

C27200 Wieland-M37

Rolled Products



Material Designation	
UNS	C27200
EN*	CuZn37

*European Standard

Chemical Composition (Reference)	
Cu	63 %
Zn	balance

Typical Applications

- Metal goods
- Deep drawn parts
- Components for the electrical industry
- Stamped parts
- Connectors

Physical Properties*		
Electrical Conductivity	%IACS	25,9
Thermal Conductivity	Btu/(ft·h·°F)	69
Coefficient of Electrical Resistance**	10 ⁻³ /°F	1.0
Coefficient of Thermal Expansion**	µin/(in·°F)	11.4
Density	lb/in ³	0.305
Modulus of Elasticity	10 ⁶ psi	16.0
Specific Heat	Btu/(lb·°F)	0.09

* Reference values at room temperature

** Between 30 and 600°F

Fabrication Properties	
Capacity for Being Cold Worked	excellent
Machinability	fair
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	less suitable

Corrosion Resistance

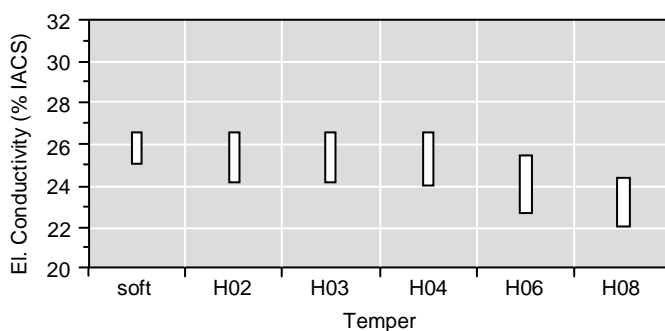
Good resistance to: fresh water, neutral or alkaline solutions, organic compounds as well as land, sea, and industrial atmosphere.

Not resistant to: acids, hydrous sulphur compounds, hydrous ammonia (stress corrosion cracking) in the non-stress-relieved conditions.

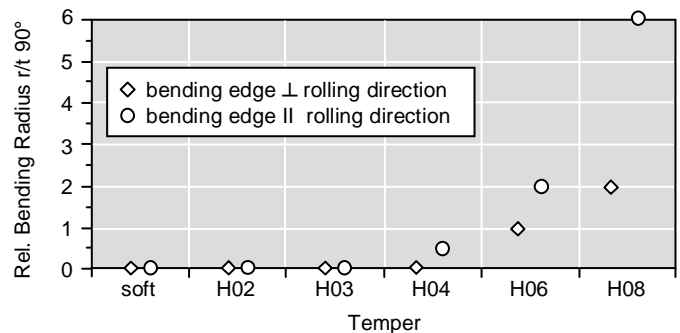
Mechanical Properties							
Temper		soft	H02	H03	H04	H06	H08
		Annealed	½ hard	¾ hard	hard	extra hard	spring
Tensile strength	ksi	44 - 54	51 - 64	59 - 71	70 - 81	80 - 93	> 91
Yield strength	ksi	≤ 26	≥ 24	≥ 43	≥ 62	≥ 72	≥ 87
Elongation (A2")	%	≥ 38	≥ 19	≥ 8	≥ 3	-	-

Temper	OS015	OS025	OS035	
Grain Size	mm	nominal 0.015	nominal 0.025	nominal 0.035

Electrical Conductivity



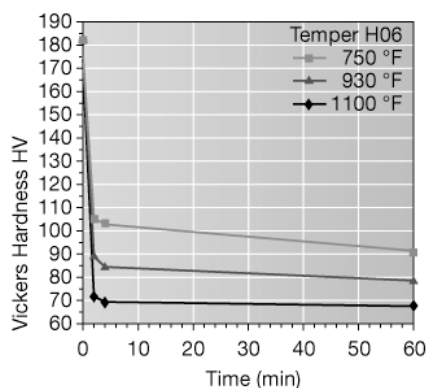
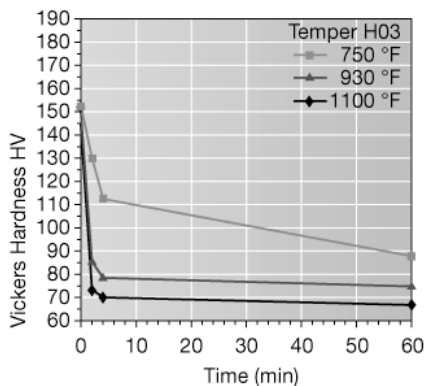
Bendability (Strip Thickness t max 0.02 inch)



C27200

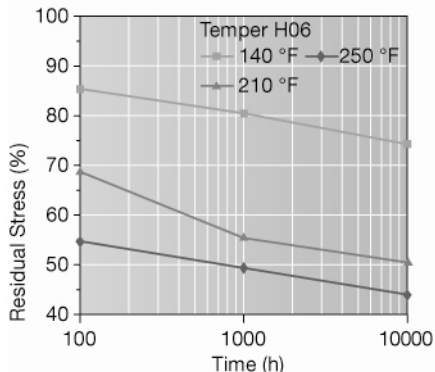
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Resistance to Softening



Vickers hardness after heat treatment (typical values)

Relaxation at Stress Level 0.5 x Yield Strength



Stress remaining as a function of service temperature and time. Measured on rolled-to-temper specimens parallel to rolling direction. Values extrapolated according to F.R. Larson, J. Miller, Trans ASME74 (1952) 765-775. Total stress relaxation depends on the applied stress level.

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 1/3 of the tensile strength.

Types and Formats Available

- Standard coils with outside diameters up to 58 inches
- Traverse-wound coils with drum weights up to 4,000 lbs
- Multicoil up to 10,000 lbs
- Hot-dip tinned and electroplated strip
- Contour-milled strip

Dimensions Available

- Strip thickness from 0.004 inch, thinner gauges on request
- Strip width from 0.1 inch

Wieland

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