C46400 (Naval Brass, Uninhibited)

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

	Cu	Fe	Pb	Sn	Zn
Min./Max.	59.0-62.0	.10	.20	.50-1.0	Rem.
Nominal	60.0	-	-	.7	39.2

Note: Cu + Sum of Named Elements, 99.6% min.

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)	El	Rockwell Hardness				Vickens Hard.	Brinell Hard.		Shear Strength	Fatigue Strength*	Izod Impact Strength
	in.	%		F	ksi	ksi	ksi	ksi	%	B	C	F30T	500		500	3000	ksi	ksi	ft-lb
	mm.			C	MPa	MPa	MPa	MPa									MPa	MPa	J
Tube																			
H80	0.0	35	TYP	68	88	66	-	-	1895	-	-	-	-		-	-	-	-	0.0
	0.0			20	607	455	-	-	1895	-	-	-	-		-	-	-	-	0.0
Flat Products																			
O50	0.04	0	TYP	68	62	30	-	-	4060	-	-	57	-		-	-	41	-	0.0
	1			20	427	207	-	-	4060	-	-	57	-		-	-	283	-	0.0
Rod																			
H01	2	8	TYP	68	67	40	-	-	3575	-	-	-	-		-	-	43	-	0.0
	51			20	462	276	-	-	3575	-	-	-	-		-	-	296	-	0.0
O50	1	0	TYP	68	63	30	-	-	4060	-	-	-	-		-	-	42	-	0.0
	25.4			20	434	207	-	-	4060	-	-	-	-		-	-	290	-	0.0
O60	1	0	TYP	68	57	25	-	-	4755	-	-	-	-		-	-	40	-	0.0
	25.4			20	393	172	-	-	4755	-	-	-	-		-	-	276	-	0.0
O60	0.25	0	TYP	68	58	27	-	-	4556	-	-	-	-		-	-	40	-	0.0
	6.35			20	400	186	-	-	4556	-	-	-	-		-	-	276	-	0.0
H01	0.25	10	TYP	68	70	48	-	-	2580	-	-	-	-		-	-	43	-	0.0
	6.35			20	483	331	-	-	2580	-	-	-	-		-	-	296	-	0.0
Flat Products																			
M20	1	0	TYP	68	55	25	-	-	5055	-	-	55	-		-	-	40	-	0.0
	25.4			20	379	172	-	-	5055	-	-	55	-		-	-	276	-	0.0
O60	0.25	0	TYP	68	58	25	-	-	4956	-	-	55	-		-	-	40	-	0.0
	6.35			20	400	172	-	-	4956	-	-	55	-		-	-	276	-	0.0
Rod																			
H02	0.25	20	TYP	68	80	57	-	-	2085	-	-	-	-		-	-	45	-	0.0
	6.35			20	552	393	-	-	2085	-	-	-	-		-	-	310	-	0.0
Flat Products																			
O50	0.25	0	TYP	68	60	28	-	-	4558	-	-	56	-		-	-	41	-	0.0
	6.35			20	414	193	-	-	4558	-	-	56	-		-	-	283	-	0.0
Rod																			
H01	1	8	TYP	68	69	46	-	-	2778	-	-	-	-		-	-	43	-	0.0
	25.4			20	476	317	-	-	2778	-	-	-	-		-	-	296	-	0.0
O50	2	0	TYP	68	62	28	-	-	4360	-	-	-	-		-	-	42	-	0.0
	51			20	427	193	-	-	4360	-	-	-	-		-	-	290	-	0.0
H02	1	20	TYP	68	75	53	-	-	2082	-	-	-	-		-	-	44	-	0.0
	25.4			20	517	365	-	-	2082	-	-	-	-		-	-	303	-	0.0
O50	0.25	0	TYP	68	63	30	-	-	4060	-	-	-	-		-	-	42	-	0.0
	6.35			20	434	207	-	-	4060	-	-	-	-		-	-	290	-	0.0
O60	2	0	TYP	68	56	25	-	-	4755	-	-	-	-		-	-	40	-	0.0
	51			20	386	172	-	-	4755	-	-	-	-		-	-	276	-	0.0
Flat Products																			
H01	0.04	0	TYP	68	70	58	-	-	1775	-	-	68	-		-	-	43	-	0.0
	1			20	483	400	-	-	1775	-	-	68	-		-	-	296	-	0.0

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

Physical Properties

<="" b="">	US Customary
Melting Point - Liquidus	1650 F
Melting Point - Solidus	1630 F
Density	0.304 lb/in^3 at 68 F

Specific Gravity	8.410
Electrical Resistivity	39.90 ohms-cmil/ft @ 68 F
Electrical Conductivity	26 %IACS @ 68 F
Thermal Conductivity	67 Btu · ft/(hr · ft2·^{o}F)at 68F
Coefficient of Thermal Expansion	11.80 ·10^{-6} per ^{o}F (68-572 F)
Specific Heat Capacity	0.090 Btu/lb/^{o}F at 68 F
Modulas of Elasticity in Tension	15000 ksi
Modulus of Rigidity	5600 ksi