Spray coatings (metallic, ceramic)

**Preparation method**

**Recommended machines and additional consumables (not included)**

<table>
<thead>
<tr>
<th>Equipment/Polishing</th>
<th>Consumables</th>
<th>Pressure parameters and specimen size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM brilliant</td>
<td>Cut-off wheel: diamond, resin bond</td>
<td>Specimen diameter [mm]</td>
</tr>
<tr>
<td>ATM brillant</td>
<td>Anti-corrosion coolant</td>
<td>25 30 40 50 60</td>
</tr>
<tr>
<td>ATM brillant</td>
<td>Cold mounting: KEM 90</td>
<td>Divergence in pressure used in the preparation methods</td>
</tr>
</tbody>
</table>

**Notes:**

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

**BEGINNERS GUIDE**

**CUTTING**
- Use suitable cut-off wheels for ferrous/ceramic 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 under vacuum

**GRINDING/POLISHING**
- Start grinding with SC-paper/foil P240 (180)
- Continue with P800 (280)
- 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
- Check after each step under the microscope if polishing marks are of equal size and randomly oriented
- Use the consumables only for spray coatings and not for other materials
- Use cosmetic tissues to clean possible traces of epoxy after the last polishing step
- Rinse all polishing discs with clean brush under running water
- Clean sample and sample holder
- Repeat grinding step P800 and continue
- Use the consumables only for spray coatings and not for other materials
- 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

**SAMPLE MICROGRAPHS**

**OK Sample polished**
- 10x micrograph of nickel based alloy after OMEGA polishing
- No traces of scratches
- Clear structure/contour of the different phases
- Clean homogeneous surface

**NOK Sample polished**
- 10x micrograph of nickel based alloy after OMEGA polishing
- Sparse scratches from 3 µm diamond after DELTA
- Clean all polishing discs with clean brush under running water
- Clean sample and sample holder
- Repeat grinding step P800 and continue

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