

PNA 216

CuSn_{0.15} / C14415

Release 03_2009_E



PNA 216 is a solid solution strengthened copper alloy by adding tin resulting in high electrical and thermal conductivity. Due to the relatively high strength it is primarily used for the manufacture of leadframes and plug-in connector pins.

Alloys PNA 216 has good corrosion resistance and is resistant against stress corrosion cracking.

Chemical Composition (wt. %)

Cu	Remainder
Sn	0.10 – 0.15

Physical Properties

Density	g/cm ³	8.9
Coefficient of Thermal Expansion	10 ⁻⁶ /K	18
Electrical Conductivity	MS/m	49
	%IACS	84
Thermal Conductivity	W/(mK)	350
Modulus of Elasticity	kN/mm ²	130

Material Designation

Aurubis	PNA 216
EN	CW117C
UNS*	C14415
ISO	CuSn _{0.15}
BS	N/a

* Unified Numbering System

Mechanical Properties

		R 250	R 300	R 360	R 420
		H 060	H 085	H 105	H 120
Tensile Strength <i>R_m</i>	N/mm ²	250 - 350	300 - 370	360 - 430	420 - 490
Yield Strength <i>R_{p0.2}</i>	N/mm ²	> 200	> 250	> 300	> 350
Elongation <i>A₅₀</i>	%	> 9	> 4	> 3	> 2
Hardness <i>H_v</i>	-	60 - 90	85 - 110	105 - 130	120 - 140

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Bendability

	R 250	R 300	R 360	R 420
$r = x \cdot t$ ($t \leq 0.5\text{mm}$)				
90° GW**	0	0	0	1
90° BW	0	0	0	1

** GW: bending edge \perp rolling direction, BW: bending edge \parallel rolling direction.

Fabrication Properties

Soldering	Excellent
Gas shielded arc welding	Excellent
Resistance Welding	Fair
Laser Welding	Good
Cold Formability	Excellent

Typical Applications

Automotive, Electrical engineering,
Leadframes, Connector pins

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