Chemical test for localized detection of protective coating layer defects on electronic assemblies

The reliability of protective PCB assembly coatings, with regard to climate and harmful gas safety, is essentially determined by the uniform application of the coating without interferences or gaps in the protective layer. In particular, common trouble areas such as solder joint edges and pore channels in coating pooling areas, when lacking a proper coating layer, have detrimental effects on the final board assembly. The ZESTRON® Coating Layer Test utilizes a black color reaction as a visual indicator of the defects in the protective coating, even in the case of μ-coatings. The test thus adds the standardized methods for coating thickness measurement by enabling rapid and non-destructive detection of closed and dense coatings. Therefore, the test can also be used during production for cost-effective sampling.

### Simple Test Procedure in a Few Steps:

1) Apply indicator
2) Wait for 3 minutes for color reaction
3) Rinse or dab off the indicator

### Advantages Compared to Other Test Methods:

- Quick, easy, cost-effective and non-destructive method
- More precise than black light/ UV inspection → thinner layers detectable
- Shows coating defect and missing edge covering
- Avoids the usage of fluorescent agent

### Application Area:

<table>
<thead>
<tr>
<th>Coatings:</th>
<th>Organic coatings/ Classical solvent coatings</th>
<th>μ-coatings based on perfluorinated compounds</th>
<th>Parylene</th>
<th>Surfaces:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Copper</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nickel/ Nickel containing compounds</td>
<td></td>
<td>Other less noble metals such as ferrite and alloys</td>
</tr>
</tbody>
</table>

### The ZESTRON® Coating Layer Test Includes the Following Accessories:

1) ZESTRON® Coating Layer Test indicator
2) DI-water bottle
3) Gloves
4) Timer
5) Application and interpretation instructions (not displayed)