

MATERIAL DATASHEET  
**ALLOY 458**



Designation	
Diehl Metall	458
DIN EN symbol	CuZn37Mn3Al2PbSi
DIN EN	CW713R
UNS	C67420

Composition (mass as %, reference values)			
Cu	57.9	Mn	2.0
Pb	0.6	Al	1.7
Fe	0.4	Si	0.6
Ni	≤ 0.5	Zn	remainder

### Application

- Engineering material of high strength. For meeting stringent sliding stress requirements.
- Suitable for synchronizer rings, shift forks and valve guides.

### Products and relevant standards

Rods (free machining purposes)	EN 12164
Rods (forging stock)	EN 12165
Hollow rods (free machining purposes)	EN 12168
Profiles (general purposes)	EN 12167
Seamless, round tubes (general purposes)	EN 12449

### Physical properties

Density	g/cm <sup>3</sup>	8.12
Coefficient of linear thermal expansion: 20 – 200 °C	• 10 <sup>-6</sup> /K	20.17

### Processing properties

Machinability (CuZn39Pb3 = 100%)	moderate
Hot formability	very good (600 – 700 °C)
Cold formability	limited

### Mechanical properties and hardness

- The strength properties and hardness values are specified in the relevant product standards.
- The properties depend on the product, the condition and the dimensions.

### Heat treatment

Soft annealing	500 – 650 °C	1 – 3 h
Stress relief annealing	350 – 450 °C	1 – 3 h

### Corrosion resistance

Generally good resistance to neutral, alkaline and organic aqueous solutions.

**Diehl Metall Stiftung & Co. KG**  
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