

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

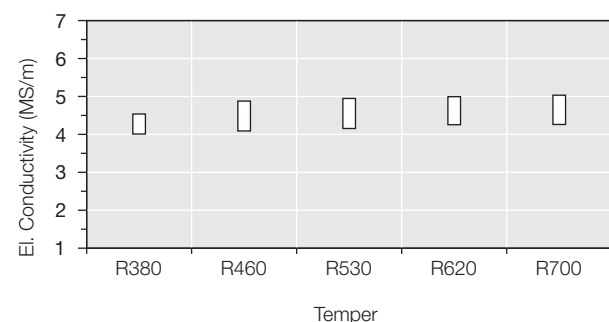
Fabrication Properties	
Capacity for Being Cold Worked	good
Machinability	excellent
Capacity for Being Electroplated	excellent
Capacity for Being Hot-Dip Tinned	excellent
Soft Soldering	excellent
Resistance Welding	good
Gas Shielded Arc Welding	fair
Laser Welding	fair

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

Electrical Conductivity

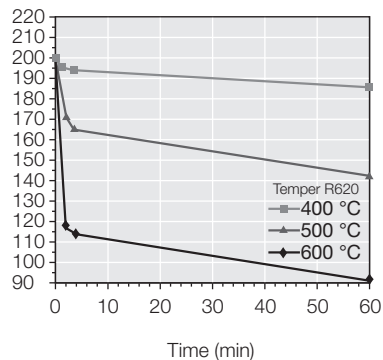


WIELAND-N39

CuNi13Zn25Pb1

C79200

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

Wieland-Werke AG

wieland.com

Graf-Arco-Str. 36, 89079 Ulm, Germany, Phone +49 731 944-2030, info@wieland.de

This printed matter is not subject to revision. No claims can be derived from it unless there is evidence of intent or gross negligence. The product characteristics are not guaranteed and do not replace our experts' advice.