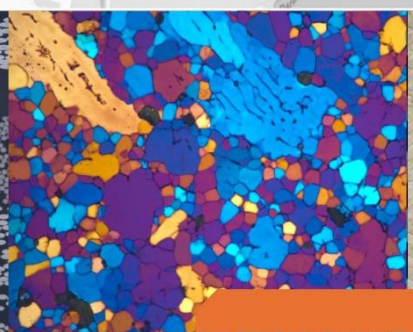
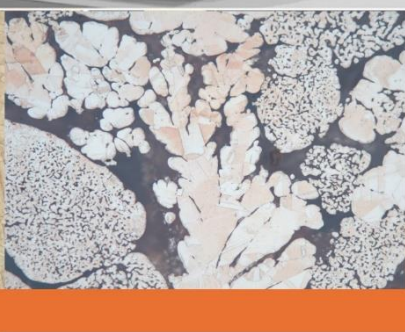
QATM
QUALITY ASSURED

Application lab report

Preparation for non-mounted steel samples – quick and simple





QATM-Preparation method

Objective:

The aim of the investigation is to determine a suitable preparation method for the samples received (Figure 1). The samples are made of steel. This report provides a quick and simple preparation method for non-mounted steel samples.

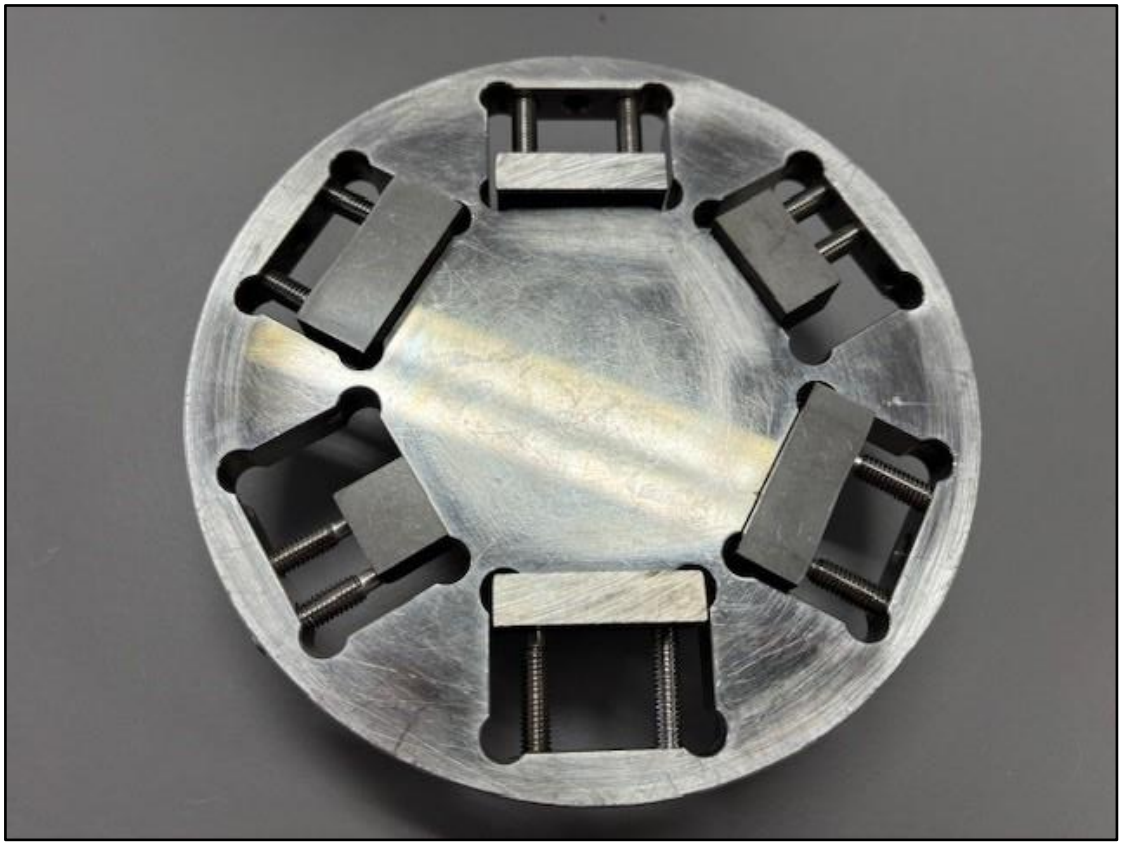


Figure 1: As-received samples.

