

PNA 293

CuSn8 Adv. / C52180

Release 03_2009_E



PNA 293 is a precipitation and solid solution strengthened alloy with 8% Tin. It provides higher strength and improved bend-ability while maintaining good conductivity.

Therefore it is a good choice for applications in electronic and automotive connector market

Chemical Composition (wt. %)

Cu	Remainder
Sn	7.0 – 9.0
Fe	0.05 – 0.20
Ni	0.05 – 0.20
P	0.01 – 0.35

Physical Properties

Density	g/cm ³	8.8
Coefficient of Thermal Expansion	10 ⁻⁶ /K	18.2
Electrical Conductivity	MS/m	7.5
	%IACS	12.9
Thermal Conductivity	W/(mK)	62
Modulus of Elasticity	kN/mm ²	110

Material Designation

Aurubis	PNA 293
EN	Not Standardized
UNS*	C52180
ISO	CuSn8 Adv.
BS	N/a

* Unified Numbering System

Mechanical Properties

		R 570	R 680	R 770	R 840	R 900
Tensile Strength <i>R_m</i>	N/mm ²	570 - 680	680 - 770	770 - 880	840 - 980	> 900
Yield Strength <i>R_{p0.2}</i>	N/mm ²	600	705	805	895	> 860
Elongation <i>A₅₀</i>	%	20	15	10	5	3
Hardness <i>H_v</i>	-	180	220	240	250	260

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Bendability

	R 570	R 680	R 770	R 840	R 900	
r = x·t (t ≤ 0.5mm)	90° GW**	0	1	1.5	2.5	-
	90° BW	1	3	5	6.5	-

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

Fabrication Properties

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

Typical Applications

Automotive, Electrical
Electronical and Electrical Connectors
Springs

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