

MATERIAL	CW614N	FAMILY	Brass	SHEET #	CW614N.FIE
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EQUIVALENCY				
DIN	AFNOR	UNS	JIS	EN
2.0401 (CuZn39Pb3)	-	C38500	C 3603	CW614N

UTILISATION			
This material is commonly used for the manufacture of the following product elements:			
<input type="checkbox"/> Cannula (tube)	<input type="checkbox"/> Stylet (wire)	<input checked="" type="checkbox"/> Hub	<input checked="" type="checkbox"/> Handle
<input checked="" type="checkbox"/> Adaptor	<input checked="" type="checkbox"/> Stopcock		

MANUFACTURING			
Turing, drilling, milling	Grinding	Laser cutting	Electro erosion machining
Excellent	Not suggested	N/A	Good
Sharpening	Polishing	Laser marking	-
Good	Excellent	Not suggested	-

ASSEMBLING			
Bonding	Press fit	Soldering	Laser welding / Plasma
Good	Good	Good	N/A

CHEMICAL COMPOSITION [%]									
Cu	Pb	Al	Fe	Mn	Ni	Sb	Sn	Zn	-
56-61	1.5-3.5	≤ 0.1	≤ 0.5	≤ 0.3	≤ 0.5	≤ 0.02	≤ 0.4	Reste	-

MECHANICAL PROPERTIES	
Material state	Tensile strength Rm [MPa]
Hard	400 - 600

PHYSICAL PROPERTIES		
Density ρ [kg/m ³]	Electrical resistivity ρ [$\mu\Omega \times m$]	Thermal conductivity λ [W/(m × K)] at 20°C
8'460	0.068	113
Modulus of elasticity E [GPa] at 20°C	Coefficient of linear thermal expansion α [10 ⁻⁶ / °C] between 20°C and 100°C	Specific heat capacity C _p [J/(kg × K)] at 20°C
96	21.4	0.377

Corrosion resistance
Not suggested for corrosion resistance used as is.

BIOCOMPATIBILITY (ISO 10993-1)
Brass is not recognized as a biocompatible material for the manufacture of surgical instruments, with the exception of a recommendation for hypodermic needle hubs. Brass is a material commonly used in everyday objects in surface contact with human skin and food utensils. The customer is responsible to verify the compatibility of the material selected from its intended use.

STANDARDS	
EN 12164	Copper and copper alloys. Rod for free machining purposes
DIN 13097-5	Hypodermic needles - Part 5: Sockets, hubs and connections – Requirements and testing

All this information are for reference only. They have no legal or contractual commitment Unimed SA.

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