

METRIC

## Brass Alloy SM 2385

**CuproBraz®**

Comparable Standards: ISO CuZn15Fe0.8  
 ASTM / UNS C66420  
 EN -  
 JIS -

### Chemical Composition

Element	Unit	Range
Copper	%	84 - 86
Iron	%	0.7- 0.9
Lead	%	< .02
Zinc		remainder

### Dimensions

Nominal width	Tolerance
-50	±0.05
50 - 100	±0.075
100 - 200	±0.10
200 - 400	±0.15
400 - 600	±0.20

Nominal thickness	In steps of
0.090 - 0.250	0.005
0.250 - 0.400	0.010
0.400 - 1.000	0.050
1.000 - 2.000	0.100

- Unslitted width ( full master coil width) possible ( appr. 640 mm wide)
- Thickness tolerance up to 0.150 mm nominal :± 0.003 mm
- Thickness tolerance over 0.150 mm nominal : ± 2% ( rounded upwords to nearest micron)

### Mechanical Properties

Standard temper values for the strip as well as **typical values** after brazing process at customer in the table below.

Alloy	Temper	Yield Rp0,2 MPa	Tensile Rm MPa	Elongation A50 %	Hardness HV	Grain size
<b>SM 2385</b>	<b>-79B</b>					
	before brazing	340	420	25-	120-135	< 5
<b>CuproBraz®</b>	after brazing	<b>270</b>	<b>400</b>	<b>30-</b>	<b>125</b>	<b>&lt; 5</b>

High temperature resistant brass for **CuproBraz** heat-exchangers.



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Physical Properties		<i>as delivered</i>	<i>after brazing</i>
Density	kg/m <sup>3</sup>	8750	
Melting temperature	°C	1010 - 1025	
Specific heat	kJ/(kg °C)	0.38	
Electrical conductivity	MS/m	21	18
Electrical conductivity	<b>IACS %</b>	<b>35</b>	<b>30</b>
Electrical resistivity	nΩ meter	48	55
Thermal conductivity	W/(m °C)	160	137
Thermal expansion 20-300°C	10 <sup>-6</sup> °C <sup>-1</sup>	19x	
Young's modulus E	MPa	128 000	

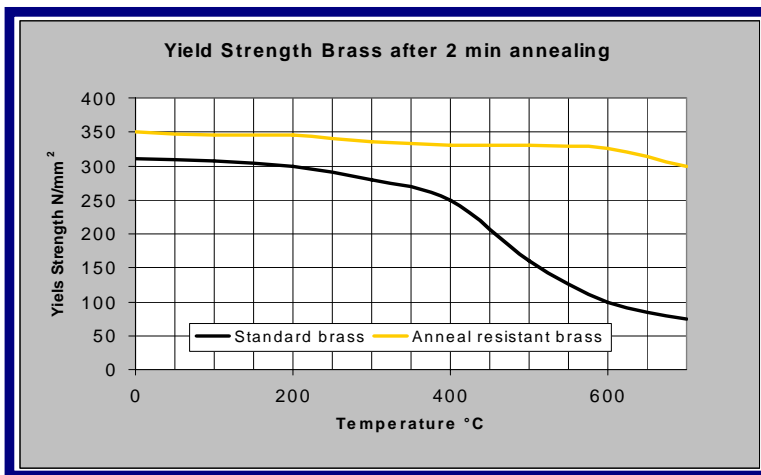
  

Heat Treatment		
<b>Soft annealing</b>		675 °C Time dependent on size and volume.
<b>CuproBraz®</b> with OKC 600		650 °C /<15 minutes
<b>Stress relief annealing</b>		275 - 325 °C

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### Heat Resistance and Softening Characteristics



Comparison between standard brasses and heat resistant brass **SM2385**

### Formability

Easy to form in annealed condition, however decreasing with increased hardness.

Soft annealed  $0 \times t$  bending radius  
 $t =$  gauge

### Welding

Due to zinc content, some counter-measures to stop vaporization of zinc are necessary. Otherwise the alloy is suitable for brazing and welding

**This high temperature resistant alloy is specially suitable for furnace brazing operations and used as tube material in the CuproBraz® heat-exchangers.**



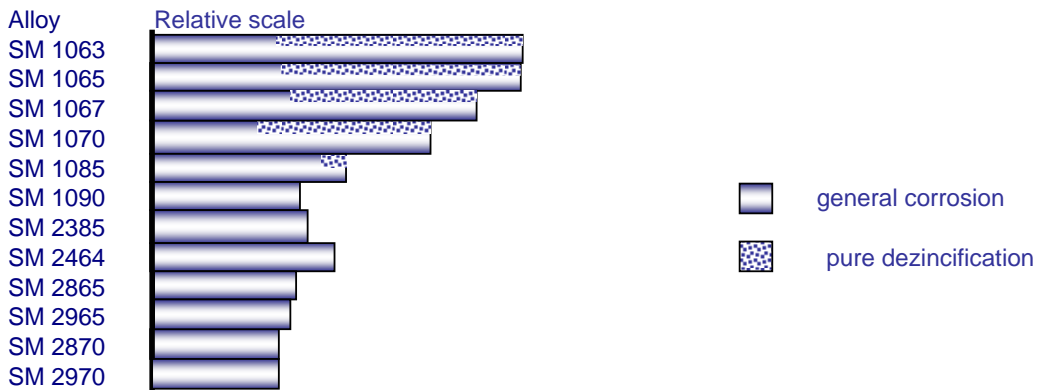
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### Corrosion Properties

Durable to water and organic compounds, as well as land, sea and industrial atmospheres.

#### Dezincification comparison:



Due to the high copper content the risk for **stress corrosion cracking** is negligible.

### Surface Treatment.

Colours are reddish to brownish but could easily be influenced by many types of surface treatments.

**CuproBraz Alliance** [www.cuprobraz.com](http://www.cuprobraz.com)

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