

PNA 226

CuZn30 / C26000

Release 03_2009_E



PNA 226 is solid solution strengthened copper alloy (brass) with 30% zinc. As the zinc content increases in the alloy, the strength improves, but is accompanied by losses in conductivity and ductility.

Moreover, it should be noted that as the zinc content rises, the inclination to stress corrosion cracking increases in the event of exposure to an ammoniacal atmosphere. This type of corrosion can, however, be combated in many cases by the removal of thermal stress.

As the zinc content rises, the user may under certain circumstances have an economic advantage due to the different metal values.

Chemical Composition (wt. %)

Cu	69.2 – 70
Fe	Maximum 0.015
Pb	Maximum 0.030
Zn	Remainder

Physical Properties

Density	g/cm ³	8.53
Coefficient of Thermal Expansion	10 ⁻⁶ /K	20
Electrical Conductivity	MS/m	16.4
	%IACS	28
Thermal Conductivity	W/(mK)	121.2
Modulus of Elasticity	kN/mm ²	114

Material Designation

Aurubis	PNA 226
EN	CW505L
UNS*	C26000
ISO	CuZn30
BS	CZ106

* Unified Numbering System

Mechanical Properties

		R 270	R 350	R 410	R 480	G 010	G 020	G 030	G 050	G 075
		H 055	H 095	H 120	H 150					
Tensile Strength <i>R_m</i>	N/mm ²	270 – 320	350 – 430	410 – 490	> 480	410	360	340	330	310
Yield Strength <i>R_{p0.2}</i>	N/mm ²	< 160	> 170	> 260	> 430	210	150	130	110	90
Elongation A50	%	> 40	> 21	> 9	-	> 40	> 40	> 40	> 40	> 50
Hardness <i>H_v</i>	-	55 – 90	95 – 125	120 - 155	> 150	< 120	< 95	< 90	< 80	< 70
Grain size <i>DK</i>	µm	-	-	-	-	<15	15-30	20-40	35-70	50-100

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Bendability

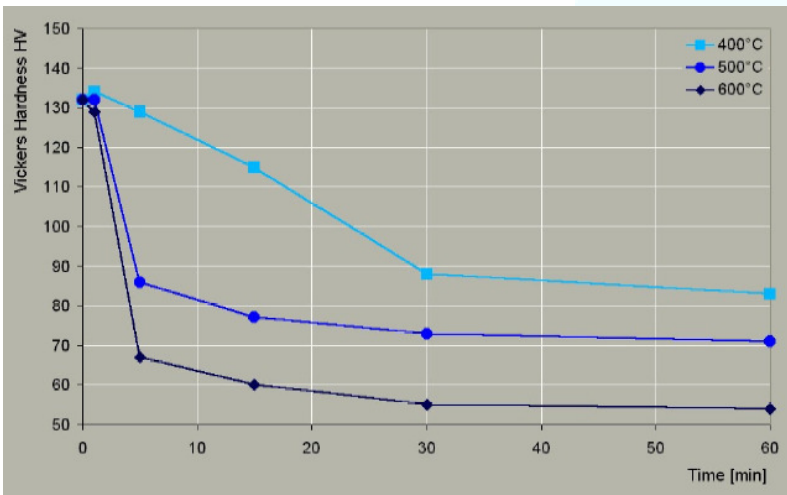
	R 270	R 350	R 410	R 480
90° GW**	0	0	0	0.5
90° BW	0	0	0	1
180° GW	0	0	0	1
180° BW	0	0	0	1.5

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

Softening Stability

Vickers hardness after heat treatment (typical values)
(Temper R 410)

(Temper R 480)



Fabrication Properties

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

Typical Applications

Automotive
 Components of electrical engineering
 Ordnance, Connectors
 Cases, Chains
 Heat Exchangers, Coolers
 Springs, Mechanical Housings for
 Ammunition and Shells

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