

WROUGHT BRONZES RODS AND BARS



ALLOY STANDARDS AND SYMBOLS

Correspondent alloys		Standards	Applications
Alloys as per EN standards	Alloys as per ASTM standards		
CW302G (CuAl7Si2)	C64200 (CuAl7Si2)	EN 12163 EN 12165 EN 12167 ASTM B124/B124M ASTM B150/B150M ASTM B151/B151M	Bearings for high mechanical stress
CW306G (CuAl10Fe3Mn2)	—————		
CW307G (CuAl10Ni5Fe4)	C63000 (CuAl10Ni5Fe3)		Parts for equipments in the chemical industry
—————	C63200 (CuAl9Ni4.5Fe4Mn1.5)		
CW352H (CuNi10Fe1Mn)	C70600 (CuNi10Fe1Mn)		Propellers and shafts, pumps, valves
		Bearing housings, bushings and fasteners	
		Valves, components for pumps, fittings and various other components for ships and petrochemistry	

SHAPES AND DIMENSIONS

Shape	Manufacturing Process	Dimensions	Temper*
	Hot extruded	Diameter: 16-140 mm For CW307G alloy: 16-90 mm For CW352H alloy: 16-120 mm	As per EN standards: M – hot extruded MS – cold drawn and stress relieved <u>Annealed: R280 / H070</u> <u>Half hard:</u> H120; R680 / H170; R350 / H100 <u>Hard: R740 / H200</u>
	Cold drawn	Diameter: 16-60 mm (only for CW306G, CW307G and CW352H alloys)	
	Hot extruded	Side: 20-80 mm	As per ASTM standards: M30 – hot extruded O30 – hot extruded and annealed O60 – annealed H50 – hot extruded and cold drawn HR50 – cold drawn and stress relieved H04 – hard *Temper depends on alloy and standard. Rods made of CW302G alloy are offered only hot extruded
	Hot extruded	Across flat: 20-80 mm	
	Hot extruded	Width: 20-100 mm Thickness: 10-50 mm Section area: < 5000 mm² Width / thickness ratio: max.10	

By request, LAROMET can offer rods and bars made of other wrought bronzes.

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HORIZONTAL CONTINUOUS CAST (AND TURNED) ROUND BRONZE BARS



DIMENSIONS AND STANDARDS - ALUMINUM BRONZES

Correspondent alloys		Standards, temper	Diameter	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CC331G (CuAl10Fe2-C)	—————	Continuous cast EN 1982 GC ASTM B505/B505M M07	Ø 150 – 270 mm	Bearings for high mechanical stress
—————	C95400 (CuAl11Fe4)			Parts for equipments in the chemical industry
CC333G (CuAl10Fe5Ni5-C)	C95500 (CuAl11Fe4Ni4)			Propellers and shafts, pumps, valves
	C95520 (CuAl11Fe5Ni5)			Bearings, bushings and fasteners
CW306G (CuAl10Fe3Mn2)	—————			Plastic deformation
CW307G (CuAl10Ni5Fe4)	C63000 (CuAl10Ni5Fe3)			Bearings for high mechanical stress
—————	C63200 (CuAl9Ni4.5 Fe4Mn1.5)	Parts for equipments in the chemical industry		
				Propellers and shafts, pumps, valves
				Bearings, bushings and fasteners

SIZES AND STANDARDS - NICKEL BRONZE

Correspondent alloys		Standards, temper	Diameter	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CW352H (CuNi10Fe1Mn)	C70600 (CuNi10Fe1Mn)	Continuous cast EN 1982 GC ASTM B505/B505M M07	Ø 150 – 270 mm	Plastic deformation Valves, parts for pumps, fittings and various other components for ships and petrochemistry

By request, LAROMET can offer continuous cast (and turned) round bars made of other bronze types.



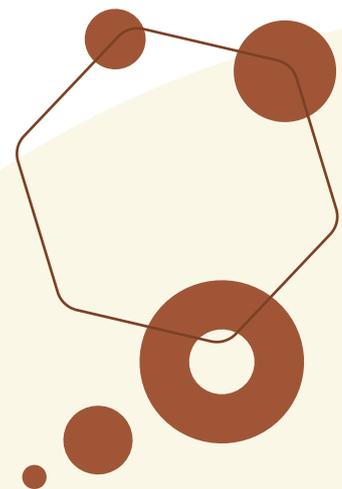
WROUGHT BRONZE ROUND TUBES

ALLOY STANDARD AND SYMBOL

Alloy		Standard	Applications
Chemical symbol	Numerical symbol		
CuAl10Fe3Mn2	CW306G	EN 12449	Machine parts for high mechanical stress, components for equipments in the chemical industry Bearings, bushings, fasteners

DIMENSIONS AND TEMPER

Manufacturing Process	Dimensions	Temper
Hot extruded	Outer diameter: 50-140 mm Inner diameter: 30-90 mm Wall thickness: 10-30 mm Dext./ wall thickness = 3-10	M – hot extruded



