sarbak

TECHNICAL DATA SHEET

CW709R - CuZn32Pb2AsFeSi

S709

RODS / HOLLOW RODS

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CW709R - CuZn32Pb2AsFeSi

Product Code	EN Symbol	EN No	ASTM		Cu	Zn	Pb	Sn	Fe	Ni	Al	Si	As	Others Total
S709	CuZn32Pb2AsFeSi	CW709R	-	Min (%)	64,0	Rest	1,5	-	0,1	-	-	0,45	0,03	-
				Max (%)	66,5	Rest	2,2	0,3	0,2	0,3	0,05	0,8	0,08	0,2

Features And Applications

Due to its good resistance to dezincification, it is preferred in the manufacture of parts which come in contact with water. Also this alloy compliance with RoHS II and REACH directives.

Area of Usage

Fitting parts used in aggressive (corrosive) water.

Range of Products

S709 alloy can be produced in our extrusion and cold drawing unit as rods, thollows and profiles suitable for both forging and machining. Please contact us for other technical informations.

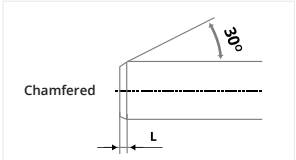
TECHNICAL SPECIFICATIONS

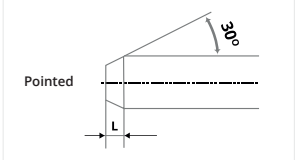
Structure	α+ less β	**Melting Point**	910-940 °C
Machinability	%85	**Hot Forming**	700-830 °C
Density	8,48 g/cm³	**Soft Annealing**	500-600 °C
Electrical Conductivity	13,4 %IACS	**Soft Annealing Time**	1-3 Hours
Thermal Conductivity	65 W/(m.K)	**Stress Relieving**	300-400 °C
Elasticity Module	109 GPa	**Stress Relieving Time**	1-3 Hours
Coeff. of Thermal Expansion	21 10^{-6}/K	**Max. Depth of Dezincification**	<100 µm

INDICATIVE SHAPED ENDS DIMENSIONS

Nominal Diameter or Width		Type A – Chamfer Lenght (L)		Type B – Point Lenght (L)	
Across-Flats (mm)		**Min** (mm)	**Max** (mm)	**Min** (mm)	**Max** (mm)
Over	Up to and including				
8inc.	10	0,2	1,5	2	7
10	20	0,2	2	3	10
20	30	0,2	3	4	12

Unless otherwise specifed by the buyer, the shape of the ends of products larger than 30 mm is up to the supplier.





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Nominal Diameter or Width Across-flats (mm)		Preferred (available) Lengths (mm)	Tolerance on Length (mm)
Over	Up to and including		
8inc.	30	3.000-4.000	±50
30	65	3.000-4.000	±100

Stress Relieving The polygonal rods and hollow rods are subjected to stress relieving treatment

Packaging 500 or 1000 kg bundle – 3/5 metal straps different bundle packagings, up to 10 mm dimension products are packed with wooden case

EN 12164 - Rods for Free Machining

Material Condition	Nominal Diameter (mm)		Width Across-flats (mm)		Tensile Strength Rm N/mm² (MPa)	0,2 % Proof Strength N/mm² (MPa)		Elongation			Hardness (HBW)	
	Over	Up to and inc.	Over	Up to and inc.	Min	Min	Max	A100mm (%) Min	A11,3 (%) Min	A (%) Min	Min	Max
M	All		All		As manufactured							
R380	8	40	8	40	380	220	-	-	15	20	110	160
R430	8	40	8	40	430	280	-	-	12	15	120	170

EN 12168 - Hollow Rods for Free Machining

Material Condition	Wall Thickness (mm)		Tensile Strength Rm N/mm² (MPa)	0,2 % Proof Strength N/mm² (MPa)		Elongation A (%)	Hardness (HBW)		Hardness (HV)	
	Over	Up to and inc.	Min	Min	Max	Min	Min	Max	Min	Max
M	All			As manufactured						
R380	4	15	380	220	-	20	-	-	-	-
H110	4	15	-	-	-	-	110	150	120	160
R430	4	10	430	260	-	15	-	-	-	-
H120	4	10	-	-	-	-	120	170	130	180

EN 12165 Wrought and Unwrought Forging Stocks

Material Condition	Nominal Diameter (mm)		Hardness (HBW)	
	Over	Up to and including	Min	Max
M	All		As manufactured	