QATM-Preparation method

Grinding/Polishing

Device	Samples holder	Pressure mode				
Saphir 550	Z5440069	Central				
Step	**MEDIUM**		**RPM**		**N**	**min**
Planar grinding	VEGA 75 µm	H_2O	200	100 ◄ ►	175	2:00 – 4:00
Pre-Polishing	BETA	Diamond susp. Poly, 9 µm	150	100 ►►	175	3:00
Polishing	GAMMA	Diamond susp. Poly, 3 µm	150	100 ►►	175	3:00
Etching (chem.)	3% alc.-based NITAL					0:03 – 0:10

Notes

- Pre-dosing for 9 µm, 3 µm: 3 s
  Dosing interval and dosing duration for Dia. Suspension 9 µm, 3 µm:
  Every 15 s for 1,3 s

QATM-Preparation method

Figure 2: Samples **before** preparation.

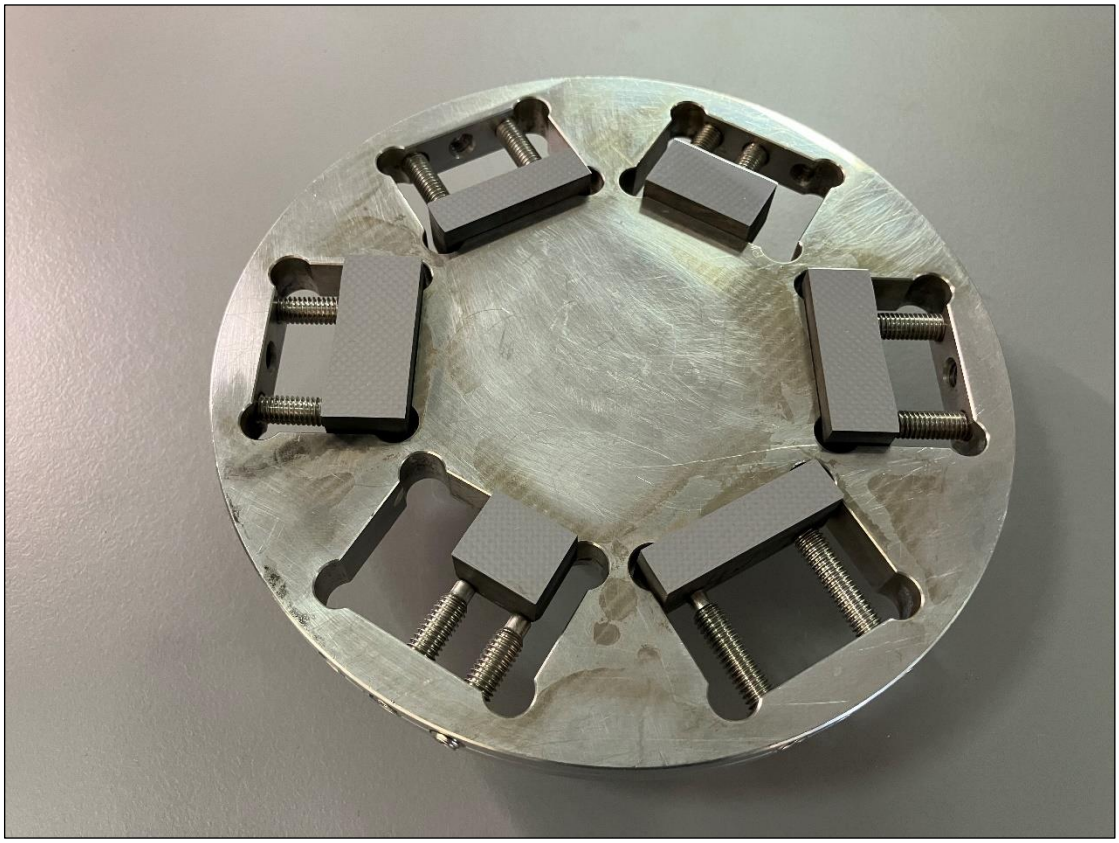


Figure 3: Samples **after** preparation.

