

Material number (DIN)	like 2.0850						
Material no. UNS (ASTM)	C17510						
International standard	R.W.M.A Class 3						
Abbreviation	CuNiBe						
Standard analysis (percent by weight)	<table border="1"> <tr> <td>Ni</td> <td>Be</td> <td>Cu</td> </tr> <tr> <td>1,7</td> <td>0,3</td> <td>remainder</td> </tr> </table>	Ni	Be	Cu	1,7	0,3	remainder
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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 10/2,5 210-250
	tensile strength	N-mm ² 700-760
	tensile yield strength	N-mm ² 650-700
	A 5 elongation	% 10-14
	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. 250 300° C env. 290
	Coefficient of expansion (20-200° C)	$\frac{1}{K}$	17,2 x 10 ⁻⁶
	Electrical conductivity	$\frac{MS}{m}$	min. 69% IACS
	Electrical resistance	$\frac{Ohm \cdot mm^2}{m}$	0,033-0,05

The use of Brocadur NiBe will save considerable costs, because of a lower electricity consumption. As a result of the higher electrical conductivity considerable improvements in the life time of the electrodes are achieved.