

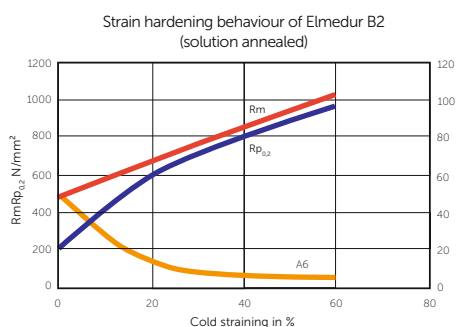
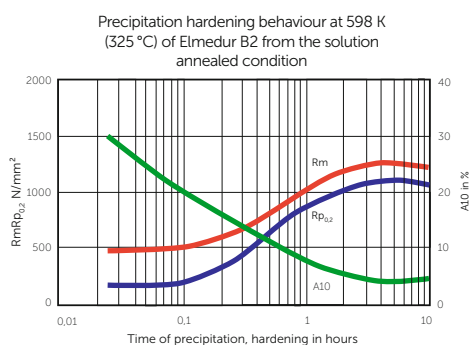
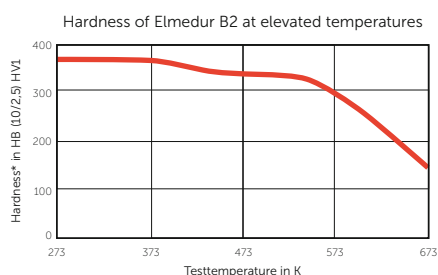
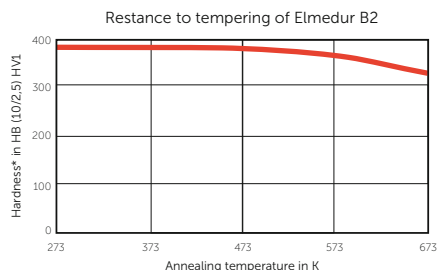
DuroPlast® HH

Technical Datasheet

Short Name	CW101C	Chemical	Be	Ni+Co	Cu
Code	CuBe2	Composition	2.0	0.4	balance
Material-No.(old)	2.1247	(Reference values in %)			
Material Properties	Precipitation hardened alloy with good thermal conductivity and high hardness. Not suitable for case hardening or nitriding.				
Applications	– Plastic injection molds: Solid molds or inserts (core and cavity side) – Extrusion Blow molding molds: pinch-off areas – Tips for hot runner systems – Ejector pins – Calibrators for plastic extrusion machines				
Mechanical Properties (precipitation hardened)	Conditions		solution annealed and aged		
	Hardness	HRC	36 – 42		
	Tensile strength	N/mm²	1.150 – 1.350		
	Yield strength	N/mm²	1.000 – 1.250		
	Elongation L = 5 D	%	min. 5		
	Modulus of elasticity	kN/mm²	135		
	Modulus of torsion	kN/mm²	47		
Physical Properties (precipitation hardened)	Coefficient of thermal expansion 0 – 320°C (273 – 573 K)	$\frac{1}{K}$	17.0•10 ⁻⁶		
	Specific heat	$\frac{J}{g \cdot K}$	0.42		
	Thermal conductivity 20 °C (293 K) 200 °C (473 K) 300 °C (573 K)	$\frac{W}{m \cdot K}$	approx. 110 approx. 190 approx. 230		
	Density	g/cm³	8.3		
Products	Depending on Rods and Plates size: cold drawn, extruded or forged executions				

DuroPlast® HH

Technical Datasheet



Machining (Reference values): Hardened condition

Turning	Tungsten Carbide K20	HSS THYRAPID 1.3207
Cutting speed (m/min)	up to 250	up to 80
Rake angle	6 – 18	15 – 25
Feed and depth of cut	as to required surface finish	as to required surface finish
Chip breaker	recommended	recommended

Milling	Tungsten Carbide K20	HSS THYRAPID 1.3207
Cutting speed (m/min)	up to 250	up to 80
Rake angle	positive	positive
Feed (mm/min)	200 – 300	80 – 150

Drilling	Twist drills in acc. to DIN 338
Cutting speed (m/min)	max. 18
Chip flow	For a better chip flow, drills with an enlarged twist angle should advantageously be used. We recommend contacting the respective manufacturers.
Spark eroding	Sink and wire EDM are possible. Contact Wieland for more information.
Polishability	Very good up to 1 micron pasta. Contact Wieland for more information.

Standards/Tolerances	
DIN EN 12 163	Round bars for general purpose.
DIN EN 12 165	Ingots for forgings
DIN EN 12 167	Profiles and rectangular bars for general purpose.

*) Brinell hardness at R.T. after 5-hrs heating, cooling with air

Health note

The material contains small amounts of beryllium, cobalt and nickel. Inhalation of fine dust and steam is to be avoided. During machining, the H-phrases (H301; H302; H332i; H350i; H334; H372) and the P-phrases (P201; P202; P260; P308; P313) must be observed.

All statements as to the properties or utilization of the materials and products mentioned in this datasheet are only for the purpose of description. Guarantees in respect of the existence of certain properties or utilization at the material mentioned are only valid if agreed upon in writing.