

Phosphorbronze | Round Bars

DATA SHEET



Alloy	Cu Sn 8, CW453K mostly also available in Cu Sn 8 P, CW459K		
Method of Manufacture	drawn		
Specification	EN 12163		
Tolerance	DIN 1756	Ø 2-9 mm	h10 Ø 10-80 mm h11
	Ø 2-3 mm	+ 0/-0.04 mm	
	Ø 4-6 mm	+ 0/-0.05 mm	
	Ø 7-9 mm	+ 0/-0.06 mm	
	Ø 10 mm	+ 0/-0.09 mm	
	Ø 11-18 mm	+ 0/-0.11 mm	
	Ø 19-30 mm	+ 0/-0.13 mm	
	Ø 31-50 mm	+ 0/-0.16 mm	
	Ø 52-80 mm	+ 0/-0.19 mm	
	Ø 85-140 mm	+ 0/-0.30 mm	
	Ø 150-160 mm	+ 0/-0.50 mm	
Temper	Ø 2-9 mm	R550S, therm. stress relieved	
	Ø 10-55 mm	R450/R450S, mostly stress relieved	
	Ø 60-95mm	approx. R450	
	Ø 100-160 mm	M	
Machinability	moderate		
Hot Working	not good		
Cold Working	good		
Corrosion Resistance	very good versus many media, incl. sea water		
Sliding Properties	very good		
REACH	no obligations		
RoHS	conformal		

Mechanical Properties

	Tensile strength R_m	Yield stress $R_{p0.2}$	Elongation A	Hardness HB
M	as obtained			
R390	$\geq 390 \text{ N/mm}^2$	$\geq 280 \text{ N/mm}^2$	$\geq 45 \%$	
H085				85-125
R450	$\geq 450 \text{ N/mm}^2$	$\geq 280 \text{ N/mm}^2$	$\geq 26 \%$	
H135				135-165
R550	$\geq 550 \text{ N/mm}^2$	$\geq 400 \text{ N/mm}^2$	$\geq 15 \%$	
H160				160-190

Better corrosion resistance than tin bronzes with lower tin content, higher strength and very good sliding properties and wear resistance. Good cold formability, good solderability. Sliding components, slide bearings (especially thin-walled ones) and sliding guides. Highly stressed worm and gear wheels, screws and bolts.

Chemical Composition

Cu	Rest
Sn	7.5 - 8.5 %
P	0.01-0.4 %
Impurities, max.:	
Fe	0.1 %, Ni 0.2 %, Pb 0.02 %, Zn 0.2 %
other	0.2 %

Comparable Specifications

CuSn8, 2.1030, DIN 17 662
C 52 100 UNS
PB 104, BS 2870-2875

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