CENTRIFUGAL CAST (AND TURNED) ROUND BRONZE TUBES



DIMENSIONS AND STANDARDS - TIN BRONZES

Correspondent alloys		Standards, temper	Dimensions	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CC480K (CuSn10-C)	_____	Centrifugal cast EN 1982 GZ ASTM B271/B271M M02	Outer diameter: 150 – 500 mm Inner diameter: min. 100 mm Length: max. 940 mm	Machine parts working in corrosive environments, equipments for chemical industry Bearings, bushings, fasteners
CC483K (CuSn12-C)	_____			
CC484K (CuSn12Ni2-C)	_____			
CC491K (CuSn5Zn5Pb5-C)	C83600 (CuSn5Zn5Pb5)			
CC493K (CuSn7Zn4Pb7-C)	C93200 (CuSn7Pb7Zn3)			
_____	C90500 (CuSn10Zn2)			

SIZES AND STANDARDS - ALUMINIUM BRONZES

Correspondent alloys		Standards, temper	Dimensions	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CC331G (CuAl10Fe2-C)	_____	Centrifugal cast EN 1982 GZ ASTM B271/B271M M02	Outer diameter: 150 – 500 mm Inner diameter: min. 100 mm Length: max. 940 mm	Machine parts subject to high mechanical stress, components for equipments in the chemical industry Bearings, bushings, fasteners
_____	C95400 (CuAl11Fe4)			
CC333G (CuAl10Fe5Ni5-C)	C95500 (CuAl11Fe4Ni4)			
	C95520 (CuAl11Fe5Ni5)			

By request, LAROMET can offer centrifugally cast (and turned) round tubes made of other bronze types.

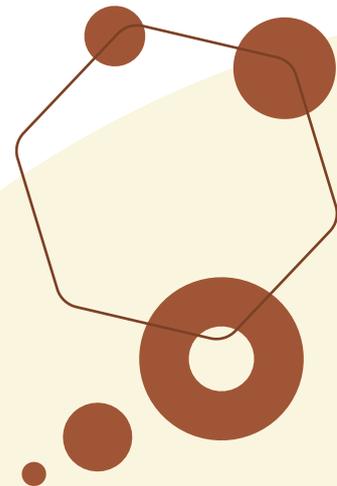
VERTICAL CONTINUOUS CAST TIN BRONZES ROUND TUBES



DIMENSIONS AND STANDARDS

Correspondent alloys		Standards, temper	Dimensions	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CC480K (CuSn10-C)	_____	Continuous cast EN 1982 GC ASTM B505/B505M M07	Outer diameter: 40 – 150 mm Inner diameter: 25-110 mm Wall thickness: 7-50 mm Dext./ wall thickness = 3-10	Machine parts working in corrosive environments, equipments for chemical industry Shafts, valves, bearings, fasteners
CC483K (CuSn12-C)	_____			
CC484K (CuSn12Ni2-C)	_____			
CC491K (CuSn5Zn5Pb5-C)	C83600 (CuSn5Zn5Pb5)			
CC493K (CuSn7Zn4Pb7-C)	C93200 (CuSn7Pb7Zn3)			
_____	C90500 (CuSn10Zn2)			

By request, LAROMET can offer vertical continuous cast round tubes made of other tin bronzes.



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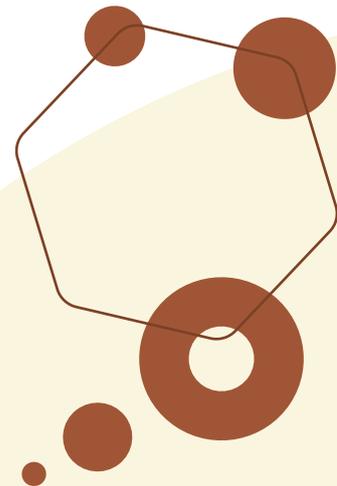
VERTICAL CONTINUOUS CAST TIN BRONZES ROUND BARS



DIMENSIONS AND STANDARDS

Correspondent alloys		Standards, temper	Dimensions	Applications
Alloys as per EN standards	Alloys as per ASTM standards			
CC480K (CuSn10-C)	_____	Continuous cast EN 1982 GC ASTM B505/B505M Mo7	Ø 25 – 102 mm	Machine parts working in corrosive environments, equipments for chemical industry Shafts, valves, bearings, fasteners
CC483K (CuSn12-C)	_____			
CC484K (CuSn12Ni2-C)	_____			
CC491K (CuSn5Zn5Pb5-C)	C83600 (CuSn5Zn5Pb5)			
CC493K (CuSn7Zn4Pb7-C)	C93200 (CuSn7Pb7Zn3)			
_____	C90500 (CuSn10Zn2)			

By request, LAROMET can offer vertical continuous cast round bars made of other tin bronzes.



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