

# Wieland-M30/M34

CuZn30 | Brass (lead free)

## Material designation

EN	CuZn30 CW505L
UNS	C26000

## Chemical composition\*

Cu	70 %
Pb	< 0.05 %
Zn	balance

## Wieland-M34

Pb	< 90 ppm
Cd	< 50 ppm

\*Reference values in % by weight

## Physical properties\*

Electrical conductivity	MS/m %IACS	16.3 28
Thermal conductivity	W/(m·K)	126
Thermal expansion coefficient (0–300 °C)	10 <sup>-6</sup> /K	19.7
Density	g/cm <sup>3</sup>	8.55
Modulus of elasticity	GPa	114

\*Reference values at room temperature

## Corrosion resistance

In general excellent resistance to corrosion in seawater, industrial atmosphere and to stress corrosion cracking.

## Product standards

Rod	EN 12163
Wire	EN 12166
Tube	EN 12449

## Material properties and typical applications

Wieland-M30 exhibits good cold working properties due to its medium copper content. This alloy is suitable for stamping, riveting, crimping, flanging, cold extrusion or other cold working operations.

With its reduced contents of lead and cadmium our Wieland-M34 meets the requirements of the Oeko-Tex Standard 100 product class I.

## Types of delivery

The BU Extruded Products 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

Machinability (CuZn39Pb3 = 100 %)	25 %
Capacity for being cold worked	excellent
Capacity for being hot worked	fair

### Surface treatment

Polishing	
mechanical	excellent
electrolytic	excellent
Electroplating	excellent

## Joining

Resistance welding (butt weld)	fair
Inert gas shielded arc welding	fair
Gas welding	fair
Hard soldering	excellent
Soft soldering	excellent

## Heat treatment

Melting range	910–965 °C
Hot working	750–870 °C
Soft annealing	450–680 °C 1–3 h
Thermal stress relieving	200–300 °C 1–3 h

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## Mechanical properties according to EN

Round rods/polygonal rods												acc. to EN 12163	
Temper	Diameter		Width across flats		Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>		Elongation %			Hardness		
	mm		mm		MPa	MPa		A100	A11.3	A	HB		
	from	to	from	to	min.	min.	max.	min.	min.	min.	min.	max.	
M	all		all		as manufactured – without specified mechanical properties								
R280	4	80	4	80	280	–	250	–	40	45	–	–	
H070	4	80	4	80	–	–	–	–	–	–	70	115	
R370	4	40	4	35	370	–	–	–	14	16	–	–	
H105	4	40	4	35	–	–	–	–	–	–	105	135	
R460	4	10	4	8	460	–	–	–	7	9	–	–	
H135	4	10	4	8	–	–	–	–	–	–	135	–	

Tubes										acc. to EN 12449	
Temper	Wall thickness		Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>		Elongation %		Hardness			
	mm		MPa	MPa		A100		HV		HB	
	max.	min.	min.	min.	max.	min.	min.	max.	min.	max.	
M	20		as manufactured – without specified mechanical properties								
R280	20	–	280	–	180	50	–	–	–	–	
H055	20	–	–	–	–	–	55	85	50	80	
R350	10	–	350	–	–	25	–	–	–	–	
H085	10	–	–	–	–	–	85	120	80	115	
R420	5	–	420	–	–	10	–	–	–	–	
H115	5	–	–	–	–	–	115	–	110	–	

Round wires											acc. to EN 12166	
Temper	Diameter		Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>		Elongation %			Hardness			
	mm		MPa	MPa		A100	A11.3	A	HB			
	from	to	min.	min.	max.	min.	min.	min.	min.	max.		
M	all		as manufactured – without specified mechanical properties									
R280	4	20	280	–	250	37	40	43	–	–		
H070	4	20	–	–	–	–	–	–	70	120		
R370	1.5	20	370	–	–	12	14	16	–	–		
H110	1.5	20	–	–	–	–	–	–	110	140		
R460	0.5	5	460	–	–	4	7	–	–	–		
H140	1.5	5	–	–	–	–	–	–	140	–		
R550	0.1	3	550	–	–	3	–	–	–	–		
H165	1.5	3	–	–	–	–	–	–	165	–		