



QUALITEK® Technical Bulletin

Delta RMA200 63/37 Rosin Mildly Activated Solder Wire

DESCRIPTION

RMA200 63/37 contains a rosin mildly activated core that is available with both lead-containing alloys, such as Sn63/37, 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
Softening Point	92°C	
Copper Mirror	No removal of copper film	IPC-TM-650 2.3.32
Corrosion	Pass	IPC-TM-650 2.6.15
SIR		
J-STD-004, Pattern Down	>1 x 10 ⁸	IPC-TM-650 2.6.3.3
Post Reflow Flux Residue	50%	TGA Analysis
Acid Value (mgKOH//g)	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

Sn63/37 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.

Diameter/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.



SOLDER CONNECTION

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PHYSICAL PROPERTIES

A rosin mildly activated based core flux with alloy composition, Sn63/Pb37, which is a eutectic alloy. Sn63/Pb37 alloy conforms to and exceeds the impurity requirements of IPC-J-STD-006C.

TYPICAL ANALYSIS

Typical Analysis													
Sn	Ag	Cu	Pb	Sb	Bi	In	As	Fe	Ni	Cd	Al	Zn	Au
62.5 -63.5	0.100 Max	0.080 Max	Bal	0.200 Max	0.100 Max	0.100 Max	0.030 Max	0.020 Max	0.010 Max	0.002 Max	0.005 Max	0.003 Max	0.050 Max

	Sn63/Pb37
Melting Point, °C	183 E
Hardness, Brinell	14 HB
Coefficient of Thermal Expansion	24.7
Tensile Strength, psi	4442
Density, g/cm ³	8.42
Electrical Resistivity, (μΩ-cm)	14.5
Electrical Conductivity, 10 ⁴ /ohm-cm	6.9

	Sn63/Pb37
Yield Strength, psi	3950
Total Elongation,%	48
Joint Shear Strength, at 0.1mm/min 20 °C	23
Joint Shear Strength, at 0.1mm/min 100 °C	14
Creep Strength, N/mm ² at 0.1mm/min 20 °C	3.3
Creep Strength, N/mm ² at 0.1mm/min 100 °C	1
Joint Fatigue Cycle, 15N/mm ² 20 °C	1100
10N/mm ² 100 °C	900

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 63/37 solder should be disposed of in accordance with federal, state & local authority requirements.

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