QUALITEK Technical Bulletin

Delta RMA200 62/36/2 Rosin Mildly Activated Solder Wire

DESCRIPTION

RMA200 62/36/2 contains a rosin mildly activated core that is available with both lead-containing alloys, such as Sn62/Pb36/Ag2, and lead-free alloys. RMA200 has been formulated for use in high reliability electronic assembly where pure rosin core does not provide fast spreading and wetting action; and activated rosin residues may be electronically less reliable. RMA200 conforms to IPC-J-STD-004B specifications.

FEATURES AND BENEFITS

- Excellent wettability and solder flow
- Non-corrosive, non-conductive residues

FEATURES AND BENEFITS

	Specification	Test Method
Flux Classification	ROL0	J-STD-004
Copper Mirror	No removal of copper film	IPC-TM-650 2.3.32
Corrosion	Pass	IPC-TM-650 2.6.15
SIR	>1 x 10^8	IPC-TM-650 2.6.3.3
Post Reflow Flux Residue	50%	TGA Analysis
Acid Value	190 - 210	IPC-TM-650 2.3.13
Flux Residue Dryness	Pass	IPC-TM-650 2.4.47
Spitting of Flux-Cored Solder	0.3%	IPC-TM-650 2.4.48
Solder Spread	100 mm^2	IPC-TM-650 2.4.46

WIRE DIAMETER

Sn62/Pb36/Ag2 RMA200 Delta Solder Wire is available in a variety of diameters. The chosen diameter is based on application methods, pad size, and desired solder joint volume. Generally, the diameter of the wire should be slightly larger than the width/diameter of the joint or connection to be soldered. Below is a list of standard diameters.

Diamter/Inch	0.125	0.092	0.062	0.050	0.040	0.032	0.028	0.025	0.020	0.015
Diameter/mm	3.18	2.33	1.57	1.27	1.01	0.81	0.71	0.63	0.51	0.38
Std.Wire Gauge	11	13	16	18	19	21	22	23	25	28
Tolerance, in.	+/-0.006	+/-0.005	+/-0.003	+/-0.002	+/-0.002	+/-0.002	+/-0.002	+/-0.002	+/-0.002	+/-0.002

FLUX PERCENTAGE

Utilizes a state-of–the-art automatic wire extrusion and wire drawing machines to manufacture consistent solder. The introduction of flux core in the wire extrusion process involves continual monitoring of flux percentage to ensure minimal flux voids and irregular wire. Typical flux percentage for leaded solder is 1.1 – 3.3%.

STORAGE & SHELF LIFE

Solder wire storage should be in a 65-80 °F environment away from direct heat. We recommend using gloves when handling solder wire directly. Solder wire has an indefinite shelf life.

PHYSCIAL PROPERTIES

Sn62 alloy is the conventional non-eutectic solder used in most electronic assemblies. The Sn62 alloy conforms and exceeds the impurity requirements of IPC-J-STD-006C and all other relevant international standards.

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TYPICAL ANALYSIS

Typical Analysis													
Sn	**Pb**	**Ag**	**Al**	**As**	**Au**	**Bi**	**Cd**	**Cu**	**Fe**	**In**	**Ni**	**Sb**	**Zn**
61.5 –62.5	Bal	**1.8 – 2.2**	0.005 Max	0.030 Max	0.050 Max	0.100 Max	0.002 Max	0.080 Max	0.020 Max	0.100 Max	0.010 Max	0.200 Max	0.003 Max

	Sn62/Pb36/Ag2
Melting Point, °C	179 - 189
Hardness, Brinell	14 HB
Coefficient of Thermal Expansion	27.0
Tensile Strength, psi	4442
Density, g/cc	8.50
Electrical Resistivity, (μohm-cm)	14.5
Electrical Conductivity, 10^4/ohm-cm	6.9

	Sn62/Pb36/Ag2
Yield Strength, psi	3950
Total Elongation, %	48
Joint Shear Strength, at 0.1mm/min 20 °C	37.0
Joint Shear Strength, at 0.1mm/min 100 °C	16.2
Creep Strength, N/mm^2 at 0.1mm/min 20 °C	3.3
Creep Strength, N/mm^2 at 0.1mm/min 20 °C	1
Thermal Conductivity, W/mK	50.9

FLUX RESIDUES & CLEANING

RMA200 is a rosin mildly activated formulation containing non-conductive residues, so residues do not need to be removed for typical applications. However, if residue removal is desired, please contact one of our sales offices to discuss your application.

DISPOSAL

RMA200 62/36/2 solder should be disposed of in accordance with federal, state & local authority requirements.