

Material number (DIN)	like 2.1285								
Material no. UNS (ASTM)	C17500								
International standard	R.W.M.A Class 3								
Abbreviation	CuCoNiBe								
Standard analysis (percent by weight)	<table border="1"> <tr> <td>Co</td> <td>Ni</td> <td>Be</td> <td>Cu</td> </tr> <tr> <td>0,8-1,3</td> <td>0,8-1,3</td> <td>0,4-0,7</td> <td>remainder</td> </tr> </table>	Co	Ni	Be	Cu	0,8-1,3	0,8-1,3	0,4-0,7	remainder
Co	Ni	Be	Cu						
0,8-1,3	0,8-1,3	0,4-0,7	remainder						

Material description Age hardenable Cu alloy with high electrical and thermal conductivity under a very high degree of hardness and strength.

- Applications**
- electrodes for resistance welding, preferably of rust-free and heat-resistance steels as well as welded wire mesh
 - upsetting electrodes, electrode cheeks and UP nozzles
 - sealing cheeks and plates for plastic welding machines
 - pistons in the cold chamber diecasting machines (light alloy casting)
 - nozzles for hot channel systems
 - inserts for plastic injection moulds

Mechanical properties
(at 20° C)

Condition		hardened
hardness (average)	HB 10/2,5	min. 265
tensile strength	N-mm ²	min. 750
tensile yield strength	N-mm ²	min. 600
A 5 elongation	%	min. 8
Modules of elasticity	N-mm ²	135 x 10 ³
Softening temp.	°C	min. 480

Physical properties
(at 20° C)

Specific weight	$\frac{g}{cm^3}$	8,8
Specific heat	$\frac{J}{g.K}$	0,42
Thermal conductivity	$\frac{W}{m.K}$	20° C env. 240 300° C env. 260
Coefficient of expansion (20-200° C)	$\frac{1}{K}$	17,2 x 10 ⁻⁶
Electrical conductivity	$\frac{MS}{m}$	min. 28 min. 48% IACS
Electrical resistance	$\frac{Ohm \cdot mm^2}{m}$	0,033-0,05

The use of Brocadur CCNB-EH leads to a marked increase in electrode curing time, especially with welded wire mesh, amongst others, since the hardness and conductivity values were considerably improved.