Desmear processability

(1) Desmear evaluation weight change method
(2) Desmear evaluation condition
(1) Desmear evaluation by weight change method

**Procedure**

- Test specimen
  - Unclad laminate (100X100mm)
- Drying
- (1) Initial weight measurement
- Swelling
- Desmearing
- Neutralization
- Drying
- (2) Weight measurement
- Desmear evaluation (Weight change)

The evaluation is carried out under various temperature and treating time, depending on part # and manufacture of chemical.

\[
\text{Desmear evaluation} = \frac{\text{Weight change}}{\text{Initial weight}} = \frac{(1) - (2)}{1}
\]

SEM before Desmear (×1000)  
SEM after Desmear (×1000)
(2) Desmear evaluation condition

<table>
<thead>
<tr>
<th>process</th>
<th>reagent type</th>
<th>temp. (C)</th>
<th>time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swelling</td>
<td>alkaline</td>
<td>65-85</td>
<td>5-10</td>
</tr>
<tr>
<td>Etching</td>
<td>permanganate</td>
<td>70-85</td>
<td>10-15</td>
</tr>
</tbody>
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<tbody>
<tr>
<td>Swelling</td>
<td>organic solvent</td>
<td>35-40</td>
<td>6-10</td>
</tr>
<tr>
<td>Etching</td>
<td>permanganate</td>
<td>70-85</td>
<td>10-15</td>
</tr>
</tbody>
</table>

NOTE:
Desmear parameters should be adjusted depending on board thickness, stack count and stack thickness etc.
Recommendations about the amount of desmear weigh loss for our material are described by individual part number in Process Guidelines.