IBC Advanced Alloys - Copper Alloys

Product Data Sheet - C17510

C17510 is manufactured to provide a good strength with even better thermal conductivity than C17200. This alloy offers conductivity of 45 to 60 percent of pure copper while providing significant strength and hardness properties. This alloy is often used in the resistance welding industry.

Chemical Composition (Weight Percent)

DELIVERING SOLUTIONS

Alloy	Beryllium	Cobalt	Nickel	Co + Ni	Co + Ni + Fe	Copper
C17510	0.20 – 0.60	-	1.40 – 2.20	-	-	Balance

Physical and Chemical Properties

DELIVERING SOLUTIONS

Density lb/in^3	Elastic Modulus (10^6 psi)	Coefficient of Thermal Expansion (in./in./°F)	Thermal Conductivity (btu/ft.hr.°F)	Melting Temperature °F
0.319	20	9.8 x10^{-6}	140	1900-1980

Typical Mechanical Properties

DELIVERING SOLUTIONS

Alloy	Temper	Thickness	Tensile Strength ksi	0.2% Offset Yield ksi	Elongation	Hardness HRc or HRb	Electrical Conductivity % IACS
C17510 Plate	A(TB00)	All sizes	35-55	25-45	20 min.	B20-50	20 min.
C172510 Plate	AT(TF00)	All sizes	100-130	80-100	10 min.	B92-100	45 min.
C17510 Rounds	A(TB00)	All sizes	35-55	20-30	20 min.	B20-50	20 min.
C17510 Rounds	AT(TF00)	All sizes	100-130	80-100	10 min.	B92-100	22 min.

Forms Available:

Plate: Thickness 1.00 to 18.00 inches, width 36 inches max. x standard mill lengths up to 115 inches.

Rounds: Diameter 1.00 to 18.00 inches, standard mill lengths.

Rings: To 55.0 inches O.D.

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