

COPPER ALLOY**Brass: CZ 121****DSM 2.2.1****Brass: CZ 121**

An alloy of Copper and Zinc including additional 3% lead.

Definition:

Brasses are divided into two classes:

- The Alpha alloys with less than 37% Zinc: ductile & can be cold worked.
- The Alpha/beta alloys with 37–45% Zinc: harder, stronger & limited cold-ductility.
- **CZ121** is an alpha/beta alloy

Features:

This grade sets the standard for a free-machining brass making this suitable for high speed machining & hot forging of intricate parts. Being hard & strong this grade has limited cold ductility. A widely used grade offering high tensile strength combined with a resistance to corrosion, ease of soldering & brazing. Not for castings.

ASM (DEK) Application:

Threaded adjusters, guides & bushes.

These values are representative and should not be considered as definitive. For critical applications, refer to material data-sheet.

TYPICAL MECHANICAL PROPERTIES @25°C	
DENSITY:	8470 Kg/m ³
YOUNGS MODULUS:	97 GPa
POISSONS RATIO:	0.31
YIELD STRENGTH	140 MPa
TENSILE STRENGTH	415 MPa

Issue	01	02	03	04	05	06	07	08	09
DCR	7135	30040	44721						



COPPER ALLOY**Brass: CZ 121****DSM 2.2.1****Key Features:**

METHOD	RESULT
Machining	Excellent
Cold Working_ Ambient	Not Recommended
Hot Forming	Excellent
Brazing & soldering	Good & Excellent
Welding – (Mig & Tig)	Not Recommended
Welding – Resistance (spot)	Not Recommended
Corrosion Resistance (uncoated)	Atmosphere: Once tarnished is stable

Supplied Forms:

- Round:
- Square:
- Hexagon:
- Bar:
- Hollow Bar:
- Flat

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CHEMICAL COMPOSITION					
Copper (Cu)	57 / 59 %	Iron (Fe)	0.0 / 0.3 %	Tin (Sn)	0.0 / 0.3 %
Lead. (Pb)	2.5 / 3.5 %	Nickel (Ni)	0.0 / 0.3 %	Alumin (Al)	0.0 / 0.05 %
				Zinc (Zn)	Balance

- **Lead (Pb):** Acts as a lubricant. & chip breaker.

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: EN 12164	CW614N
GERMAN: DIN	2.0401
EUROPEAN: EN	CuZn39Pb3
AMERICAN: ASTM	C38500
JAPANESE GRADE	JIS H3602 BE/BD
CHINESE GRADE	HPb58-2,5

REPLACES

BS 2874: 1986	DESCRIPTION
CZ 121 Pb3	Copper Alloy rods & sections

Alternatives:

Alternative materials are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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