DIEHL
Brass Solutions

MATERIAL DATASHEET

ALLOY 432

Designation	
Diehl Brass Solutions	432
DIN EN symbol	CuZn21Si3P
DIN EN	CW724R(-DW)
UNS	C69300 (C87850)

Composition (mass as %, reference values)	
Cu	76.0
Si	3.3
P	0.05
Zn	remainder

Application

- Lead-free material for producing fine-grained, high-strength and corrosion-resistant castings.
- For castings , the alloy designation CC768S or C87850 must be used. As the material undergoes a forming process at Diehl Metall, the alloy designation is CW724R or C69300.
- If processing operations are carried out at temperatures above 580 °C, the dezincification resistance is impaired. To ensure performance, it can be restored by means of suitable heat treatment.
- For further information, please contact the manufacturer.

Products and relevant standards

Rods (general purposes)	EN 12163

Processing properties

Forming

Castability	good
Machinability (CuZn39Pb3 = 100%)	very good
Cold formability	less suitable

Mechanical properties

Correspond to EN 12163, condition M

Corrosion resistance

- Generally good resistance to neutral, alkaline and organic aqueous solutions.
- Dezincification-resistant according to the relevant test standards.

Physical properties

Density	g/cm^3	8.3
Coefficient of linear thermal expansion: 20 – 200 °C	• 10^{-6}/K	19.6
Thermal conductivity RT 200 °C	 W/(m · K) W/(m · K)	 28.0 44.4
Specific thermal capacity RT 200 °C	 J/(g · K) J/(g · K)	 0.35 0.41
Electrical conductivity	m/(Ω · mm^2)	5.3
Specific electrical resistance	(Ω · mm^2)/m	0.19
Young's modulus	GPa	106.0
Shear modulus	GPa	39.0
Poisson´s ratio		0.32

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