

# Wieland-M36

CuZn36  
Brass (lead free)

## Extruded and drawn products



Material designation	
EN	CuZn36 / CW507L
UNS	C26800 / C27000

Chemical composition*	
Cu	64 %
Pb	< 0.05 %
Zn	balance

\* Reference values in % by weight

Physical properties*		
Electrical conductivity	MS/m %IACS	15.5 26
Thermal conductivity	W/(m·K)	121
Thermal expansion coefficient (0–300 °C)	10 <sup>-6</sup> /K	20.2
Density	g/cm <sup>3</sup>	8.44
Modulus of elasticity	GPa	110

\* Reference values at room temperature

### Corrosion resistance

Brass with medium copper content is generally quite resistant to organic substances and neutral or alkaline compounds.

Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress. Dezincification in warm, acidic waters should also be taken into consideration.

Product standards	
Rod	EN 12163
Wire	EN 12166
Section	EN 12167
Tube	EN 12449

### Material properties and typical applications

**Wieland-M36** is a lead-free one-phase brass with excellent cold working properties. It is highly suitable for coining, riveting and crimping.

### Types of delivery

The Extruded and Drawn Products Division supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

### Fabrication properties

Forming		Surface treatment	
Machinability (CuZn39Pb3 = 100 %)	30 %	<b>Polishing</b>	
Capacity for being cold worked	excellent	mechanical	excellent
Capacity for being hot worked	good	electrolytic	good
		Electroplating	excellent
Joining		Heat treatment	
Resistance welding (butt weld)	fair	Melting range	904–932 °C
Inert gas shielded arc welding	fair	Hot working	750–870 °C
Gas welding	fair	Soft annealing	450–650 °C 1–3 h
Hard soldering	excellent	Thermal stress relieving	200–300 °C 1–3 h
Soft soldering	excellent		

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## Mechanical properties according to EN

Round rods / polygonal rods											acc. to EN 12163			
Temper	Diameter		Width across flat		Tensile strength	Yield strength		Elongation at rupture			Hardness			
	mm from	mm to	mm from	mm to	R <sub>m</sub> MPa min.	R <sub>p0,2</sub> MPa min.    MPa max.		A100 %	A11.3 %	A %	HB			
M	all		all		as manufactured – without specified mechanical properties								min.	max.
R290	4	80	4	80	290	–	230	–	40	45	–	–		
H070	4	80	4	80	–	–	–	–	–	–	70	110		
R370	4	40	4	35	370	240	–	–	12	14	–	–		
H105	4	40	4	35	–	–	–	–	–	–	105	145		
R460	4	8	4	6	460	330	–	–	6	8	–	–		
H140	4	8	4	6	–	–	–	–	–	–	140	–		

Rectangular rods											acc. to EN 12167		
Temper	Thickness		Tensile strength	Yield strength		Elongation at rupture			Hardness				
	mm min.	mm max.	R <sub>m</sub> MPa min.	R <sub>p0,2</sub> MPa min.    MPa max.		A100 %	A11,3 %	A %	HB				
M	all		as manufactured – without specified mechanical properties									min.	max.
R290	3	20	290	–	230	30	40	45	–	–	–	–	
H050	3	20	–	–	–	–	–	–	50	100	–	–	
R370	3	10	370	240	–	10	12	14	–	–	–	–	
H085	3	10	–	–	–	–	–	–	85	130	–	–	
R460	3	4	460	330	–	4	6	–	–	–	–	–	
H105	3	4	–	–	–	–	–	–	105	145	–	–	

Tubes											acc. to EN 12449	
Temper	Wallthickness	Tensile strength	Yield strength		Elongation at rupture	Hardness						
	mm max.	R <sub>m</sub> MPa min.	R <sub>p0,2</sub> MPa min.    MPa max.		A %	HV		HB				
M	20	as manufactured – without specified mechanical properties									min.	max.
R290	20	290	–	180	50	–	–	–	–	–		
H055	20	–	–	–	–	55	85	50	80	–		
R360	10	360	180	–	25	–	–	–	–	–		
H080	10	–	–	–	–	80	115	75	110	–		
R430	5	430	300	–	12	–	–	–	–	–		
H110	5	–	–	–	–	110	–	105	–	–		

Round wires											acc. to EN 12166		
Temper	Diameter		Tensile strength	Yield strength		Elongation at rupture			Hardness				
	mm from	mm to	R <sub>m</sub> MPa min.	R <sub>p0,2</sub> MPa min.    MPa max.		A100 %	A11.3 %	A %	HV				
M	all		as manufactured – without specified mechanical properties									min.	max.
R290	0.5	20	290	–	230	30	40	45	–	–	–	–	
H055	1.5	20	–	–	–	–	–	–	55	110	–	–	
R370	0.5	20	370	240	–	10	12	14	–	–	–	–	
H095	1.5	20	–	–	–	–	–	–	95	140	–	–	
R460	0.5	5	460	330	–	4	6	–	–	–	–	–	
H115	1.5	5	–	–	–	–	–	–	115	155	–	–	
R550	0.5	4	550	450	–	2	5	–	–	–	–	–	
H130	1.5	4	–	–	–	–	–	–	130	170	–	–	
R700	0.5	4	700	550	–	–	–	–	–	–	–	–	
H160	1.5	4	–	–	–	–	–	–	160	–	–	–	

Wieland-Werke AG

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