



C21000

Gilding, 95%

Chemical Composition

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

	Cu	Fe	Pb	Zn
Min./Max.	94.0-96.0	0.05	0.05	Rem.
Nominal	95	-	-	5

Note: Cu + Sum of Named Elements, 99.8% min.

Applicable Specifications

Product	Specification
Bar	ASTM B36 SAE J463, J461
Plate	ASTM B36
Sheet	ASTM B36 SAE J463, J461
Strip	ASTM B36 SAE J463, J461
Tube, Welded	ASTM B587
Wire	ASTM B134

Common Fabrication Processes

Blanking, Coining, Drawing, Etching, Forming and Bending, Piercing and Punching, Shearing, Spinning, Squeezing and Swaging, Stamping

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	1450	788
Annealing Time		
Hot Works Minimum	1400	761
Hot Works Maximum	1600	872



C21000 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	%					500	500	3000	ksi	ksi	ft-lb	
	mm.			C	MPa	MPa	MPa	MPa									MPa	MPa	J	
Flat Products																				
OS015	0.04	0	TYP	68	38	14	-	-	42	-	-	60	15	-	-	-	30	-	0	
	1			20	262	97	-	-	42	-	-	60	15	-	-	-	207	-	0	
H02	0.04	0	TYP	68	48	40	-	-	12	52	-	-	54	-	-	-	34	-	0	
	1			20	331	276	-	-	12	52	-	-	54	-	-	-	234	-	0	
OS035	0.04	0	TYP	68	35	11	-	-	45	-	-	52	4	-	-	-	28	-	0	
	1			20	241	76	-	-	45	-	-	52	4	-	-	-	193	-	0	
H06	0.04	0	TYP	68	61	55	-	-	4	70	-	-	64	-	-	-	39	-	0	
	1			20	421	379	-	-	4	70	-	-	64	-	-	-	269	-	0	
H04	0.04	0	TYP	68	56	50	-	-	5	64	-	-	60	-	-	-	37	-	0	
	1			20	386	345	-	-	5	64	-	-	60	-	-	-	255	-	0	
H08	0.04	0	TYP	68	64	58	-	-	4	73	-	-	66	-	-	-	40	-	0	
	1			20	441	400	-	-	4	73	-	-	66	-	-	-	276	-	0	
OS050	0.04	0	TYP	68	34	10	-	-	45	-	-	46	-	-	-	-	-	-	0	
	1			20	234	69	-	-	45	-	-	46	-	-	-	-	-	-	0	
H01	0.04	0	TYP	68	42	32	-	-	25	38	-	-	44	-	-	-	32	-	0	
	1			20	290	221	-	-	25	38	-	-	44	-	-	-	221	-	0	

*Fatigue Strength: 100×10^6 cycles, unless indicated as $[N] \times 10^6$.

Physical Properties

Property	US Customary	Metric
Melting Point - Liquidus	1950° F	1066° C
Melting Point - Solidus	1920° F	1049° C
Density	0.320 lb/in ³ at 68° F	8.86 gm/cm ³ @ 20° C
Specific Gravity	8.86	8.86
Electrical Resistivity	18.50 ohms-cmil/ft @ 68° F	3.08 microhm-cm @ 20° C
Electrical Conductivity	56 %IACS @ 68° F	0.328 MegaSiemens/cm @ 20° C
Thermal Conductivity	135 Btu·ft/(hr·ft ² ·°F) at 68°F	233.6 W/m·°K at 20° C
Coefficient of Thermal Expansion	$10 \cdot 10^{-6}$ per °F (68-572° F)	$18.0 \cdot 10^{-6}$ 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	H01, H02, H04, H06, H08, OS015, OS035, OS050

Other	
TUBE	H55, H58, H80, O50, O60, OS035
WIRE	OS015, OS025, OS035, OS050

Typical Uses

Architecture

Ornamental Trim

Consumer

Emblems, Plaques, Medallions, Jewelry

Electrical

Connectors, Rotor Bars, AC Motors

Fasteners

Fasteners

Industrial

Base for Vitreous Enamel, Base for Gold Plate

Ordinance

Primers, Small Arm Ammunition:Primer Caps, Bullet Jackets, Fuse Caps, Firing Pin Support Shells, Bullet Jackets

Other

Coins, Tokens, Medals

Casting Characteristics

No casting characteristics available for this alloy.