

# BLT 35-92-35

**rosin free, no residue, sustained activity wave soldering flux for Lead Free and Tin Lead**



## PHYSICAL PROPERTIES

Colour	● Pale straw
SG @ 20°C	● 0.830
Acid value	● 35
Solids content	● 4.0%
Flash point	● 12°C
Silver chromate paper test	● Pass
Copper mirror test	● Pass

## DESCRIPTION

BLT 35-92-35 incorporates the latest developments in flux activation technology for Lead Free and Tin Lead soldering applications without requiring post-cleaning. BLT 35-92-35 is halide free, rosin/resin free and has been formulated to provide rapid wetting, excellent top-side hole fill and minimal solder ball generation. The proprietary organic flux activators and wetters in BLT 35-92-35 are compatible with the higher temperatures required for Lead Free soldering.

## PROCESS CONTROL

Maintain S.G. at 0.830 by the addition of 16-3000 thinner. Change the flux if the acid value falls below 30.

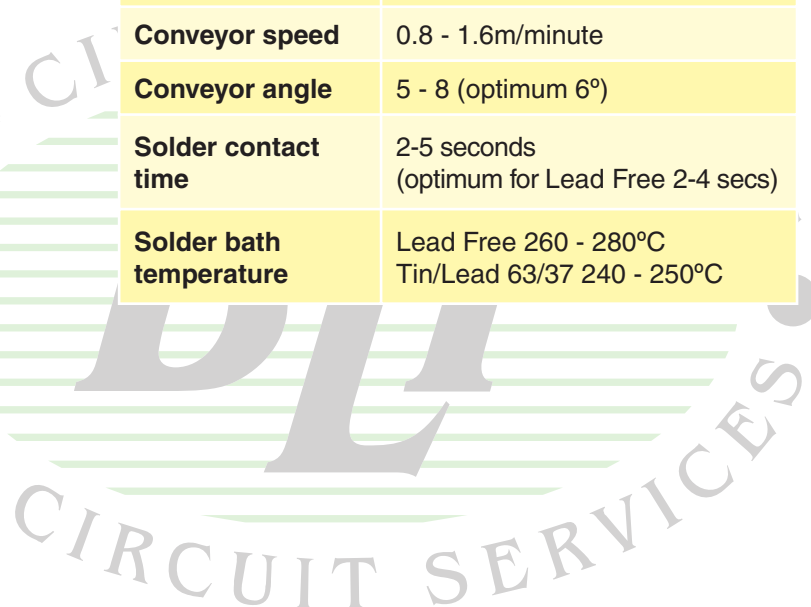
## APPLICATION

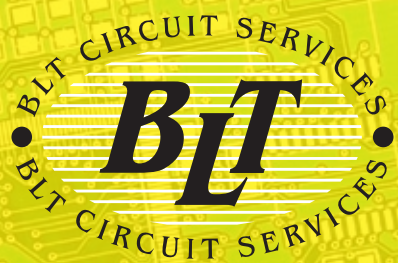
BLT 35-92-35 should be applied by spray, foaming or dipping and is supplied ready for use. Following are guidelines for spray applications.

## BENEFITS

- Halide 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

Parameters	Recommendations
Spray nozzle	Medium
Top side pre-heat	90 - 150°C
Conveyor speed	0.8 - 1.6m/minute
Conveyor angle	5 - 8 (optimum 6°)
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





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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 <sup>8</sup> min	3.85 x 10 <sup>11</sup>	2.96 x 10 <sup>10</sup>	1.63 x 10 <sup>9</sup>
Pattern up uncleaned	85°C/85% RH	1.0 x 10 <sup>8</sup> min	4.25 x 10 <sup>11</sup>	3.72 x 10 <sup>10</sup>	2.25 x 10 <sup>10</sup>
Control board	85°C/85% RH	2.0 x 10 <sup>8</sup> min	4.2 x 10 <sup>12</sup>	3.92 x 10 <sup>11</sup>	2.68 x 10 <sup>11</sup>

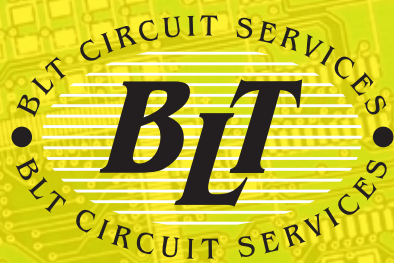
All readings are in ohms.

## 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	4.92 x 10 <sup>10</sup>	5.26 x 10 <sup>10</sup>
Control	65°C/85% RH	Less than 1 decade drop	2.54 x 10 <sup>11</sup>	1.78 x 10 <sup>11</sup>

All readings are in ohms. No dendriatic growth observed.



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## PROBLEM SOLVING

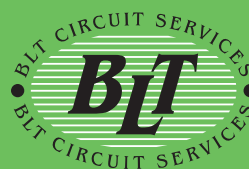
Symptoms	Cause and solution
<b>Bridging</b>	Too high conveyor speed, insufficient flux, excessive pre-heat or solder contamination
<b>White residue</b>	Excessive flux, under cured solder mask, solder contamination
<b>Solder balls</b>	Excessive flux, insufficient pre-heat
<b>Discoloured joints</b>	Contamination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

## HANDLING PRECAUTIONS

*BLT 35-92-35 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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