

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.
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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
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Mechanical Properties (precipitation hardened)	Conditions		solution annealed and aged
	Hardness	HRC	36 – 42
	Tensile strength	N/mm ²	1.150 – 1.350
	Yield strength	N/mm ²	1.000 – 1.250
	Elongation L = 5 D	%	min. 5
	Modulus of elasticity	kN/mm ²	135
	Modulus of torsion	kN/mm ²	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/cm ³	8.3

Wieland DuroPlast® Materials	DuroPlast® is Wieland's advanced material solution for applications requiring exceptional hardness, thermal conductivity and durability. Our materials are designed for precision mold-making and high-performance components across multiple industries in the plastic market.
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Key Benefits	- High hardness and wear resistance → Suitable for medium/ long production series - Excellent thermal conductivity → Reduce moulds cycle time improves plastic parts quality - Superior toughness/ ductility → Reduce risks of moulds premature failures - Excellent corrosion resistance → Reduce the moulds maintenance costs
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Wieland Copper Alloys for Plastic Tooling				
Product Name	Hardness	Thermal Conductivity (W/mK)	Tensile Strength (N/mm2)	Elongation L=5D
DuroPlast® HH CuBe2	36 - 42 HRC	110 (20°C)	1150 - 1350	min. 5
DuroPlast® HA CuCo1Ni1Be	240 - 260 HB	210 (20°C)	700 - 900 (*)	min 5 - min 10 (*)
DuroPlast® SC CuNi7Si2Cr	240 - 260 HB	160 (20°C)	700 - 900	min.5
DuroPlast® NCS CuNi2Si (+Cr)	190 - 240 HB	160 (20°C)	min. 650	min.5
DuroPlast® AB CuAl10Ni5Fe4	180 - 210 HB	50 (20°)	680 - 740	min.8

* depending on the thickness

Wieland No-Copper Based Alloys for Plastic Tooling				
Product Name	Hardness	Thermal Conductivity (W/mK °)	Tensile strength (N/mm2)	Elongation L=5D
DuroPlast® TZM	200 - 250 HV	130 (20°C)	750 - 900	min. 6
		Chemical Composition		
Ti	Zr	C	Mo	
0,50%	0,08%	0,03%	Rest	

Applications: Gate Inserts, Spure Bushings, Core Pins (Thin-Wall Sections), Parts Exposed to High Temperature

DuroPlast® 7075	150 HB	130-160 (20°C)	440-560 (*)	min. 6	
Chemical Composition					
Si	Fe	Mg	Cr	Zn	Al
0,40%	0,50%	2,90%	0,28%	6,10%	Rest
Applications:	Blow Molding Molds, Prototypes Plastic Injection Molds, Thermoforming Tools				

* depending on the thickness

Product Name	Hardness	Thermal Conductivity	Heat Resistance	Corrosion Resistance	Machinability
DuroPlast® HH					
DuroPlast® HA					
DuroPlast® SC					
DuroPlast® NCS					
DuroPlast® AB					
DuroPlast® TZM					
DuroPlast® 7075					