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| Date: | 09.12.2022 |
| Editor: | Füllmann, Robert |
| Material: | X5CrNi1810 1.4301 with WC build-up welding |
| Mounting: | Hot, D=40 mm, Black epoxy resin EPO |

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 | 1 | 2 | 3 | 4 | 5 |
| Base | Adamant | SiC paper | SiC paper | SiC paper | IDAMANT | PanTec | RamTec | PanTec | ChemTec |
| Grit size | P80 | P320 | P600 | P1200 | 15 µm | 6 µm mkd water-based | 3 µm mkd water-based | 1 µm mkd water-based | < 0,05 µm SiO ₂ OPS |
| Lubricant | H ₂ O | H ₂ O | H ₂ O | H ₂ O | coolTec I | coolTec I | coolTec I | coolTec I | - |
| Drive | 150 rpm | 150 rpm | 150 rpm | 150 rpm | 150 rpm | 150 rpm | 150 rpm | 150 rpm | 150 rpm |
| Rotation direction | >< | >< | >< | >< | >< | >< | >< | >< | >< |
| Downforce !centralpressure! | 30 N/sample | 30 N/sample | 30 N/sample | 30 N/sample | 20 N/sample | 20 N/sample | 20 N/sample | 20 N/sample | 20 N/sample |
| Time | 5,0 min | 5,0 min | 5,0 min | 5,0 min | 5,0 min | 3,0 min | 3,0 min | 3,0 min | 2+0,5 Spüli |
| Etching | | | | | | | | | |
| Remarks | Hard particles: WC, matrix: Ni-based (EDX analysis) | | | | | | | | |

| 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 H ₂ O 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) |