Preparation method

Aluminium (≥99,7%) and wrought aluminium alloy

Recommended machines and additional consumables (not included)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Consumables</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM brillant</td>
<td>Cut-off wheel: corundum, resin bond</td>
</tr>
<tr>
<td>ATM Opal</td>
<td>Anti-corrosion coolant</td>
</tr>
</tbody>
</table>

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<tr>
<td>ATM brillant</td>
<td>Hot mounting: EPO black, EPO-Max, Bakelite red/black</td>
</tr>
<tr>
<td>ATM Opal</td>
<td>Cold mounting: KEM 15 plus, KEM 20, KEM 30</td>
</tr>
</tbody>
</table>

Notes:
- To reduce the contamination of the specimen by SiC particles, it should be coated with paraffin wax before grinding
- ATM Item No. 95006393

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>-5 N</td>
<td>-5 N</td>
<td>0</td>
<td>+5 N</td>
<td>+5 N</td>
</tr>
</tbody>
</table>

Notes:
- Use suitable cut-off wheels for non-ferrous material (e.g. ATM NF-A wheels)
- Cutting speed max. 0.25 mm/s
- Use mounting material for almost gap-free mounting
- Cold or hot mounting both possible
- Grind with SiC-paper/foil P1000 (280)
- Continue with P600 and P1200 (change SiC-paper/foil after 60 sec.)
- 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
- Use ethanol and blow dryer to avoid water stains and corrosion
- Check after each step under the microscope if polishing marks are of equal size and randomly oriented
- Use the consumables only for aluminium and not for other materials
- Rinse the cap of the Eposil F bottle after use, put cap back on

Optional: Etching (electrolyt.)
- Barker’s reagent

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