

C18200 (Chromium Copper)

Chemical Composition

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

	Cu ⁽¹⁾	Cr	Fe	Pb	Si
Min./Max.	Rem.	.6-1.2	.10	.05	.10
Nominal	99.1	.9	-	-	-

(1) Cu value includes Ag.

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

Mechanical Properties (measured at room temperature, 68 F (20 C))

Temper	Section Size	Cold Work	Typ/Temp	Tensile Strength	Yield Strength (0.5% ext. under load)	Yield Strength (0.2% offset)	Yield Strength (0.05% offset)	EI	Rockwell Hardness	Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength*	Izod Impact Strength
Tube														
TL03	0.212	76	TYP68	69	63	-	-	2684	-	-	-	-	-	0.0
	5.4	20		476	434	-	-	2684	-	-	-	-	-	0.0
Flat Products														
TF00	0.04	0	TYP68	51	36	-	-	2259	-	-	-	-	-	0.0
	1	20		352	248	-	-	2259	-	-	-	-	-	0.0
TB00	0.04	0	TYP68	34	19	-	-	4016	-	-	-	-	-	0.0
	1	20		234	131	-	-	4016	-	-	-	-	-	0.0
Rod														
TH04	0.5	60	TYP68	77	65	-	-	1682	-	-	-	-	-	0.0
	12.7	20		531	448	-	-	1682	-	-	-	-	-	0.0
TB00	0.5	0	TYP68	45	14	-	-	40	-	-	-	-	-	0.0
	12.7	20		310	97	-	-	40	-	-	-	-	-	0.0
TF00	2	0	TYP68	70	65	-	-	1875	-	-	-	-	-	0.0
	51	20		483	448	-	-	1875	-	-	-	-	-	0.0
TF00	0.5	0	TYP68	70	55	-	-	2170	-	-	-	-	-	0.0
	12.7	20		483	379	-	-	2170	-	-	-	-	-	0.0
TD10	0.156	91	TYP68	74	73	-	-	5	-	-	-	-	-	0.0
	3.96	20		510	503	-	-	5	-	-	-	-	-	0.0
Tube														
TD04	0.212	76	TYP68	59	57	-	-	2167	-	-	-	-	-	0.0
	5.4	20		407	393	-	-	2167	-	-	-	-	-	0.0
Rod														
TF00	1	0	TYP68	72	65	-	-	1880	-	-	-	-	-	0.0
	25.4	20		496	448	-	-	1880	-	-	-	-	-	0.0
TF00	4	0	TYP68	55	43	-	-	2568	-	-	-	-	-	0.0
	102	20		379	296	-	-	2568	-	-	-	-	-	0.0
Flat Products														
TD00	0.04	50	TYP68	53	51	-	-	6 66	-	-	-	-	-	0.0
	1	20		365	352	-	-	6 66	-	-	-	-	-	0.0
Tube														
O61	0.094	0	TYP68	40	15	-	-	50	-	59	-	-	-	0.0
	2.4	20		276	103	-	-	50	-	59	-	-	-	0.0
Flat Products														
TH01	0.04	50	TYP68	67	59	-	-	1479	-	-	-	-	-	0.0
	1	20		462	407	-	-	1479	-	-	-	-	-	0.0
Rod														
TD04	0.5	60	TYP68	57	56	-	-	1165	-	-	-	-	-	0.0
	12.7	20		393	386	-	-	1165	-	-	-	-	-	0.0
TH10	0.156	90	TYP68	86	77	-	-	14	-	-	-	-	-	0.0
	3.96	20		593	531	-	-	14	-	-	-	-	-	0.0
TF00	3	0	TYP68	65	55	-	-	1870	-	-	-	-	-	0.0
	76	20		448	379	-	-	1870	-	-	-	-	-	0.0
Plate														
TF00	3	0	TYP68	56	40	-	-	3068	-	-	-	-	-	0.0
	76	20		386	276	-	-	3068	-	-	-	-	-	0.0
TF00	2	0	TYP68	58	42	-	-	2570	-	-	-	-	-	0.0
	51	20		400	290	-	-	2570	-	-	-	-	-	0.0

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

Physical Properties

	US Customary
Melting Point - Liquidus	1967 F
Melting Point - Solidus	1958 F
Density	0.321 lb/in ³ at 68 F
Specific Gravity	8.890
Electrical Resistivity*	13 ohms-cmil/ft @ 68 F
Electrical Conductivity**	80 %IACS @ 68 F
Thermal Conductivity***	187 Btu · ft/(hr · ft ² ·°F) at 68F
Coefficient of Thermal Expansion	$9.80 \cdot 10^{-6}$ per °F (68-212 F)
Specific Heat Capacity	0.092 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	17000 ksi
Modulus of Rigidity	7200 ksi

*Solution heat treated, cold worked (50% minimum) and aged.

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