

CuNi13Zn25Pb1

C79200

Material Designation	
EN	CW404J
UNS*	C79200

*Unified Numbering System (USA)

Chemical Composition (Reference)	
Cu	62 %
Ni	13 %
Pb	1 %
Zn	balance

- Typical Applications**
- Keys for automotive industry
 - Keys for high security cylinders
 - Musical instruments
 - Watch components

Physical Properties*		
Electrical Conductivity ***	MS/m % IACS	4.4 8
Thermal Conductivity	W/ (m·K)	34
Coefficient of Electrical Resistance**	10 ⁻³ /K	0.4
Coefficient of Thermal Expansion**	10 ⁻⁶ /K	18.0
Density	g/cm ³	8.67
Modulus of Elasticity	GPa	130
Specific Heat	J/(g·K)	0.380
Poisson's Ratio		0.34

* Reference values at room temperature

** Between 0 and 300 °C

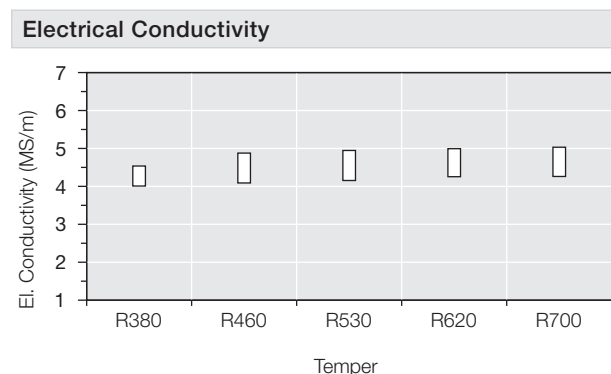
Fabrication Properties	
Capacity for Being Cold Worked	good
Machinability	excellent
Capacity for Being Electroplated	excellent
Capacity for Being Hot-Dip Tinned	excellent
Soft Soldering	excellent
Resistance Welding	good
Gas Shielded Arc Welding	fair
Laser Welding	fair

Corrosion Resistance

Corrosion and tarnishing resistance in a range of environments, including fresh water, sea water and industrial atmospheres.

Mechanical Properties						
Temper		R380	R460	R530	R620	R700
Tensile Strength R _m	MPa	380–470	460–540	530–610	620–700	≥ 700
Yield Strength R _{p0.2}	MPa	≥ 260	≥ 320	≥ 420	≥ 530	≥ 630
Elongation A _{50mm}	%	≥ 15	≥ 6	≥ 3	-	-

Temper		H110	H130	H155	H180	H200
Hardness HV		110–140	130–160	155–185	180–210	≥ 200

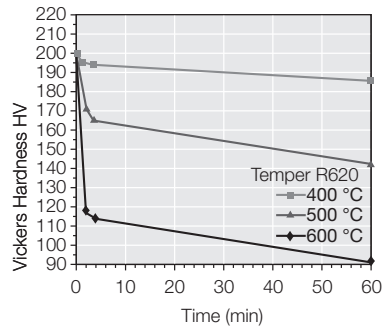


WIELAND-N39

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Resistance to Softening



Vickers hardness after heat treatment (typical values)

Fatigue Strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10^7 load cycles under symmetrical alternate load without breaking. It is dependent on the temper tested and is about $\frac{1}{3}$ of the tensile strength R_m .

Types and Formats available

- Standard coils with outside diameters up to 1200 mm
- Traverse-wound coils with drum weights up to 1.5 t
- Multicoil up to 5 t
- Contour-milled strip
- Sheet

Dimensions available

- Strip thickness from 0.50 mm, thinner gauges on request
- Strip width from 3 mm, however min. 10 x strip thickness

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