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Material data sheet

CuCo1Ni1Be (CW104C)

1) Chemical composition according to DIN EN 12163 [% by mass, remainder Al]

%	Cu	Al	Be	Co	Fe	Ni	Pb	Sn	Zn	Each
min.	Remainder	-	0.4	0.8	-	0.8	-	-	-	-
max.	-	-	0.7	1.3	0.2	1.3	-	-	-	0.5

2) Mechanical properties according to DIN EN 12163

Temper	Dimensions in mm		R_m MPa		$R_{p0,2}$ MPa		A%	HB
	D^a	S^b	min.	max.	min.	max.	min.	Typical value
R1150	25<D≤80	25<S≤80	1150	-	1000	-	2	-
R1300	2<-D≤25	2<S≤25	1300	-	1100	-	2	-

D^a = Diameter for round rod / S^b= Width across flat for square and hexagonal rod, Thickness for rectangular rod / c Properties may be obtained by press quenching.

Physical properties		**Fabrication properties**	
Density g/cm³	8.3	Machinability	poor (20%)
Modulus of elasticity MPa	125-130	Cold-working properties	good
Thermal conductivity W/(m K)	105-130	Hot-working properties	good at 650 – 800 °C
Coefficient of thermal expansion (20-100 °) 10^{-6}/K	16.7		
Electrical conductivity MS/m	15		

General properties

In the precipitation-hardened temper very high strength values. Good temperature resistance, at low temperatures of up to -200 °C and at high temperatures of up to approx. 350 °C.
High wear resistance. Springs of all kinds, membranes, wear-resistant parts, non-sparking and non-magnetic tools, moulds for plastics processing.

Errors and changes excepted/This document is not subject to revision.