

BLT 35-92/LA

Reduced VOC, rosin free, no residue, wave soldering flux for Lead Free and Tin Lead



PHYSICAL PROPERTIES

SG @ 20°C	● 0.95
Acid value	● 30
Solids content	● 3.8%
Flash point	● 25°C
Silver chromate paper test	● Pass
Copper mirror test	● Pass

* Modified IPC/Bellcore method, solids from flux reconstituted with isopropyl alcohol.

PROCESS CONTROL

Maintain S.G. at 0.95 by the addition of 16-3000 thinner. Change the flux if the acid value falls below 25.

APPLICATION

BLT 35-92 should be applied by spray, foaming or dipping and is supplied ready for use. Following are guidelines for spray applications.

Parameters	Recommendations
Spray nozzle	Medium
Top side pre-heat	90 - 150°C
Conveyor speed	0.8 - 1.6m/minute
Conveyor angle	6 - 8 (optimum 7°)
Solder contact time	2-5 seconds (optimum for Lead Free 2-4 secs)
Solder bath temperature	Lead Free 260 - 280°C Tin/Lead 63/37 240 - 250°C

DESCRIPTION

BLT 35-92/LA has been developed to provide assemblers with a reduced VOC content flux providing excellent wetting with minimal solder ball generation, even on machines with limited preheat capacity.

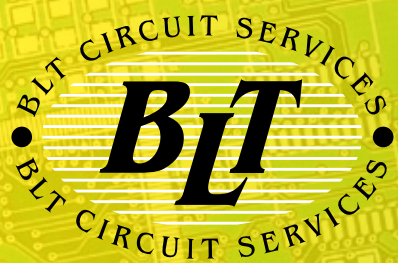
Due to its carrier formulation 35-92/LA requires less preheat than full aqueous fluxes resulting in extended pallet life.

BLT 35-92/LA is halide and Rosin free producing superior wetting with minimal residues.

The propriety organic flux activators in BLT35-92/LA are compatible with the higher temperatures required for Lead free soldering.

BENEFITS

- Reduced VOC content
- Halide and Rosin Free
- Foam or Spray application
- Lead Free recommended
- Dual Wave compatible
- J-STD004 ORLO classification
- Excellent wetting and advanced sustained synthetic activity
- Reduction of solder balls caused by porous solder resists
- Pin testable minimal benign residue
- Wide operating and heat activation window
- Suitable for Ni/Au, Ag, Sn, OSP and HASL boards
- Class 1, 2 and 3 manufacture
- Can be cleaned using semi aqueous solutions
- No white residues or tacky oily films
- Twelve months shelf life



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CORROSION AND ELECTRICAL TESTING - SUMMARY

Test	Method	Required	Results
Surface insulation resistance	ANSI-IPC-J-STD004A IPC-TM-650 2.6.3.3	Cleaned and uncleaned >100Mohms	Cleaned and uncleaned >100Mohms See detailed results
Copper mirror	IPC-TM-650 2.3.32	No breakthrough	No breakthrough
Qualitative halide	IPC-TM-650 2.3.33	No discolouration	No discolouration
Corrosion	IPC-TM-650 2.6.15	No corrosion	No corrosion
Electromigration resistance	IPC-TM-650 2.6.14.1	Cleaned and uncleaned <1 decade drop	Uncleaned <1 decade drop See detailed results

CORROSION AND ELECTRICAL TESTING - DETAILED

Surface Insulation Resistance. ANSI-IPC-J-STD004A. IPC-TM-650. 2.6.3.3

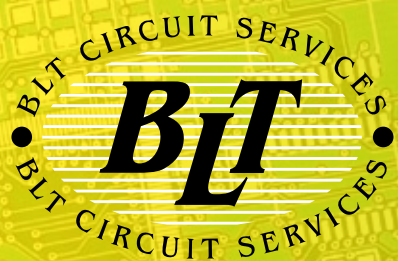
	Conditions	Required	24 hours	96 hours	168 hours
Pattern down uncleaned	85°C/85% RH	1.0 x 10 ⁸ min	4.36 x 10 ¹¹	1.06 x 10 ¹⁰	2.77 x 10 ⁹
Pattern up uncleaned	85°C/85% RH	1.0 x 10 ⁸ min	1.35 x 10 ¹²	4.23 x 10 ¹⁰	1.64 x 10 ⁹
Control board	85°C/85% RH	2.0 x 10 ⁸ min	1.83 x 10 ¹²	3.92 x 10 ¹¹	1.74 x 10 ¹¹

IPC ELECTROMIGRATION RESISTANCE

Electromigration Test ANSI-IPC-J-STD004A. IPC-TM-650. 2.6.14.1

	Conditions	Required	Initial reading - 96 hrs	Final reading - 596 hrs
Pattern down	65°C/85% RH 596 hours	Less than 1 decade drop	2.91 x 10 ¹⁰	2.69 x 10 ¹⁰
Control	65°C/85% RH	Less than 1 decade drop	1.01 x 10 ¹¹	8.61 x 10 ¹⁰

All readings are in ohms. No dendriatic growth observed.



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PROBLEM SOLVING

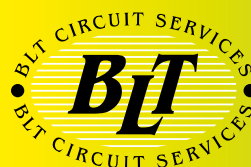
Symptoms	Cause and solution
Bridging	Too high conveyor speed, insufficient flux, excessive pre-heat or solder contamination
White residue	Excessive flux, under cured solder mask, solder contamination
Solder balls	Excessive flux, insufficient pre-heat
Discoloured joints	Contamination from board or components, excessive heat, solder contamination
Incomplete soldering	Uneven flux coverage, solder wave not level or jig problem

HANDLING PRECAUTIONS

BLT 35-92/LA contains Isopropyl Alcohol and is highly flammable. Use in a well ventilated area and keep away from heat and naked flames. Take precautions to avoid static build up and discharge. Refer to separate Health and safety sheet.

Warranty

All reasonable endeavours have been made to ensure that the information contained in this data sheet is accurate, but it is submitted on the express condition that BLT Circuit Services Ltd., shall be under no liability whatsoever in respect thereof or for any loss, injury, damage or liability of whatsoever nature arising, suffered or incurred as a consequence of its use.



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