Preparation method

Printed circuit board (assembled)

Recommended machines and additional consumables (not included)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Cutting</th>
<th>Mounting</th>
<th>Grinding/Polishing</th>
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</thead>
<tbody>
<tr>
<td>ATM brilliant</td>
<td>ATM Brillant</td>
<td>Pressure unit</td>
<td>Sample size Ø 40 mm</td>
</tr>
</tbody>
</table>

Consumables

- Cut-off wheel: corundum, resin bond
- Anti-corrosion coolant
- Cold mounting: KEM 20
- KEM 90

Pressure parameters and specimen size

<table>
<thead>
<tr>
<th>Specimen diameter [mm]</th>
<th>25</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divergence in pressure used in the preparation methods</td>
<td></td>
<td></td>
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</tbody>
</table>

- (5 N…10 N)
- -5 N
- 0
- +5 N

Notes:

- For printed circuit board with ceramic components
- Use suitable cut-off wheels for ferrous material (e.g., ATM FS-E wheels)
- Cutting speed max. 0.25 mm/s
- Use mounting material for almost gap-free mounting
- Cold mounting with pressure unit/vacuum
- Start grinding with SiC-paper/foil P320 (GALAXY green)
- Continue with P600 (GALAXY blue) and P1200 (GALAXY yellow)
- Thoroughly wash samples and holder under running water after each grinding step
- Rinse the polishing discs with water and spin dry after use
- Do not stack discs with different diamond sizes
- Clean samples, holders and hands under running water before each polishing step
- Check after each step under the microscope if polishing marks are of equal size and randomly oriented
- Rinse the cap of the OMEGA bottle after use, put cap back on
- Use cosmetic tissues to clean possible traces of OMEGA after the last polishing step

Notes:

SAMPLE MICROGRAPHS

OK Sample polished

- No traces of scratches
- Clear structure/contour of the different phases

NOK Sample polished

- Sparse scratches from 0.06 µm Eposal after OMEGA
- Clean all polishing discs with clean brush under running water
- Clean sample and sample holder
- Repeat OMEGA step

Notes:

BEGINNERS GUIDE

CUTTING

- Use suitable cut-off wheels for ferrous material (e.g., ATM FS-E wheels)
- Cutting speed max. 0.25 mm/s

MOUNTING

- Use mounting material for almost gap-free mounting
- Cold mounting with pressure unit/vacuum

GRINDING

- Start grinding with SiC-paper/foil P320 (GALAXY green)
- Continue with P600 (GALAXY blue) and P1200 (GALAXY yellow)
- Thoroughly wash samples and holder under running water after each grinding step

POLISHING

- Rinse the polishing discs with water and spin dry after use
- Do not stack discs with different diamond sizes
- Clean samples, holders and hands under running water before each polishing step
- Check after each step under the microscope if polishing marks are of equal size and randomly oriented
- Rinse the cap of the Eposal bottle after use, put cap back on
- Use cosmetic tissues to clean possible traces of Eposal after the last polishing step

Notes: