

BLT 10-75-40-R

VOC Free, no residue, wave soldering enhanced, sustained activity flux for Lead Free and Tin Lead



PHYSICAL PROPERTIES

Colour	● Water white
SG @ 20°C	● 1.018
Acid value	● 40
Solids content	● 4.5%
Flash point	● None
Silver chromate paper test	● Pass
Copper mirror test*	● Pass

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

DESCRIPTION

BLT 10-75-40-R incorporates the latest developments in aqueous flux activation technology for Lead Free and Tin Lead soldering applications without requiring post-cleaning. BLT 10-75-40-R 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 propriety organic flux activators and wetters in BLT 10-75-40-R are compatible with the higher temperatures required for Lead Free soldering.

BENEFITS

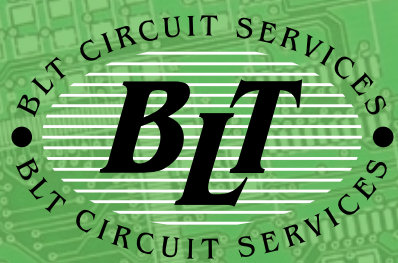
- VOC Free - Halide Free
- Non Flammable formulation
- Lead Free recommended
- Dual Wave compatible
- J-STD004 ORLO classification
- Excellent wetting and advanced sustained synthetic activity
- Reduction of solder balls caused by porous solder resists
- Pin testable minimal benign residue
- Wide operating 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

APPLICATION

BLT 10-75-40-R should be applied by spray or dipping and is supplied ready for use. Following are guidelines for spray applications.

Parameters	Recommendations
Spray nozzle	Fine or ultra fine
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 3-5 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 ⁸ min	9.99 x 10 ⁹	1.11 x 10 ¹¹	1.19 x 10 ¹²
Pattern up uncleaned	85°C/85% RH	1.0 x 10 ⁸ min	7.68 x 10 ¹¹	2.56 x 10 ¹³	1.83 x 10 ¹²
Control board	85°C/85% RH	2.0 x 10 ⁸ min	3.28 x 10 ¹¹	5.38 x 10 ¹¹	3.63 x 10 ¹⁰

All readings are in ohms.

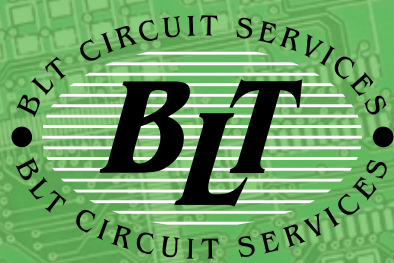
CORROSION AND ELECTRICAL TESTING - DETAILED ANALYSIS CARRIED OUT BY INDEPENDENT CERTIFIED TEST HOUSE - TRACE LABORATORIES - USA.

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	1.23 x 10 ¹¹	6.96 x 10 ¹⁰
Control	65°C/85% RH	Less than 1 decade drop	1.16 x 10 ¹²	8.44 x 10 ¹¹

All readings are in ohms. No dendriatic growth observed.



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PROBLEM SOLVING

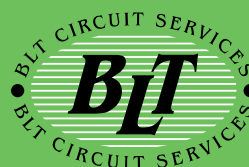
Symptoms	Cause and solution
Bridging	Too high conveyor speed, insufficient flux, excessive pre-heat or solder contamination
White residue	Excessive flux, under cured solder mask, solder contamination
Solder balls	Excessive flux, insufficient pre-heat
Discoloured joints	Contamination from board or components, excessive heat, solder contamination

HANDLING PRECAUTIONS

BLT 10-75-40-R is not classified as hazardous but contact with skin or eyes should be avoided. Use in a well ventilated area and 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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