	39,50
G 1 3/8" - 11	44,32	41,66	41,50
G 1 1/2" - 11	47,80	45,14	45,00
G 1 5/8" - 11	51,32	48,67	48,50
G 1 3/4" - 11	53,75	51,08	51,00
G 2" - 11	59,61	56,95	57,00
G 2 1/4" - 11	65,71	63,05	63,00
G 2 1/2" - 11	75,18	72,52	72,50
G 2 3/4" - 11	81,53	78,87	79,00
G 3" - 11	87,88	85,22	85,50
G 3 1/4" - 11	93,98	91,32	91,50
G 3 1/2" - 11	100,33	97,67	97,50
G 3 3/4" - 11	106,68	104,02	104,00
G 4" - 11	113,03	110,37	110,50

### «Gc» UNI 339-66

Thread	Ø External (mm)	Ø Drilling (mm)	Ø punta (mm)
Gc 1/8"-28	8,5	4,9	3,1
Gc 1/4"-19	11,5	7,3	4,7
Gc 3/8"-19	15,0	7,7	5,1
Gc 1/2"-14	18,5	10,0	6,4
Gc 3/4"-14	23,5	11,3	7,7
Gc 1"-11	30,0	12,7	8,1
Gc 1 1/4"-11	38,0	15,0	10,4
Gc 1 3/8"-11	41,0	15,0	10,4
Gc 1 1/2"-11	44,5	15,0	10,4
Gc 2"-11	56,0	18,2	13,6
Gc 2 1/2"-11	72,0	21,0	14,0
Gc 3"-11	85,0	24,1	17,1
		<b>max</b>	<b>min</b>

## AMERICAN THREAD

### Standard «NC» and «UNC»

Thread	Ø External (mm)	Ø Drilling (mm)	Ø Drill point (mm)
UNC No. 1-64	1,854	1,425	1,582
UNC No. 2-56	2,184	1,694	1,872
UNC No. 3-48	2,515	1,941	2,136
UNC No. 4-40	2,845	2,156	2,383
UNC No. 5-40	3,175	2,487	2,697
UNC No. 6-32	3,505	2,647	2,909
UNC No. 8-32	4,166	3,307	3,515
UNC No. 10-24	4,826	3,680	3,960
UNC No. 12-24	5,486	4,341	4,575
UNC 1/4"-20	6,350	4,976	5,232
UNC 5/16"-18	7,938	6,411	6,680
UNC 3/8"-16	9,525	7,805	8,087
UNC 7/16"-14	11,112	9,149	9,451
UNC 1/2"-13	12,700	10,584	10,896
UNC 9/16"-12	14,288	11,996	12,319
UNC 5/8"-11	15,875	13,376	13,709
UNC 3/4"-10	19,050	16,299	16,644
UNC 7/8"-9	22,225	19,169	19,530
UNC 1"-8	25,400	21,963	22,339
UNC 1 1/8"-7	28,575	24,648	25,039
UNC 1 1/4"-7	31,750	27,823	28,214
UNC 1 3/8"-6	34,925	30,343	30,800
UNC 1 1/2"-6	38,100	33,518	33,975