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STANDARD		EN 12164			EN 12165		EN 12168				
Dimension Range		Round Rod		Hexagonal, Square	Round Rod		Round and Hexagonal Hollow Rod, Outer Dim. Tol.		Hole Tolerance Round		Hole Tol. Hexagonal
Over	Up to & inc.	Class A	Class B	Rod	Class A	Class B	Class A	Class B	Class A	Class B	-
8	10	0 -0,06	0 -0,036	0 -0,09	±0,25	±0,14	-	-	-	-	-
10	13	0 -0,07	0 -0,043	0 -0,11	±0,25	±0,14	-	-	-	-	-
13	18	0 -0,07	0 -0,043	0 -0,11	±0,25	±0,14	-	-	±0,35	-	+0,70 -0
18	20	0 -0,08	0 -0,052	0 -0,13	±0,30	±0,17	-	-	±0,42	-	+0,84 -0
20	23	0 -0,08	0 -0,052	0 -0,13	±0,30	±0,17	-	0 -0,21	±0,42	-	+0,84 -0
23	26	0 -0,08	0 -0,052	0 -0,13	±0,30	±0,17	-	0 -0,21	±0,42	-	+0,84 -0
26	30	0 -0,08	0 -0,052	0 -0,13	±0,30	±0,17	-	0 -0,21	±0,42	-	+0,84 -0
30	50	0 -0,16	-	0 -0,16	±0,60	±0,20	-	0 -0,25	±0,80	-	+1,6 -0
50	55	0 -0,19	-	0 -0,19	±0,70	±0,37	-	0 -0,46	±0,95	-	-
55	65	0 -0,19	-	-	±0,70	±0,37	±0,60	0 -0,46	±0,95	-	-
65	80	-	-	-	±0,70	-	±0,60	0 -0,46	-	-	-
80	110	-	-	-	±2	-	-	-	-	-	-

For Hollow Rods

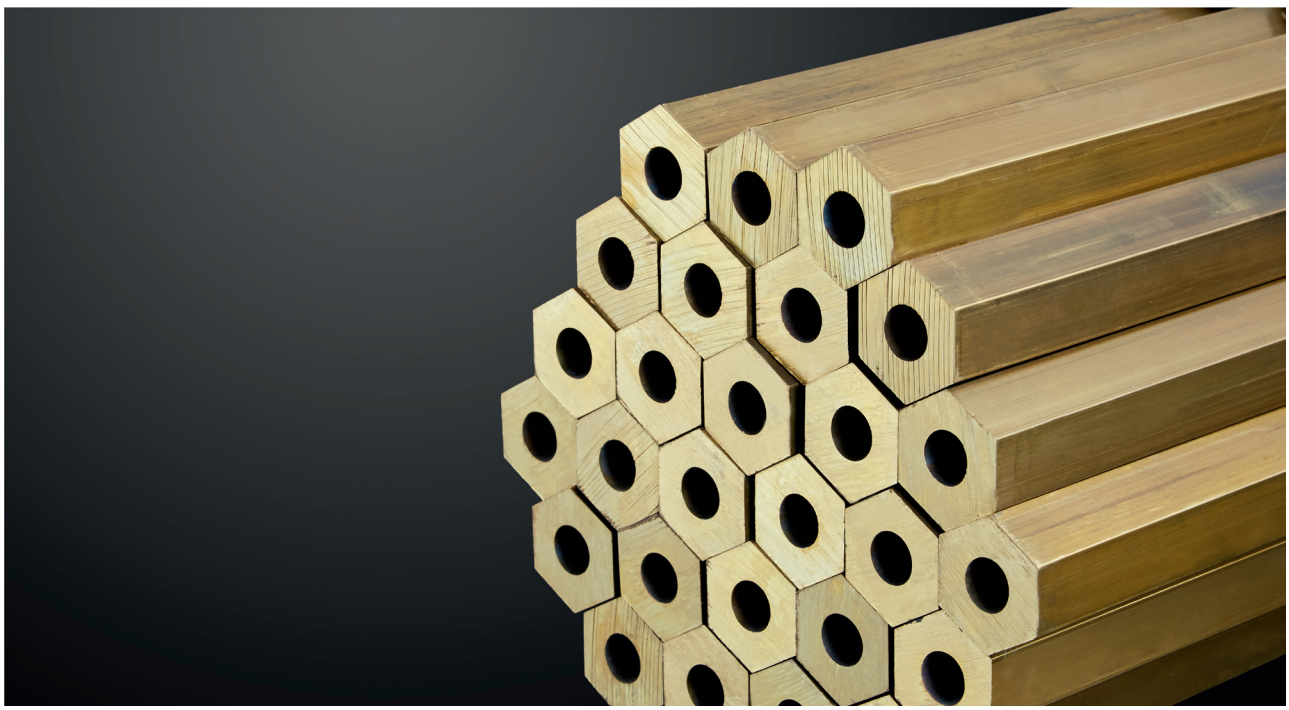
Minimum wall thickness is 4 mm. Eccentricity: %8 (max).
Minimum wall thickness is 5 mm over 65 mm.

"For hollows, maximum outer diameter is Ø78 mm and maximum producible weight is 28 kg in 1 meter."

Outer Cold Drawn - Internal Extruded
Outer Class B - Hole Class A tolerance

Inner-Outer Cold Drawn
Outer Class C - Hole Class B tolerance

Inner-Outer Extruded
Outer Class A - Hole Class A tolerance



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