

Short Name	~CW111C	Chemical	Ni	Si	Cr	Cu
Code	~CuNi2SiCr	Composition	2.4	0.7	0.5	balance
Material-No.(old)	~2.0855	(Reference values in %)				
Material Properties	High thermal conductivity combined with good hardness and high-temperature. Good retention to tempering. Not suitable for case hardening and nitriding.					
Applications	<ul style="list-style-type: none"> • Pistons in cold chamber machines for aluminium and magnesium die-casting • Moulds for gravity casting of non-ferrous metals • Cooling inserts in moulds 					
	Hot forming	1.173 – 973 K	(900-700 °C)	Cooling	air	
Heat Treatment	Solution annealing	1.193 – 1.213 K	(920 – 940 °C)	Time	Cooling	Hardness HB
	Prec. hardening	753 K	(480 °C)	1 h	water	
				~4 h	in furnace	min. 170
Mechanical Properties (Reference values)	Conditions					
	Hardness	HB 10/2,5				170 – 210
	Tensile strength	N/mm ²				min. 590
	Yield strength	N/mm ²				min. 490
	Elongation L = 5 D	%				min. 5
	Modulus of elasticity	kN/mm ²				114
Physical Properties	Electrical conductivity 293 K (20 °C)	MS/m				c. 26
	Coefficient of thermal expansion (20 – 100 °C) 293-373 K	$\frac{1}{K}$				16,0 · 10 ⁻⁶
	Specific heat	$\frac{J}{g \cdot K}$				0,42
	Thermal conductivity 293 K (20 °C)	$\frac{W}{m \cdot K}$				160
	Density	$\frac{g}{cm^3}$				8.78
Available sizes	Rods drawn, extruded or forged and turned ex stock, flat-, square or profile bars, furthermore forgings or machined parts against drawing on request.					