### fine «NF» and «UNF»

Thread	Ø External (mm)	Ø Drilling (mm)		Ø Drill point (mm)
		max	min	
UNF No. 0-80	1,524	1,181	1,306	1,3
UNF No. 1-72	1,854	1,473	1,613	1,6
UNF No. 2-64	2,184	1,755	1,913	1,9
UNF No. 3-56	2,515	2,024	2,174	2,1
UNF No. 4-48	2,845	2,271	2,438	2,35
UNF No. 5-44	3,175	2,550	2,713	2,65
UNF No. 6-40	3,505	2,817	2,995	2,9
UNF No. 8-36	4,166	3,401	3,561	3,5
UNF No. 10-32	4,826	3,967	4,125	4
UNF No. 12-28	5,486	4,503	4,466	4,6
UNF 1/4"-28	6,350	5,367	5,519	5,4
UNF 5/16"-24	7,938	6,792	6,957	6,7
UNF 3/8"-24	9,525	8,379	8,545	8,4
UNF 7/16"-20	11,112	9,738	9,921	9,8
UNF 1/2"-20	12,700	11,326	11,509	11,4
UNF 9/16"-18	14,288	12,761	12,954	12,8
UNF 5/8"-18	15,875	14,348	14,542	14,4
UNF 3/4"-16	19,050	17,330	17,534	17,4
UNF 7/8"-14	22,225	20,261	20,477	20,3
UNF 1"-12	25,400	23,109	23,338	23,2
UNF 1 1/8"-12	28,575	26,284	26,513	26,4
UNF 1 1/4"-12	31,750	29,459	29,688	29,6
UNF 1 3/8"-12	34,925	32,634	32,863	32,7
UNF 1 1/2"-12	38,100	35,809	36,038	35,9
		<b>max</b>	<b>min</b>	

### «NPS» Pipe thread

Thread	Ø External (mm)	Ø Drilling (mm)	Ø Drill point (mm)
NPS 1/8"-27	10,27	8,92	8,9
NPS 1/4"-18	13,57	11,54	11,5
NPS 3/8"-18	17,05	15,03	15,0
NPS 1/2"-14	21,22	18,61	18,5
NPS 3/4"-14	26,56	23,95	24,0
NPS 1"-11½	33,22	30,05	30,0
NPS 1¼"-11½	41,98	38,80	39,0
NPS 1½"-11½	48,05	44,87	45,0
NPS 2"-11½	60,09	56,91	57,0
NPS 2½"-8	72,70	68,13	68,0
NPS 3"-8	88,60	84,04	84,0

### «NPT» Taper thread

Thread	Ø Drilling (mm)
NPS 1/8"-27	8,5
NPS 1/4"-18	11,0
NPS 3/8"-18	14,5
NPS 1/2"-14	18,0
NPS 3/4"-14	23,0
NPS 1"-11½	29,0
NPS 1¼"-11½	38,0
NPS 1½"-11½	44,0
NPS 2"-11½	56,0
NPS 2 1/2"-8	67,0
NPS 3"-8	83,0

## WEIGHT in Kg per meter

STEEL (specific gravity 7,85 Kg/dm<sup>3</sup>)

Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■
2	0.024	0.027	0.031	22	2.98	3.29	3.80	46	12.93	14.40	16.60	100	61.62	67.98	78.50
2,5	0.038	0.042	0.049	23	3.26	3.57	4.12	48	14.20	15.67	18.09	110	74.60	82.26	94.99
3	0.055	0.061	0.070	24	3.55	3.92	4.52	50	15.40	17.00	19.60	120	88.80	97.90	113
3,5	0.075	0.083	0.096	25	3.85	4.21	4.91	52	16.70	18.51	21.22	130	104	114.9	132.7
4	0.098	0.109	0.126	26	4.17	4.60	5.26	53	17.30	19.10	22.05	140	121	133.3	153.9
4,5	0.125	0.138	0.159	27	4.49	4.96	5.72	54	17.96	19.81	22.89	150	139	153	176.6
5	0.154	0.170	0.196	28	4.83	5.29	6.10	55	18.70	20.60	23.70	160	158	174	201
6	0.222	0.245	0.283	29	5.14	5.67	6.54	56	19.30	21.31	24.62	170	178	196.5	226.9
7	0.302	0.333	0.385	30	5.55	6.12	7.06	58	20.70	22.87	26.41	180	200	220.3	254.3
8	0.395	0.435	0.502	31	5.87	6.46	7.54	60	22.20	24.47	28.30	190	223	245.4	283.4
9	0.499	0.551	0.636	32	6.31	6.96	8.04	62	23.69	26.13	30.17	200	247	271.9	314
10	0.617	0.680	0.785	33	6.71	7.32	8.55	64	25.24	27.84	32.15	210	272	299.8	346.2
11	0.746	0.823	0.950	34	7.06	7.86	9.07	65	26.00	28.72	33.20	220	298	329	379.9
12	0.888	0.979	1.130	35	7.55	8.33	9.62	66	26.84	29.61	34.19	230	326	359.6	415.3
13	1.04	1.140	1.33	36	7.99	8.81	10.20	68	28.50	31.43	36.30	240	355	391.6	452.2
14	1.21	1.33	1.54	37	8.37	9.30	10.75	70	30.20	33.30	38.50	250	385	424.9	490.6
15	1.39	1.52	1.77	38	8.90	9.81	11.34	72	31.84	35.24	40.69	260	417	459.6	430.7
16	1.58	1.73	2.01	39	9.38	10.34	11.94	74	33.74	37.23	42.98	270	449	495.6	572.3
17	1.78	1.96	2.27	40	9.86	10.88	12.60	75	34.70	38.20	44.20	280	483	533	615.4
18	2.00	2.18	2.54	41	10.28	11.40	13.20	76	35.60	39.26	45.34	300	554.8	611.8	706.5
19	2.23	2.45	2.83	42	10.91	12.00	13.85	78	37.50	41.36	47.75				
20	2.47	2.70	3.14	44	11.83	13.16	15.20	80	39.50	43.50	50.20				
21	2.72	3.00	3.44	45	12.50	13.77	15.90	90	49.90	55.07	63.58				

