

PNA 288

CuSn2 / C50700

Release 03_2009_E



PNA 288 is a solid solution strengthened copper alloy (bronze) with 2% tin. This alloy has good corrosion resistance, very good cold workability and average strength.

Showing the highest conductivity for heat and electricity among the tin bronzes and a very good suitability for soldering, it can be used for electronics / electrical engineering.

Chemical Composition (wt. %)

Cu	Remainder
Sn	1.6 – 2.2
P	0.03 – 0.10
Zn	Max 0.1

Physical Properties

Density	g/cm ³	8.9
Coefficient of Thermal Expansion	10 ⁻⁶ /K	17.7
Electrical Conductivity	MS/m	> 22
	%IACS	> 38
Thermal Conductivity	W/(mK)	140
Modulus of Elasticity	kN/mm ²	117

Material Designation

Aurubis	PNA 288
EN	Not standardized
UNS*	C50700
ISO	CuSn2
BS	N/a

* Unified Numbering System

Mechanical Properties

		R 300 H 070	R 370 H 115	R 450 H 150
Tensile Strength <i>R_m</i>	N/mm ²	300 – 380	370 – 450	450 – 530
Yield Strength <i>R_{p0.2}</i>	N/mm ²	< 270	> 300	> 410
Elongation <i>A₅₀</i>	%	> 40	> 18	> 8
Hardness <i>Hv</i>	-	70 – 100	100 – 130	130 – 160

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Bendability

	R 300	R 370	R 450
r = x · t (t ≤ 0.5mm)	90° GW**	0	0
	90° BW	0	0.5
	180° GW	0	0
	180° BW	0	1

** GW: bending edge ⊥ rolling direction, BW: bending edge || rolling direction.

Fabrication Properties

Cold Formability	Excellent
Hot Formability	Excellent
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Good
Gas Shield Arc Welding	Good
Resistance Welding	Good

Typical Applications

Components for Electrical Engineering
Automotive, Connectors
Contact Springs, Springs
Haberdashery

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