Material data sheet

ALBROMET-W164

ALBROMET-W164	High-strength copper alloy, beryllium-free
Material properties	Innovative, beryllium-free, high-strength copper alloy, offering an ideal combination of properties, including high thermal conductivity, hardness and wear resistance; supplied in a fully hardened condition; a beryllium-free alternative to CuBe2 or ALBROMET-W130
Application examples	Injection moulding tools, blow moulding, hot runner systems, plastic mould making, moulded parts for non-ferrous metal die-casting, injection nozzles, valve guides, valve seats, piston rings, oil and gas industry, electrode holders, welding fixtures, welding electrodes, guide rails, slide elements in temperature-critical applications
Processing	In the precipitation-hardened state, it can be easily machined using carbide tools. It is well suited to resistance welding, and EDM is possible to a limited extent (due to its high electrical conductivity, electrode wear is greater than with steel)
Typical analysis	CuNiCrSi a detailed analysis will not be disclosed
Standards/Specifications	non-standardised (DIN EN 12163, DIN EN 12164, DIN EN 12420) (ASTM B411); RWMA Class 3
Delivery formats	Plates, round bars, cut to length pieces; finished parts according to drawings

Mechanical and physical properties	forged
Hardness Brinell (HBW 10/3000)	260 – 295
Hardness Rockwell (HRC, converted)	26 - 31
Tensile strength R_m	800 - 900 MPa
Yield strength $R_{P0,2}$	> 600 MPa
Elongation at break A_5	> 5 %
Elasticity modulus E	145 GPa
Compressive strength	900 – 1000 MPa
Density	8.8 g/cm^3
Mean linear coefficient of thermal expansion	15.7 10^{-6} /K
Thermal conductivity at 20° C	~ 164 W/m*K
Electrical conductivity at 20 °C	20 m/Ohm*mm²; 34 % IACS
Softening temperature	> 450 °C a significant change in strength values occurs
Melting range	Solidus ~ 1030 °C and Liquidus ~ 1080

These data are based on information provided by our supplier, all changes reserved. The mechanical strength values are typical standard values and depend on the dimension and the production method (Status: 07/2026).

ALBROMET GmbH, Daimlerweg 5, 82538 Geretsried
Telefon: +49 8171 63 998-0, info@albromet.de
www.albromet.de

albromet
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