

Date:	09.12.2022
Editor:	Füllmann, Robert
Material:	Inconel 718 NiCr19NbMo 2.4668
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	5	1	2	3	4
Base	SiC paper	SiC paper	SiC paper	SiC paper	SiC paper	PanTec	RamTec	MolTec	ChemTec
Grit size	P240 + Wax	P500 + Wax	P800 + Wax	P1200 + Wax	P2500/P4000 + Wax	6 µm mkd water-based	3 µm mkd water-based	1 µm mkd water-based	< 0,05 µm SiO ₂ OPS + HCl
Lubricant	H ₂ O	H ₂ O	H ₂ O	H ₂ O	H ₂ O	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!	15 N/sample	15 N/sample	15 N/sample	15 N/sample	15 N/sample	20 N/sample	20 N/sample	20 N/sample	20 N/sample
Time	until planar (ca. 4 min)	2x 1,5 min	2x 1,5 min	2x 1,5 min	2x 0,5 min	5,0 min	5,0 min	3,0 min	2,5+0,5 Spüli
Etching	100 ml Inconel 718 solution (75 ml ethanol (96%), 25 ml HCl (37%)), Addition (freshly prepared): 3 ml H ₂ O ₂ (30%) Etching time: 10-40 s. Use the etching solution for max. 6 polished specimens and period of max. 2h. Directly etch the freshly polished section.								
Remarks	OPS + HCl = 200 ml OPS + 2 ml HCl; Caution: Wear PPE!								

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)