QATM-Preparation method

Figure 4: Sample 2485_43_OF4 after etching with NITAL – 200 x

Figure 5: Sample 2493 after etching with NITAL – 200 x

QATM-Preparation method

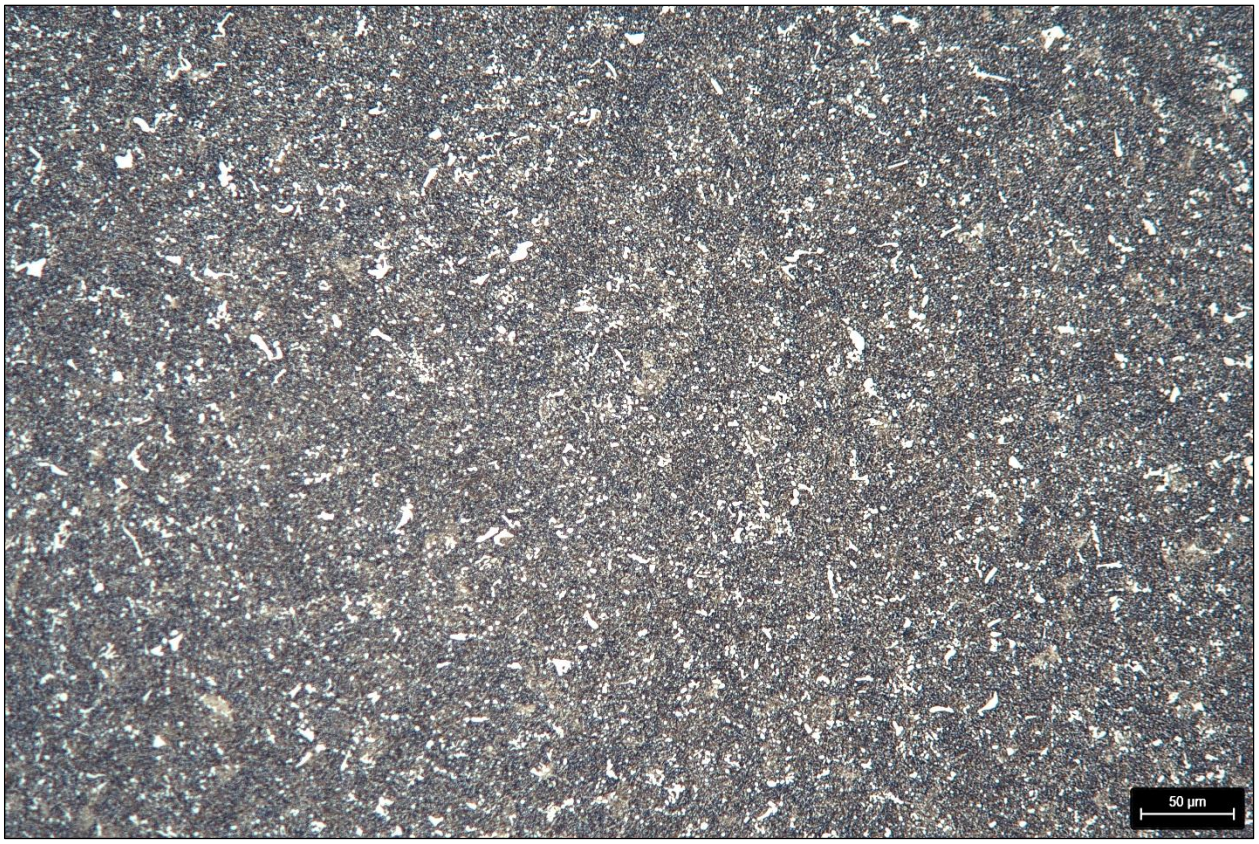


