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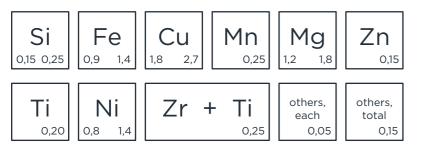


EN AW-2618A - THE TEMPERATURE RESISTANT ALLOY

The alloy EN AW-2618A belongs to the heat treatable alloys. Accordingly, a heat treatment such as solution annealing and subsequent artificial aging is necessary. Only then can the alloy develop its full potential.

This alloy, which was developed for aerospace engineering, has higher strengths, good machinability, and average corrosion resistance. Due to its high temperature resistance, it is frequently used in areas where high strength at temperatures up to 300 °C is required.

Chemical composition*



*according to EN-573-3 or Teal-Sheets (AA)

Structure of the billets

Depending on the process, a segregation zone occurs immediately in the marginalised layer of continuously cast billets. Prior to further processing these should be removed - this is already the case for the turned billets from Leichtmetall. Additionally, these billets are also subjected to a final quality test by means of an automatic ultrasonic test underwater. In the case of casting lengths, the depth of the segregation zone is shown by way of example at 252 mm.



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().4

Min-Value

1.0

Max-Value

Macrosection. d252 mm: Segregation 3.1 mm Microsection, d252 mm (25 times magnification)

Casting length dimensions

Ø 160 mm	Ø 177 mm	Ø 201 mm	Ø 215 mm	Ø 227 mm	Ø 253 mm	Ø 280 mm
Ø 314 mm	Ø 350 mm	Ø 372 mm	Ø 425 mm	Ø 435 mm	Ø 478 mm	Ø 518 mm
Ø 607 mm	Ø 682 mm	Ø 756 mm	Ø 935 mm	Ø 1135 mm		

Turned billets

We can produce all diameters between 140 - 1080 mm.

Mechanical properties

There is no standard for cast round rods (cast billets / bolts) that defines mechanical properties. A Brinell hardness in the homogenised state of approx. 83 HBW can be named as a guideline for cast material. The homogenized state (="O3" according to EN515) is comparable in strength with the annealed state (="O") for extruded products. The final strength is essentially adjusted by the reshaping process and/or the heat treatments by our customers.

Profit from our extensive materials experience

We ship billets in the homogenised state (O3). The advantage: a consistent structure as well as good properties for further processing with reshaping processes (forging and extruding). We have summarised typical attainable empirical values from our experience - in relation to the heat treatments and resulting technological properties.

Physical properties

· · · · · · · · · · · · · · · · · · ·	ensity 2,8 g/cm ³		Welability		
Solidification range 560 C - 670 °C		0 °C	WIG	+	
Electr. conductivity 22,2 MS/m			MIG	+	
Thermal conductivity 142 W		142 W/(mK))	Resistance welding	+
Modulus of elasticity		72.000 MPa			
Shear modulus		27.000 MPa		Surface Treatment	
				Anodisation protective	0
Mechanical parameters		Anodisieren decorative			
		ers		Coating	0
Condition	R _{p0,2} (MPa)	R _m (MPa)	A (%)		
Т6	330	410	7	Cold reshapeability	
(all stated values for extruded round rods D. up to 100 mm)			00 mm)	Bending	+
				Deep-drawing / Pressing / Upsetting	
				Impact Extrusion	nA
				Corrosion resistance	
				Corrosion resistance Atmospheric conditions	+
				Corrosion resistance	
				Corrosion resistance Atmospheric conditions Seawater	
				Corrosion resistance Atmospheric conditions Seawater Brazeability	+ 0
				Corrosion resistance Atmospheric conditions Seawater Brazeability Hard soldering	+ 0
				Corrosion resistance Atmospheric conditions Seawater Brazeability Hard soldering Abrasion soldering	+ 0
				Corrosion resistance Atmospheric conditions Seawater Brazeability Hard soldering Abrasion soldering Soft soldering with flux	+ 0
				Corrosion resistance Atmospheric conditions Seawater Brazeability Hard soldering Abrasion soldering Soft soldering with flux Hot reshapeability	+ 0
				Corrosion resistance Atmospheric conditions Seawater Brazeability Hard soldering Abrasion soldering Soft soldering with flux Hot reshapeability Extrusion molding	+ 0

Condition	R _{p0,2} (MPa)	R _m (MPa)	A (%)
Т6	330	410	7

Customer-Specific solutions ...

Upon request we can adapt the analysis presets according to your individual processing needs and quality requirements. Various chemical compositions are possible and similarly very pure alloys can be produced with limited amounts of Natrium, Calcium or Beryllium. We are looking forward to receiving your request!

... no problem for Leichtmetall

High strength alloys are our Speciality. Our know-how as a foundry stretches back over 90 years. Today, demanding customers from many branches of industry - for example from Aviation, Automobile, general Machinery and Energy Management use the Premium Alloys made in Hannover, Germany.

Particularly close to our hearts, is our commitment to optimised production - saving energy and protecting the environment. To that end, for example, we use secondary aluminium from the circular economy to ensure environmental and climate protection.

Technological properties*

* ++ = very good --- = not possible