ALUMINIUM (specific gravity 2,7 Kg/dm<sup>3</sup>)

Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■
2	0.008	0.009	0.011	22	1.026	1.131	1.307	46	4.487	4.947	5.715	100	21.206	23.384	27.000
2,5	0.013	0.014	0.016	23	1.122	1.237	1.429	48	4.886	5.387	6.224	110	25.659	28.294	32.670
3	0.019	0.021	0.024	24	1.223	1.347	1.555	50	5.302	5.845	6.570	120	30.536	33.672	38.900
3,5	0.025	0.028	0.031	25	1.326	1.462	1.689	52	5.734	6.322	7.304	130	35.810	39.488	45.617
4	0.034	0.037	0.043	26	1.434	1.581	1.826	53	5.957	6.568	7.588	140	41.564	45.833	52.947
4,5	0.043	0.047	0.054	27	1.546	1.704	1.968	54	6.184	6.819	7.877	150	47.712	52.612	60.800
5	0.053	0.058	0.068	28	1.663	1.833	2.118	55	6.415	7.069	8.168	160	54.300	59.877	69.171
6	0.077	0.084	0.097	29	1.783	1.966	2.271	56	6.650	7.333	8.471	170	61.300	67.596	78.089
7	0.104	0.115	0.132	30	1.909	2.104	2.430	58	7.134	7.866	9.087	180	68.700	75.756	87.480
8	0.136	0.150	0.173	31	2.038	2.247	2.596	60	7.634	8.420	9.720	190	76.600	84.468	97.579
9	0.172	0.189	0.219	32	2.171	2.394	2.765	62	8.152	8.989	10.384	200	84.800	93.510	108.000
10	0.212	0.234	0.270	33	2.309	2.546	2.941	64	8.686	9.578	11.064	210	93.500	103.104	119.108
11	0.257	0.283	0.327	34	2.451	2.702	3.122	65	8.960	9.880	11.414	220	102.600	113.138	130.700
12	0.306	0.337	0.389	35	2.598	2.864	3.308	66	9.237	10.185	11.766	230	112.200	123.724	142.929
13	0.358	0.395	0.456	36	2.748	3.029	3.500	68	9.806	10.813	12.491	240	122.150	134.696	155.605
14	0.416	0.458	0.529	37	2.903	3.201	3.698	70	10.391	11.458	13.230	250	132.600	146.220	168.917
15	0.477	0.526	0.608	38	3.062	3.376	3.900	72	10.933	12.056	13.927	260	143.350	158.074	182.611
16	0.543	0.599	0.691	39	3.226	3.557	4.109	74	11.612	12.804	14.792	270	154.600	170.480	196.942
17	0.613	0.675	0.780	40	3.393	3.736	4.320	75	11.928	13.153	15.194	280	166.250	183.326	211.783
18	0.687	0.757	0.865	41	3.565	3.930	4.541	76	12.249	13.507	15.603	300	190.900	210.508	243.184
19	0.766	0.844	0.975	42	3.741	4.125	4.765	78	12.902	14.227	16.435				
20	0.848	0.935	1.080	44	4.105	4.526	5.229	80	13.572	14.966	17.280				
21	0.935	1.031	1.191	45	4.294	4.735	5.468	90	17.177	18.941	21.870				

