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| Date: | 06.12.2022 |
| Editor: | Noll, Theresa |
| Material: | Ti (Grade 1) Ti6AlV4 (Grade 5 or Grade 23) Ti 6242 (Ti-6Al-2Sn-4Zr-2Mo) |
| Mounting: | Hot or cold D=40 mm |

TIP // For reference images, take a look at our wide-ranging microstructure database. There you will find many micrographs of various materials, including their state of heat treatment and the etching agent we used.

[Link to our Microstructure Database \(Gefügedatenbank\)](#)

| | Grinding | | | | | Polishing | | | |
|--------------------------------|--|---------------|---------------|----------------|---|------------------------------|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 |
| Base | SiC paper | SiC paper | SiC paper | SiC paper | | ChemTec | | | |
| Grit size | P600 + Wax | P800 + Wax | P1200 +Wax | P2500 + Wax | | < 0,05 µm SiO2 OPS + H2O2 | | | |
| Lubricant | H2O | H2O | H2O | H2O | | - | | | |
| Drive | 150 rpm | 150 rpm | 150 rpm | 150 rpm | | 150 rpm | | | |
| Rotation direction | >> | >> | >> | >> | | >< | | | |
| Downforce !centralpressure! | 15 N/sample | 15 N/sample | 15 N/sample | 15 N/sample | | 25 N/sample | | | |
| Time | 1,0 min (then new SiC) | 2x 1,0 min | 2x 1,0 min | 2x 1,0 min | | 10 - 15 min | | | |
| Echting | Kroll: 100 ml H2O, 6 ml HNO3, 3 ml HF Ti etchant: 60 ml HF, 50 ml H2O2, 10 ml HNO3 Colour etchant: 100 ml H2O, 25 ml ethanol, 2 g ammonium hydrogen difluoride (Attention HF is released)!!! Etching time approx. 60 sec | | | | | | | | |
| Remarks | Etching polish with OPS: 250 ml OPS + 2,5 ml H2O2 (30%) Use wax generously! | | | | | | | | |

| Legend [EN] | Legende [DE] |
|---|--|
| DPS = Diamond Plane Grinding Disc DSS = Diamond Grinding Disc ADAMANT = ADAMANT Diamond Grinding Disc IDAMANT = IDAMANT Diamond Grinding and Polishing Disc | DPS = Diamant-Planschleifscheibe DSS = Diamant-(Fein)schleifscheibe ADAMANT = ADAMANT Diamantschleifscheibe IDAMANT = IDAMANT-Schleifpolierscheibe |
| >< Countercurrent >> Concurrent | >< Gegenlauf >> Gleichlauf |
| mkd = monocrystalline Diamond, concentration 50 carat/litre pkd = polycrystalline Diamond, concentration 50 carat/litre | mkd = monokristalliner Diamant, Konzentration 50 Karat/Liter pkd = polykristalliner Diamant, Konzentration 50 Karat/Liter |
| Lubricant: coolTec I (Water-based) coolTec II (Alcohol-based) coolTec III (Oil-based) coolTec IV (Water-based) coolTec Orange (Anhydrous) | Schmiermittel: coolTec I (Wasserbasis) coolTec II (Alkohobasis) coolTec III (Ölbasis) coolTec IV (Wasserbasis) coolTec Orange (Wasserfrei) |
| Spüli: Dishwasher detergent with H2O for cleaning the samples | Spüli: Spüli mit Wasser zum Reinigen der Proben |
| You can find metallography supplies in our store (link) | Verbrauchsmaterialien finden Sie in unserem Shop (Link) |