

Nihon Superior SN100C Lead-Free Solder Alloy

Category : Metal , Nonferrous Metal , Solder/Braze Alloy , Tin Alloy

Material Notes:

Allows high productivity in soldering processes and cost effective, reliable joints. Attributes include high fluidity, low copper erosion, low drossing, superior wetting and freedom from shrinkage defects. Introduced 1999 for the soldering of VCR boards. Nickel content imparts the wetting and flow properties that make it possible to achieve excellent results in wave soldering at process temperatures comparable with those used with the tin-lead solder it replaces. Performance in wave soldering at least matches that of more expensive silver-containing alloys and the resulting joints are smoother and brighter.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nihon-Superior-SN100C-Lead-Free-Solder-Alloy.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.40 g/cc	7.40 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	12.9	12.9	Fast Cooling
	16.1	16.1	Slow Cooling
Tensile Strength	32.0 MPa	4640 psi	
Elongation at Break	48 %	48 %	

Thermal Properties	Metric	English	Comments
CTE, linear	23.9 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 30.0 - 80.0 $^\circ\text{C}$	13.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 86.0 - 176 $^\circ\text{F}$	ramp rate 10 $^\circ$ /min.
	24.8 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 80.0 - 130 $^\circ\text{C}$	13.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 176 - 266 $^\circ\text{F}$	ramp rate 10 $^\circ$ /min.
	26.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 130 - 180 $^\circ\text{C}$	14.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 266 - 356 $^\circ\text{F}$	ramp rate 10 $^\circ$ /min.
Specific Heat Capacity	0.220 J/g- $^\circ\text{C}$	0.0526 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	64.0 W/m-K	444 BTU-in/hr-ft 2 - $^\circ\text{F}$	
Melting Point	227 $^\circ\text{C}$	441 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
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Aluminum, Al Component Elements Properties	Metric	English	Impurity Limit Comments
Antimony, Sb	<= 0.050 %	<= 0.050 %	Impurity Limit
Arsenic, As	<= 0.030 %	<= 0.030 %	Impurity Limit
Bismuth, Bi	<= 0.030 %	<= 0.030 %	Impurity Limit
Cadmium, Cd	<= 0.0020 %	<= 0.0020 %	Impurity Limit
Copper, Cu	0.70 %	0.70 %	
Germanium, Ge	<= 0.010 %	<= 0.010 %	
Iron, Fe	<= 0.020 %	<= 0.020 %	Impurity Limit
Lead, Pb	<= 0.050 %	<= 0.050 %	Impurity Limit
Nickel, Ni	0.050 %	0.050 %	
Tin, Sn	99.25 %	99.25 %	As Remainder
Zinc, Zn	<= 0.0020 %	<= 0.0020 %	Impurity Limit

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000130 ohm-cm	0.0000130 ohm-cm	

Processing Properties	Metric	English	Comments
Processing Temperature	240 - 245 °C	464 - 473 °F	Reflow Soldering (Peak)
	250 - 260 °C	482 - 500 °F	Wave Soldering

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