

BRITISH STANDARDS

BS 2874 : 1986

Copper and copper alloy rods and sections
(other than forging stock)



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Tolerances on dimensions for rods

The diameter, width across flats and thickness for rods shall be within the tolerances given in tables 2 to 6 for the appropriate material group, size and shape. The normal tolerances shall apply, unless the purchaser has expressed an option for close tolerance material in the order.

NOTE. The dimensional tolerances for rods larger than the size ranges given in tables 2 to 6 should be agreed between the supplier and the purchaser.

Table 1. Chemical composition, tolerance group and mechanical properties of brasses

BS designation	Material	Chemical composition											Mechanical properties								
		Cu	Sn	Pb	Fe	Al	Mn	As	Ni	Si	Zn	Total impurities	Condition	Size		Tensile strength	0.2% proof stress	Elongation on 5.65 $\sqrt{S_0}$			
		%	%	%	%	%	%	%	%	%	%	%		Over	Up to and including				min.	min.	min.
														mm	mm				N/mm ²	N/mm ²	%
CZ 121	Leaded	56.5-	—	2.5-	0.3	—	—	—	—	—	—	Rem.	0.7	M	6	18	425	—	15		
Pb3	brass	58.5	—	3.5											18	40	400	—	20		
	58% Cu														40	80	380	—	20		
	3% Pb														80	—	350	—	25		
CZ 121	Leaded	56.5-	—	3.5-	0.3	—	—	—	—	—	—	Rem.	0.7	M	6	18	425	—	15		
Pb4	brass	58.5	—	4.5											18	40	400	—	20		
	58% Cu														40	80	380	—	20		
	4% Pb														80	—	350	—	25		

NOTE. For essential alloying elements, limits are in bold type. Unless otherwise stated, figures in the total impurities column include those that are not in bold type. Unless otherwise indicated, all single limits are maxima.

Table 2. Dimensional tolerances for rectangular bar

Width across flats		Tolerance on width	Tolerances on thickness			
Over	Up to and including		Up to and including 10 mm	> 10 mm to 18 mm	> 18 mm to 30 mm	> 30 mm to 50 mm
mm	mm		mm	mm	mm	mm
1.6	3	±0.07	±0.07	—	—	—
3	6	±0.09	±0.09	—	—	—
6	10	±0.11	±0.11	—	—	—
10	18	±0.22	±0.19	±0.22	—	—
18	30	±0.26	±0.19	±0.22	±0.26	—
30	50	±0.31	±0.19	±0.22	±0.26	±0.31
50	80	±0.60	±0.29	±0.35	±0.42	±0.50
80	100	±1.10	±0.45	±0.55	±0.65	±0.80



BS 2874 : 1986 cont.

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Table 3. Dimensional tolerances for round bar

Specified Diameter		Close tolerance	Normal tolerance
Over mm	Up to and including mm	mm	mm
1.6	3	-0.04	±0.05
3	6	-0.05	±0.06
6	10	-0.06	±0.08
10	18	-0.07	±0.14
18	30	-0.08	±0.16
30	50	-0.10	±0.20
50	80	-0.19	±0.37

Table 4. Dimensional tolerances for hexagonal rod

Width across flats		Close tolerance	Normal tolerance
Over mm	Up to and including mm	mm	mm
3	6	-0.08	±0.06
6	10	-0.09	±0.08
10	18	-0.11	±0.14
18	30	-0.13	±0.16
30	50	-0.16	±0.31
50	60	-0.30	±0.60

Table 5. Dimensional tolerances for square rod

Width across flats		Close tolerance	Normal tolerance
Over mm	Up to and including mm	mm	mm
3	6	-0.12	-0.08
6	10	-0.15	-0.09
10	18	-0.18	-0.11
18	30	-0.21	-0.13
30	50	-0.25	-0.16
50	60	-0.46	-0.30

