

Edition from	18.05.2021	Alloy Datasheet	No. 425
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Alloy	ISO	EN	ASTM
DNAA	CuZn40Mn2Fe1	CW723R	-

Others:

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Main characteristics

Copper-zinc alloy with addition of manganese and iron, of multiphase structure. When pressed, a bronze-like color. Good hot forging and welding and is particularly suitable for architectural decorative art work that needs to be resistant to weathering.

Chemical composition

Cu	Zn	Mn	Fe
56,5 – 58,5 %	Rest	1,0 – 2,0 %	0,5 – 1,5 %

Impurities
Max.

Al	Pb	Ni	Sn	Others
0,1 %	0,5 %	0,6 %	0,3 %	0,5 %

Product portfolio

Hot extruded and cold drawn products

Section type Round, square, hexagonal, flat

Rod Available
Wire On demand

Profile Solid sections with Ø between 4 and 180 mm
Hollow profile with Ø between 12 and 130 mm.

Examples of use

Construction profiles such as window frames, doors, handrails, etc.
Forged works of art.

Mechanical properties

	Form	Temper	Dimension Ø	Rm N/mm ²	Rp0,2 N/mm ²	A %	Hardness HV
Rod	Rod	Pressed	All	> 400	> 150	> 15	100 – 130
		R460	5,0 – 40,0	> 460	> 250	> 20	-
		H110	5,0 – 40,0	-	-	-	110 – 140
		R540	5,0 – 14,0	> 540	> 350	> 8	-
Profile	Profile	H150	5,0 – 14,0	-	-	-	150 – 180
		Pressed	All	> 400	> 150	> 15	100 – 130

Other tempers on demand

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Physical properties	Density	kg/dm ³	8,3
	Melting range	°C	880 – 890
	Linear expansion coefficient (20-400°C)		0,000019
	Specific heat	J/kg K	380
	Thermal conductivity at 20°C	W/m · K	79
	Electrical conductivity at 20°C	% IACS	17,3
	Elasticity modulus	kN/mm ²	83

Workability	Cold working, maximum section reduction	%	poor, 15
	Hot working, temperature range	°C	excellent, 680 - 730
	Machining, compared with CuZn39Pb3 (100 %)	%	fair, 40
	Annealing temperatures	°C	550 - 650
	Stress relieving temperatures	°C	280 - 350
	Soft soldering		good
	Hard soldering		gut
	Arc welding		excellent
	Autogenous welding		excellent
Resistance welding		not recommended	

Symbols	Ø	= round rod diameter (mm)
	UTS	= ultimate tensile strength
	YS	= yield stress at 0,2 %
	A	= tensile elongation
