

**RoHS
COMPLIANT**

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.

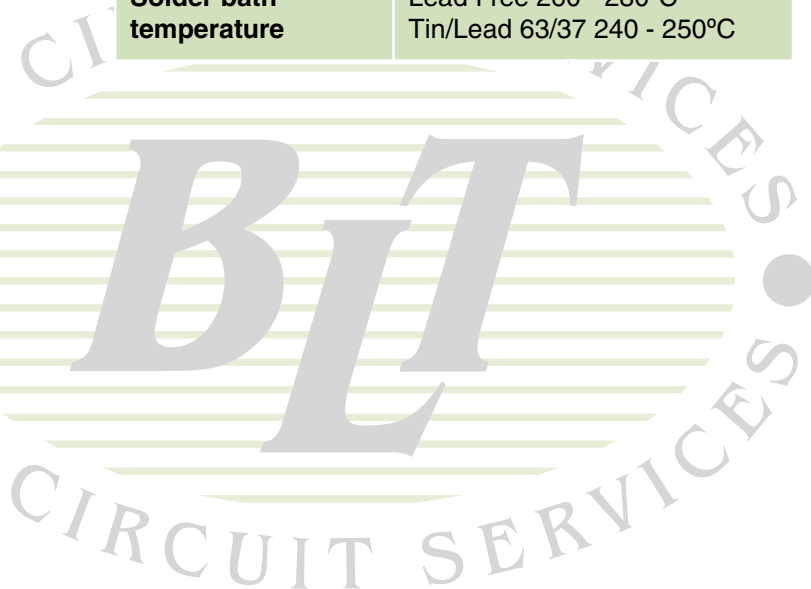
BENEFITS

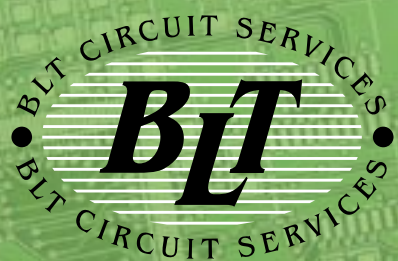
- VOC Free - Halide Free
- Non Flammable formulation
- Lead Free recommended
- Dual Wave compatible
- J-STD004 ORLO classification
- Excellent wetting and advanced sustained synthetic activity
- Reduction of solder balls caused by porous solder resists
- Pin testable minimal benign residue
- Wide operating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





BLT 10-75-40-R

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

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.

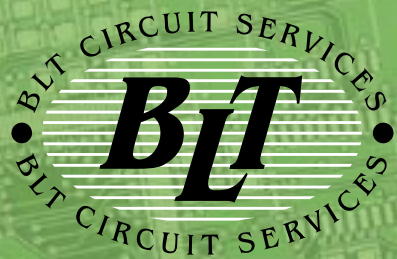
CORROSION AND ELECTRICAL TESTING - DETAILED ANALYSIS CARRIED OUT BY INDEPENDENT CERTIFIED TEST HOUSE - TRACE LABORATORIES - USA.

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.



BLT 10-75-40-R

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

PROBLEM SOLVING

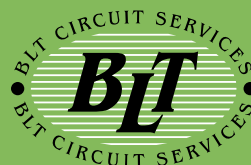
| Symptoms | Cause and solution |
|---------------------------|--|
| Bridging | Too high conveyor speed, insufficient flux, excessive pre-heat or solder contamination |
| White residue | Excessive flux, under cured solder mask, solder contamination |
| Solder balls | Excessive flux, insufficient pre-heat |
| 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.



BLT Circuit Services Ltd
Brome Industrial Estate,
Brome, Eye, Suffolk,
IP23 7HN England

Telephone +44 (0)1379 870870

Fax +44 (0)1379 870970

Email sales@blt.keme.co.uk

Web www.bltcircuitservices.co.uk