

C69240

SILICON RED BRASS

DESCRIPTION

C69240 silicon red brass is a copper-based alloy strengthened with silicon, offering excellent corrosion resistance, high strength, and good wear properties, making it ideal for heavy-duty mechanical components such as pump parts, valve stems, and bearings.

CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	71.00	72.50
Si	1.80	2.20
Pb	0.00	0.25
Fe	0.00	0.20
Sn	0.00	0.30
Ni	0.10	0.50
Mn	0.60	1.20
P	0.06	0.12
Zn	Remainder	

MECHANICAL PROPERTIES ACCORDING TO ASTM B371 C69240 (AS PER TEMPER HO2)

Range (Inch)		From	To	UTS Min (Ksi)	PS Min (Ksi)	Elongation Min (%)	Hardness Min (HRB)	Hardness Max (HRB)
Round(Dia)		0.059	0.500	85	50	5.00	-	-
		0.500	1.000	70	35	15.00	-	-
		1.000	2.000	70	30	15.00	-	-
Hex(A/F)		0.300	0.500	85	50	5.00	-	-
		0.500	1.000	70	35	15.00	-	-
		1.000	2.000	70	30	15.00	-	-
Square(A/F)		0.300	0.500	85	50	5.00	-	-
		0.500	1.000	70	35	15.00	-	-
		1.000	2.000	70	30	15.00	-	-
Rectangle	Thickness	0.250	0.500	85	50	5.00	-	-
	Width	0.500	1.000					
	Thickness	0.500	1.000	70	35	15.00	-	-
	Width	1.000	2.000					
	Thickness	1.000	2.000	70	35	15.00	-	-
	Width	2.000	3.000					

C69240

SILICON RED BRASS

Range (mm)		From	To	UTS Min (Mpa)	PS Min (Mpa)	Elongation Min (%)	Hardness Min (HRB)	Hardness Max (HRB)
Round(Dia)		1.5	12	585	345	5	-	-
		12	25	480	240	15	-	-
		25	50	480	205	15	-	-
Hex(A/F)		0	12	585	345	5	-	-
		12	25	480	240	15	-	-
		25	50	480	205	15	-	-
Square(A/F)		0	12	585	345	5.00	-	-
		12	25	480	240	15	-	-
		25	50	480	205	15	-	-
Rectangle	Thickness	6	12	585	345	5	-	-
	Width	12	25					
	Thickness	12	25	480	240	15	-	-
	Width	25	50					
	Thickness	25	50	480	205	15	-	-
	Width	50	75					

PHYSICAL PROPERTIES

Density	~8.4 g/cm ³
Melting Range	~950–1000 °C
Elastic (Young's) Modulus	~110 GPa (16 × 10 ⁶ psi)
Shear Modulus	~42 GPa (6.1 × 10 ⁶ psi)
Thermal Conductivity	Lower than pure copper (~50–150 W/m K)
Electrical Conductivity	Moderately low compared to pure copper

FABRICATION PROPERTIES

Strength & Wear Resistance:	Excellent
Corrosion Resistance	Excellent
Machinability	Moderate (~75% relative to free-cutting brass).
Hot Working	Excellent
Cold Working	Poor

TYPICAL USES

Pump components (impellers, housings)
Valve stems and fittings
Bearings and bushings
Marine hardware requiring corrosion resistance