Wave Solder Flux
3590-T No-Residue

Features
- Meets Bellcore Specification TR-NWT-000078
- Meets IPC J-STD-004 Flux Type ORL0
- Eliminates the Need for Cleaning
- Excellent Wetting and Solderability
- Compatible With Conformal Coatings without Cleaning
- Will not Interfere With Pin Testing

Introduction
3590-T is a low solids, non-halide rosin/resin free flux designed to eliminate post-cleaning operations. The effective flux activators provide superior solderability of surface mount, mixed technology, and through-hole electronic assemblies. 3590-T has a wide process window with excellent wetting capabilities, leaving no residue and high surface insulation resistance.

Physical Properties

<table>
<thead>
<tr>
<th>Test</th>
<th>3590-T</th>
<th>16-3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@25°C (77°F)</td>
<td>0.801</td>
<td>0.783</td>
</tr>
<tr>
<td>@15.5°C (60°F)</td>
<td>0.808</td>
<td>0.790</td>
</tr>
<tr>
<td>Acid Value</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td>Solids Content</td>
<td>1.85</td>
<td>0</td>
</tr>
<tr>
<td>Flash Point (°F TCC)</td>
<td>84</td>
<td>54</td>
</tr>
<tr>
<td>J-STD-004 Flux Type ORL0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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Packaging
- 5 gallon containers
- 55 gallon drums

Safety
All fluxes with low flash points should be handled with caution. Store in a dry, well ventilated area away from sparks, flames, direct heat. Consult Material Safety Data Sheet for full details.

Technical Support
Indium Corporation’s internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Material Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder properties, alloy compatibility and selection of solder preforms, wire, ribbon and paste. Indium Corporation’s Technical Support engineers provide Rapid Response to all technical inquiries.

Material Safety Data Sheet
The MSDS for this product can be found online at http://www.indium.com/techlibrary/msds.php
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Bellcore Surface Insulation Resistance Test

<table>
<thead>
<tr>
<th>Test Pattern</th>
<th>Boards</th>
<th>Initial Reading</th>
<th>Final Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Bellcore</td>
<td>Control</td>
<td>$7.06 \times 10^{13}$</td>
<td>$8.11 \times 10^{13}$</td>
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<tr>
<td></td>
<td>Pattern up</td>
<td>$8.20 \times 10^{13}$</td>
<td>$1.14 \times 10^{12}$</td>
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<tr>
<td></td>
<td>Pattern down</td>
<td>$6.64 \times 10^{12}$</td>
<td>$1.32 \times 10^{11}$</td>
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</table>

IPC Surface Insulation Resistance Test

<table>
<thead>
<tr>
<th>Test Pattern</th>
<th>Boards</th>
<th>24 Hours*</th>
<th>96 Hours*</th>
<th>168 Hours*</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPC B25A</td>
<td>Control</td>
<td>$1.81 \times 10^9$</td>
<td>$9.96 \times 10^9$</td>
<td>$7.55 \times 10^9$</td>
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<tr>
<td></td>
<td>Pattern up</td>
<td>$1.72 \times 10^9$</td>
<td>$1.23 \times 10^9$</td>
<td>$6.83 \times 10^9$</td>
</tr>
<tr>
<td></td>
<td>Pattern down</td>
<td>$9.86 \times 10^9$</td>
<td>$4.54 \times 10^9$</td>
<td>$4.64 \times 10^9$</td>
</tr>
</tbody>
</table>

*All readings expressed in ohms

Bellcore Electromigration Resistance Test

<table>
<thead>
<tr>
<th>Test Pattern</th>
<th>Boards</th>
<th>Initial Reading</th>
<th>Final Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPC-B25A</td>
<td>Control</td>
<td>$1.33 \times 10^9$</td>
<td>$1.42 \times 10^9$</td>
</tr>
<tr>
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<td>Pattern up</td>
<td>$8.06 \times 10^9$</td>
<td>$1.23 \times 10^9$</td>
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<tr>
<td></td>
<td>Pattern down</td>
<td>$2.12 \times 10^9$</td>
<td>$4.54 \times 10^9$</td>
</tr>
</tbody>
</table>

*All readings expressed in ohms

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