A-588 Grades A, B, K

Overview

A high-strength / low alloy copper bearing grade with a 50,000 minimum yield. The added copper enhances the corrosion resistance through a weathering process. Used primarily in bridges and other construction areas where durability and added strength are needed in an open air atmosphere.

Chemical Requirements

*Elements represented in percentage
Note – Where “-” appears in this table, there is no requirement.

Element	Composition %		
	Grade A	Grade B	Grade K
CarbonA	0.19 max	0.20 max	0.17 max
ManganeseA	0.80-1.25	0.75-1.35	0.50-1.20
Phosphorus	0.04 max	0.04 max	0.04 max
Sulfur	0.05 max	0.05 max	0.05 max
Silicon	0.30-0.65	0.15-0.50	0.25-0.50
Nickel	0.40 max	0.50 max	0.40 max
Chromium	0.40-0.65	0.40-0.70	0.40-0.70
Molybdenum	–	–	0.10 max
Copper	0.25-0.40	0.20-0.40	0.30-0.50
Vanadium	0.02-0.10	0.01-0.10	–
Columbium	–	–	0.005-0.05B

Tensile Requirements

Note 1 – Where “-” appears in this table, there is no requirement.

	Plates and Bars		
	For Thicknesses 4 in. [100 mm] and Under	**For Thicknesses Over 4 in. [100 mm] to 5 in. [125 mm] incl**	**For Thicknesses Over 5 in. [125 mm] to 8 in. [200 mm] incl**
Tensile strength, min, ksi [MPa]	70 [485]	67 [460]	63 [435]
Yield point, min, ksi [MPa]	50 [345]	46 [315]	42 [290]
Elongation in 8 in. [200 mm], min, %	18B,C	—	—
Elongation in 2 in. [50 mm], min, %	21B,C	21B,C	21B,C