

# C14410

STOL® 80 - CuSn0.20

Alloy Designation	STOL® 80
EN	CuSn0,2
DIN CEN/TS 13388	
UNS	C14410

**Characteristics**

**STOL® 80** is a low Tin (Sn) special alloy that combines low cost with highest conductivity. The total cost for finish products are often equal to brass due to excellent conditions for stamping scrap.

Typical applications are male connectors and fuse boxes.

Chemical Composition (Balance)		
Weight percentage		
Cu	Rest	%
Sn	0.2	%
P	0.01	%

**Main Applications**

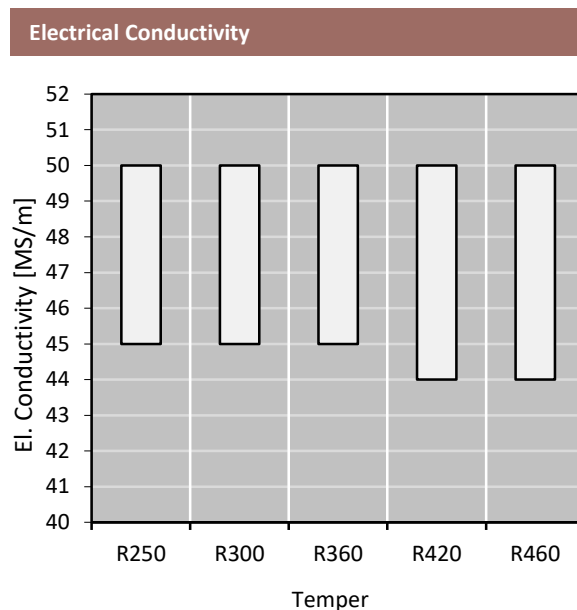
**Automotive:** Switches and Relays, Contacts, Connectors, Terminals.

**Electrical:** Switches and Relays, Contacts, Connectors, Terminals, Components for the electrical industry, Stamped parts, Semiconductor Components.

Mechanical Properties (EN 1652)						
Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bending 90°	
	Rm	Rp <sub>0.2</sub>	A <sub>50mm</sub>	HV *	gw rel. Bending Radius R/T	bw
	MPa	MPa	%	HV	Strip Thickness ≤ 0.50mm	
R250	≥ 250	≤ 140	20	60 .. 80	0	0
R300	300 .. 370	270	10	80 .. 100	0	0
R360	360 .. 430	310	7	110 .. 130	0	0
R420	420 .. 490	370	5	120 .. 150	1	1
R460	≥ 460	410	4	≥ 135	1	1.5

\*only for information

Physical Properties			
Typical values in annealed temper at 20 °C			
Density		8.94	g/cm <sup>3</sup>
Thermal expansion coefficient	20 .. 300 °C	17.3	10 <sup>-6</sup> /K
Specific heat capacity		0.385	J/(g·K)
Thermal conductivity		330	W/(m·K)
Electrical conductivity	MS/m	44	MS/m
Electrical conductivity	IACS	76	%
Thermal coefficient of electrical resistance	(0 .. 100 °C)	3.3	10 <sup>-3</sup> /K
Modulus of elasticity	GPa	120	GPa



#### Fabrication Properties \*

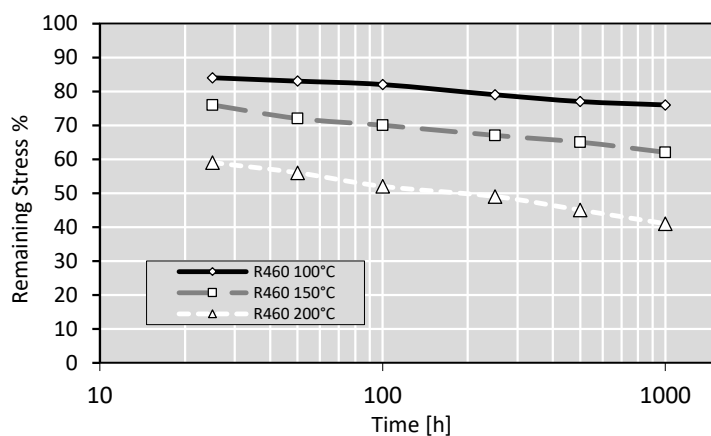
Cold Forming Properties	Excellent
Machinability (Rating 20)	Fair
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Fair
Gas Shielded Arc Welding	Excellent
Laser Welding	Good

\* For more details call our technical service

#### Corrosion Resistance \*

Practically resistant against stress corrosion cracking

#### Relaxation Properties



Relaxation values give an indication about stress relieve of strip under tension for a certain time and temperature. Typical test sample thickness is 0.3 – 0.6 mm.

Initial Stress  
80% von  $R_{p0.2}$   
Parallel Rolling Direction

#### Bend Fatigue (at room temperature)

The fatigue strength gives an indication about the resistance to variations in applied tension. It is measured under symmetrical alternating load. The maximum bending load for  $10^7$  load cycles without crack is measured. Dependent on the temper class it is approximately 1/3 of the tensile strength  $R_m$ .

#### Available delivery forms \*

Strips in coils

Traverse-wound coils with drum weights up to 1.5 t

TECSTRIP®\_multicoil up to 2.5 t

Hot-Dip-Tinned strips in thickness range 0.10 up to 1.20 mm

\* For more details call our sales service

Due to continued improvements within our production process, the details stated in our brochure can not be guaranteed. We reserve the right to update or amend our products, without prior notification. We suggest that you obtain confirmation of our product details / specifications prior to committing to specific alloys.