

ULTRACORE

Lead Free Solder Wire



LF67 RA core flux for lead-free alloy cored solder wire was developed for fast and excellent instant wetting action. **LF67 RA** flux is composed of high quality, purified rosin to which an effective halogen activator is incorporated to provide enhanced fluxing ability. **LF67 RA** core-flux is designed to give excellent performance on Lead-free alloys Sn-Sb, Sn-Ag, Sn-Cu, Sn-Ag-Cu, Sn-Ag-Bi-Cu and Sn-Zn-Bi. Formula **LF67 RA** core-flux is RoHS compliant.

1. Product Description

Product Type: RA-Type Lead Free Solder Wire
 Alloy Type: Sn-0.7Cu(U5204), Sn-1.0Cu(U5210), Sn-0.3Ag-0.7Cu(U5326), Sn-3.0Ag-0.5Cu(U5307), Sn-5.0Sb(U5203)
 Flux Type: LF67 RA
 Product Code: U5204 LF67 RA, U5210 LF67 RA, U5326 LF67 RA, U5307 LF67 RA, U5203 LF67 RA

2. Specification Properties of Solder

Alloy Code		U5204	U5210	U5326	U5307	U5203
Alloy Type		Sn-0.7Cu	Sn-1.0Cu	Sn-0.3Ag-0.7Cu	Sn-3.0Ag-0.5Cu ⁴	Sn-5.0Sb
Chemical Compositions, % mass ¹	Tin (Sn)	Remainder ³	Remainder	Remainder	Remainder ³	Remainder
	Lead (Pb)	0.05 max.	0.05 max.	0.05 max.	0.05 max.	0.05 max.
	Antimony (Sb)	0.10 max.	0.10 max.	0.10 max.	0.10 max.	4.5-5.5
	Copper (Cu)	0.5-0.9	0.45-0.90	0.5-0.9	0.3-0.7	0.05 max.
	Bismuth (Bi)	0.10 max.	0.10 max.	0.06 max.	0.10 max.	0.10 max.
	Zinc (Zn)	0.001 max.	0.001 max.	0.001 max.	0.001 max.	0.001 max.
	Iron (Fe)	0.02 max.	0.02 max.	0.02 max.	0.02 max.	0.02 max.
	Aluminium (Al)	0.001 max.	0.001 max.	0.001 max.	0.001 max.	0.001 max.
	Arsenic (As)	0.03 max.	0.03 max.	0.03 max.	0.03 max.	0.03 max.
	Silver (Ag)	0.10 max.	0.10 max.	0.2-0.4	2.8-3.2	0.10 max.
	Cadmium (Cd)	0.002 max.	0.002 max.	0.002 max.	0.002 max.	0.002 max.
	Nickel (Ni)	0.01 max.	0.01 max.	0.01 max.	0.01 max.	0.01 max.
	Gold (Au)	0.05 max.	0.05 max.	0.05 max.	0.05 max.	0.05 max.
	In (Indium)	0.10 max.	0.10 max.	0.10 max.	0.10 max.	0.10 max.

Remark: 1. Chemical compositions of solder is referred to JIS Z 3282:2006, JIS Z 3282:1999
 2. Some of specification value in this table may be changed depend on establishment of environmental or quality agreement such as RoHS, JIS standard etc.
 3. Remainder equal to summation of %Pb, %Sb, %Cu...etc (except %Sn (Tin)) subtract from 100%.
 4. U.S. patent No.: 5527628, Japanese patent No.: 3027441.



3. Physical Properties of Solder

Alloy Code		U5204 ⁽¹⁾	U5210 ⁽²⁾	U5326 ⁽¹⁾	U5307 ⁽¹⁾	U5203 ⁽¹⁾
Alloy Type		Sn-0.7Cu	Sn-1.0Cu	Sn-0.3Ag-0.7Cu	Sn-3.0Ag-0.5Cu	Sn-5.0Sb
Specific Gravity, g/cm ³		Approx. 7.3	Approx. 7.3	Approx. 7.3	Approx. 7.4	Approx. 7.3
Melting Range, °C	Solidus Temp.	Approx. 227	Approx. 230	Approx. 217	Approx. 217	Approx. 238
	Liquidus Temp.	Approx. 228	Approx. 240	Approx. 226	Approx. 219	Approx. 241

Remark: For information only: refer to ⁽¹⁾JIS Z 3282:2006 and ⁽²⁾JIS Z 3282:1999

4. Technical Specification of Core-flux

Item	Specification	Testing Method
1. Flux Type	RA	-
2. Flux Content, wt %	2.5(2.3-2.7), 3.0(2.8-3.3) 3.5(3.3-3.8), 4.0(3.8-4.3)	JIS Z 3197
3. Halide content, wt%	Over 0.1 up to and incl. 0.5	JIS Z 3197
4. Spread Factor	75 min.(Sn-3.0Ag-0.5Cu) 80 min. (Sn-37Pb)	JIS Z 3197
5. Dryness	Test pieces shall be that powdered talc can be easily removed by brushing	JIS Z 3197
6. Copper plate corrosion	Pass	JIS Z 3197
7. IR, OHM, @ 40 °C 90 %RH 168 Hr	1 x 10 ¹⁰ min.	JIS Z 3197

5. Specification of Diameter and Standard Weight

Outside diameter, mm.	Tolerance, mm.	Standard Weight, kg
0.3 to 0.4	±0.03	0.2, 0.5
0.5 to 0.7	±0.05	0.5
0.8 to 3.0	±0.10	0.5, 1.0, 2.5 etc.

6. Storage Condition

Store the solder wire in a cool, dry environment. Wrap up the solder wire when not in use to reduce exposure to environment.

7. Health and Hazard Information

Wear a chemical mask if the operators are allergic to the fumes released during soldering. For more information, please refer to Material Safety Data Sheet.