BRASS (specific gravity 8,5 Kg/dm<sup>3</sup>)

Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■	Size (mm)	●	⬡	■
2	0.026	0.028	0.034	22	3.231	3.564	4.114	46	14.126	15.585	17.988	100	66.759	73.658	85.011
2,5	0.041	0.045	0.052	23	3.532	3.897	4.497	48	15.385	16.974	19.591	110	80.829	88.587	102.928
3	0.060	0.066	0.076	24	3.845	4.242	4.896	50	16.690	18.414	21.253	120	96.135	106.070	122.419
3,5	0.081	0.089	0.103	25	4.173	4.604	5.313	52	18.051	19.916	22.986	130	112.820	124.479	143.665
4	0.106	0.116	0.134	26	4.513	4.979	5.746	53	18.752	20.689	23.878	140	130.849	144.371	166.165
4,5	0.135	0.148	0.159	27	4.867	5.369	6.197	54	19.466	21.455	24.788	150	150.203	165.725	191.269
5	0.167	0.184	0.212	28	5.234	5.774	6.665	55	20.196	22.283	25.717	160	170.901	188.562	217.626
6	0.240	0.264	0.305	29	5.614	6.194	7.148	56	20.935	23.098	26.658	170	192.933	212.871	245.682
7	0.327	0.360	0.416	30	6.009	6.629	7.651	58	22.457	24.777	28.596	180	216.299	238.652	275.436
8	0.428	0.472	0.545	31	6.416	7.079	8.170	60	24.033	26.516	30.603	190	241.000	265.906	306.891
9	0.542	0.598	0.690	32	6.835	7.541	8.703	62	25.662	28.314	32.627	200	270.036	294.632	340.045
10	0.667	0.735	0.849	33	7.270	8.021	9.257	64	27.344	30.169	34.820	210	294.406	324.831	374.899
11	0.809	0.892	1.030	34	7.717	8.514	9.826	65	28.205	31.119	35.916	220	323.110	356.501	411.450
12	0.963	1.062	1.226	35	8.178	9.023	10.413	66	29.080	32.085	37.030	230	353.464	389.992	450.103
13	1.128	1.244	1.436	36	8.652	9.546	11.017	68	30.869	34.059	39.308	240	384.561	424.270	489.664
14	1.308	1.443	1.665	37	9.139	10.083	11.637	70	32.716	36.097	41.660	250	417.239	460.358	531.315
15	1.502	1.657	1.912	38	9.639	10.635	12.274	72	34.607	38.183	44.068	260	451.290	497.928	574.676
16	1.709	1.885	2.176	39	10.154	11.203	12.930	74	36.556	40.333	46.550	270	486.676	536.971	619.737
17	1.929	2.128	2.456	40	10.684	11.788	13.605	75	37.553	41.433	47.820	280	523.387	577.476	665.992
18	2.163	2.386	2.754	41	11.222	12.381	14.290	76	38.560	42.544	49.102	300	600.831	662.923	765.103
19	2.410	2.659	3.068	42	11.776	12.992	14.995	78	40.616	44.813	51.708				
20	2.670	2.946	3.400	44	12.924	14.259	16.457	80	42.725	47.140	54.406				
21	2.944	3.248	3.748	45	13.518	14.915	17.213	90	54.074	59.662	68.858				