



C16200

Cadmium Copper

Chemical Composition

(%max., unless shown as range or min.)

	Cu ⁽¹⁾	Cd	Fe
Min./Max.	Rem.	.7-1.2	0.02
Nominal	99	1	-

(1) Cu value includes Ag.

Note: Cu + Sum of Named Elements, 99.5% min.

Applicable Specifications

Product	Specification
Bar	SAE J461, J463
Forgings	SAE J461, J463
Rod	SAE J463, J461
Wire	ASTM B624, B105 MILITARY MIL-W-82598

Common Fabrication Processes

Drawing, Etching, Forming and Bending, Heading and Upsetting, Hot forging, Piercing, Punching

Millard Wire & Specialty Strip Co.

449 Warwick Industrial Drive • Warwick, RI 02886
Phone: (401) 737-9330 • Fax: (401) 737-9340



Fabrication Properties

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Good
Coated Metal Arc Welding	Not Recommended
Spot Weld	Not Recommended
Seam Weld	Not Recommended
Butt Weld	Good
Capacity for Being Cold Worked	Excellent
Capacity for Being Hot Formed	Good
Machinability Rating	20

Thermal Properties

Treatment	Temp./Time – US	Temp./Time – SI
Stress Temperature		
Solution Minimum		
Solution Maximum		
Solution Time		
Solution Medium	None	
Precipitation Value		
Precipitation Time		
Precipitation Medium	None	
Annealing Minimum	800	427
Annealing Maximum	1400	761
Annealing Time		
Hot Works Minimum	1400	761
Hot Works Maximum	1600	872



C16200 Specification Sheet

Mechanical Properties

(Measured at Room Temperature, 68°F (20°C))

Temper	Section Size	Cold Work	Typ/Min	Temp	Tensile Strength	Yield Strength (0.5% ext. under load)	Yield Strength (0.2% offset)	Yield Strength (0.05% offset)	EI	Rockwell Hardness				Vickers Hardness	Brinell Hardness			Shear Strength	Fatigue Strength	Izod Impact Strength
										B	C	F	30T		500	500	3000			
	in.	%		F	ksi	ksi	ksi	ksi	%								ksi	ksi	ft-lb	
	mm.			C	MPa	MPa	MPa	MPa									MPa	MPa	J	
Wire																				
H08	0.08	0	TYP	68	80	66	-	-	2	-	-	-	-	-	-	-	-	-	0	
	2			20	552	455	-	-	2	-	-	-	-	-	-	-	-	-	0	
Rod																				
OS050	0.5	0	TYP	68	35	7	6	-	56	-	-	46	-	-	-	-	27	15	0	
	12.7			20	241	48	47	-	56	-	-	46	-	-	-	-	186	100	0	
Wire																				
OS025	0.08	0	TYP	68	38	12	-	-	50	-	-	-	-	-	-	-	-	-	0	
	2			20	262	83	-	-	50	-	-	-	-	-	-	-	-	-	0	
Flat Products																				
H10	0.04	0	TYP	68	72	59	-	-	1	75	-	-	-	-	-	-	-	-	0	
	1			20	496	407	-	-	1	75	-	-	-	-	-	-	-	-	0	
H04	0.04	0	TYP	68	60	45	-	-	5	64	-	-	-	-	-	-	-	-	0	
	1			20	414	310	-	-	5	64	-	-	-	-	-	-	-	-	0	
Rod																				
OS025	0.5	0	TYP	68	36	12	-	-	57	-	-	46	-	-	-	-	-	-	0	
	12.7			20	248	83	-	-	57	-	-	46	-	-	-	-	-	-	0	
H02	0.5	25	TYP	68	58	45	-	-	12	65	-	-	-	-	-	-	-	-	0	
	12.7			20	400	310	-	-	12	65	-	-	-	-	-	-	-	-	0	
Flat Products																				
OS025	0.04	0	TYP	68	35	11	-	-	52	-	-	54	-	-	-	-	-	-	0	
	1			20	241	76	-	-	52	-	-	54	-	-	-	-	-	-	0	
Rod																				
H04	0.5	0	TYP	68	73	69	70	-	9	73	-	-	-	-	-	-	56	30	0	
	12.7			20	503	474	483	-	9	73	-	-	-	-	-	-	386	207	0	
Wire																				
H80	0.01	99	TYP	68	100	-	-	-	1	-	-	-	-	-	-	-	-	-	0	
	0.25			20	689	-	-	-	1	-	-	-	-	-	-	-	-	-	0	
Flat Products																				
H08	0.04	0	TYP	68	64	-	-	-	3	73	-	-	-	-	-	-	-	-	0	
	1			20	441	-	-	-	3	73	-	-	-	-	-	-	-	-	0	
Wire																				
H80	0.08	96	TYP	68	88	-	-	-	1	-	-	-	-	-	-	-	-	-	0	
	2			20	607	-	-	-	1	-	-	-	-	-	-	-	-	-	0	
H04	0.08	0	TYP	68	70	55	-	-	6	-	-	-	-	-	-	-	-	-	0	
	2			20	483	379	-	-	6	-	-	-	-	-	-	-	-	-	0	

*Fatigue Strength: 100 x 10⁶ cycles, unless indicated as [N]X 10⁶.

Physical Properties

Property	US Customary	Metric
Melting Point - Liquidus	1969° F	1076° C
Melting Point - Solidus	1886° F	1030° C
Density	0.321 lb/in ³ at 68° F	8.89 gm/cm ³ @ 20° C
Specific Gravity	8.89	8.89
Electrical Resistivity	11.50 ohms-cmil/ft @ 68° F	1.91 microhm-cm @ 20° C
Electrical Conductivity	90 %IACS @ 68° F	0.527 MegaSiemens/cm @ 20° C
Thermal Conductivity	208 Btu·ft/(hr·ft ² ·°F) at 68° F	360.0 W/m·°K at 20° C
Coefficient of Thermal Expansion	9.40·10 ⁻⁶ per °F (68-212° F)	16.9·10 ⁻⁶ per °C (20-100° C)
Coefficient of Thermal Expansion	9.60·10 ⁻⁶ per °F (68-392° F)	17.3·10 ⁻⁶ per °C (20-200° C)
Coefficient of Thermal Expansion	9.80·10 ⁻⁶ per °F (68-572° F)	17.6·10 ⁻⁶ per °C (20-300° C)
Specific Heat Capacity	0.090 Btu/lb/°F at 68° F	377.1 J/kg·°K at 293° K
Modulus of Elasticity in Tension	17000 ksi	117000 MPa
Modulus of Rigidity	6400 ksi	44130 MPa

Tempers Most Commonly Used

Flat Products	
STRIP, ROLLED	H04, H08, H10, OS025

Other	
ROD	H02, OS025
WIRE	H04, H06, H08, H10, OS025

Typical Uses

Consumer

Electric Blanket Elements

Electrical

High Strength Transmission Lines, Connectors, Cable Wrap, Wave Guide Cavities, Rail Bands, Contacts, Tinsel for the Telephone Industry, Resistance and Spot Welding Electrodes, Heating Pad Elements, Spring Contacts, Clamps, Current Carrying Rings, Fuse Clips, Wire for Telephone Cord Sets, Trolley Wire, Switch Gear, Fittings

Industrial

Structural Parts in Resistance Welding Machines, Resistance Welding Tips, Back Up Bars



Casting Characteristics

No casting characteristics available for this alloy.