

sarbak



TECHNICAL DATA SHEET

CW608N - CuZn38Pb2

S608
RODS / HOLLOW RODS

| Product Code | EN Symbol | EN No | ASTM | | Cu | Zn | Pb | Sn | Fe | Ni | Al | Others Total |
|--------------|-----------|-------|------|---------|------|------|-----|-----|-----|-----|------|--------------|
| S608 | CuZn38Pb2 | - | - | Min (%) | 60,0 | Rem. | 1,6 | - | - | - | - | - |
| | | | | Max (%) | 61,0 | Rem. | 2,5 | 0,2 | 0,2 | 0,3 | 0,05 | 0,2 |

Features And Applications

In addition to good machinability is an alloy that exhibits good cold working properties. Also this alloy compliance with RoHS II and REACH directives.

CW603N alloy is not suitable for 4MS vs UBA list for drinking water applications.

Area of Usage

Parts manufactured by cold forming.

TECHNICAL SPECIFICATIONS

| | | | |
|-----------------------------|--------------------------|-----------------------|------------|
| Structure | $\alpha+\beta$ | Hot Forming | 650-750 °C |
| Machinability | % 90 | Soft Annealing | 450-650 °C |
| Density | 8,44 g/cm ³ | Soft Annealing Time | 1-3 hours |
| Electrical Conductivity | 14 MS/m, 24 %IACS | Stress Relieving | 200-300 °C |
| Thermal Conductivity | 109 W/(m·K) | Stress Relieving Time | 1-3 hours |
| Elasticity Module | 102 GPa | | |
| Coeff. of Thermal Expansion | 20,4 10 ⁻⁶ /K | | |
| Melting Point | 895-900 °C | | |

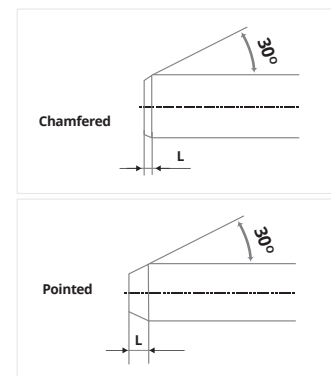
Range of Products

S608 alloy can be produced in our extrusion and cold drawing unit as rods, hollows and profiles suitable for both forging and machining. Please contact us for other technical informations.

INDICATIVE SHAPED ENDS DIMENSIONS

| Nominal Diameter or Width | | Type A - Chamfer Length (L) | | Type B - Point Length (L) | |
|---------------------------|---------------------|-----------------------------|----------|---------------------------|----------|
| Across-flats (mm) | | Min (mm) | Max (mm) | Min (mm) | Max (mm) |
| Over | Up to and including | | | | |
| 6 Inc. | 10 | 0,2 | 1,5 | 2 | 7 |
| 10 | 20 | 0,2 | 2 | 3 | 10 |
| 20 | 30 | 0,2 | 3 | 4 | 12 |

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



| Nominal Diameter or Width Across-flats (mm) | | Preferred (available) Lengths (mm) | Tolerance on Length (mm) |
|--|---------------------|---------------------------------------|-----------------------------|
| Over | Up to and including | | |
| 6 ^{inc.} | 30 | 3.000 - 4.000 | ±50 |
| 30 | 80 | 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 R _m N/mm ² (MPa) Min | 0,2 % Proof Strength N/mm ² (MPa) | | Elongation | | | Hardness (HBW) | |
|-----------------------|-----------------------------|-------------------|-------------------------------|-------------------|---|--|-----|----------------------------------|---------------------------------|-----------------|-------------------|-----|
| | Over | Up to and inc. | Over | Up to and inc. | | Min | Max | A _{100mm} (%) Min | A _{11,3} (%) Min | A (%) Min | Min | Max |
| M | All | | All | | As manufactured | | | | | | | |
| R360 | 6 | 80 | 6 | 55 | 360 | - | 300 | - | 15 | 20 | - | - |
| H070 | 6 | 80 | 6 | 55 | - | - | - | - | - | - | 70 | 100 |
| R410 | 6 | 40 | 6 | 35 | 410 | 230 | - | 8 | 10 | 12 | - | - |
| H100 | 6 | 40 | 6 | 35 | - | - | - | - | - | - | 100 | 145 |
| R500 | 6 | 14 | 6 | 10 | 500 | 350 | - | 3 | 5 | 8 | - | - |
| H120 | 6 | 14 | 6 | 10 | - | - | - | - | - | - | 120 | - |

EN 12168 - Hollow Rods for Free Machining

| Material Condition | Wall Thickness (mm) | | Tensile Strength R _m N/mm ² (MPa) Min | 0,2 % Proof Strength N/mm ² (MPa) | | Elongation A (%) Min | Hardness (HBW) | | Hardness (HV) | | |
|-----------------------|------------------------|-------------------|---|--|-----|-------------------------------|-------------------|-----|------------------|-----|--|
| | Over | Up to and inc. | | Min | Max | | Min | Max | Min | Max | |
| M | All | | As manufactured | | | | | | | | |
| R360 | 4 | 20 | 360 | - | 300 | 20 | - | - | - | - | |
| H070 | 4 | 20 | - | - | - | - | 70 | 100 | 80 | 110 | |
| R410 | 4 | 10 | 410 | 250 | - | 12 | - | - | - | - | |
| H100 | 4 | 10 | - | - | - | - | 100 | 145 | 110 | 155 | |
| R500 | 4 | 7 | 500 | 350 | - | 8 | - | - | - | - | |
| H120 | 4 | 7 | - | - | - | - | 120 | - | 130 | - | |

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 | |
| H070 | 8 | 80 | 70 | 100 |

| 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 C | Class A | Class B | - |
| - | 6 | 0 -0,05 | 0 -0,03 | 0 -0,08 | - | - | - | - | - | - | - | - |
| 6 | 10 | 0 -0,06 | 0 -0,36 | 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 | - | - | - | ±0,42 | ±0,17 | +0,84 -0 |
| 23 | 26 | 0 -0,08 | 0 -0,052 | 0 -0,13 | ±0,30 | ±0,17 | - | 0 -0,21 | - | ±0,42 | ±0,17 | +0,84 -0 |
| 26 | 30 | 0 -0,08 | 0 -0,052 | 0 -0,13 | ±0,30 | ±0,17 | - | 0 -0,21 | 0 -0,13 | ±0,42 | ±0,17 | +0,84 -0 |
| 30 | 50 | 0 -0,16 | - | 0 -0,16 | ±0,60 | ±0,20 | - | 0 -0,25 | 0 -0,16 | ±0,80 | ±0,20 | +1,6 -0 |
| 50 | 55 | 0 -0,19 | - | 0 -0,19 | ±0,70 | ±0,37 | - | 0 -0,46 | 0 -0,30 | ±0,95 | ±0,37 | - |
| 55 | 65 | 0 -0,19 | - | - | ±0,70 | ±0,37 | ±0,60 | 0 -0,46 | 0 -0,30 | ±0,95 | - | - |
| 65 | 80 | 0 -0,19 | - | - | ±0,70 | ±0,37 | ±0,60 | 0 -0,46 | 0 -0,30 | ±0,95 | - | - |
| 80 | 120 | - | - | - | ±2 | - | - | - | - | - | - | - |
| 120 | 140 | - | - | - | ±2,5 | - | - | - | - | - | - | - |

For Hollow Rods

Minimum wall thickness is 4 mm. Eccentricity : %10 (max.)

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



Headquarter

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