Figure 6: Sample 2493_12 after etching with NITAL – 200 x

Figure 7: Sample 2493_25 after etching with NITAL – 200 x

QATM-Preparation method

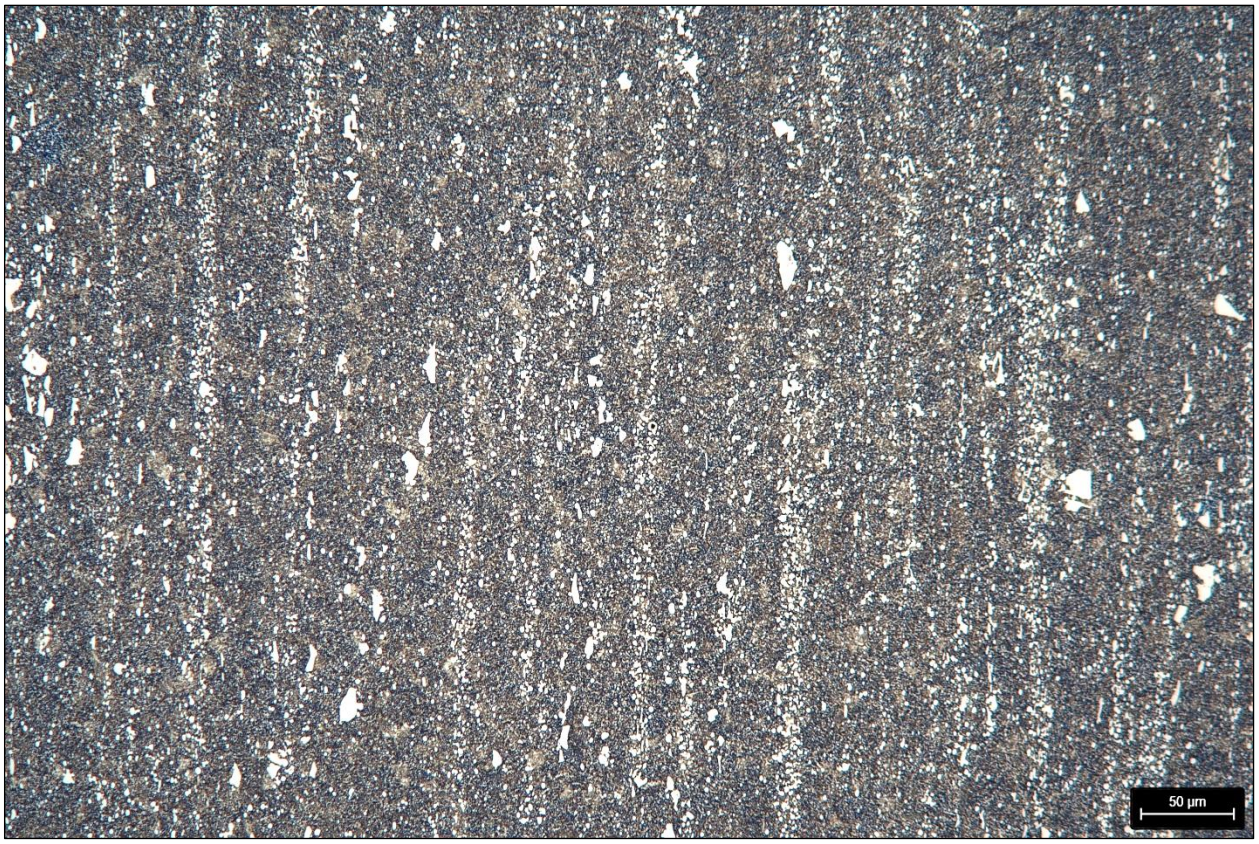


Figure 8: Sample 2493_13 after etching with NITAL – 200 x

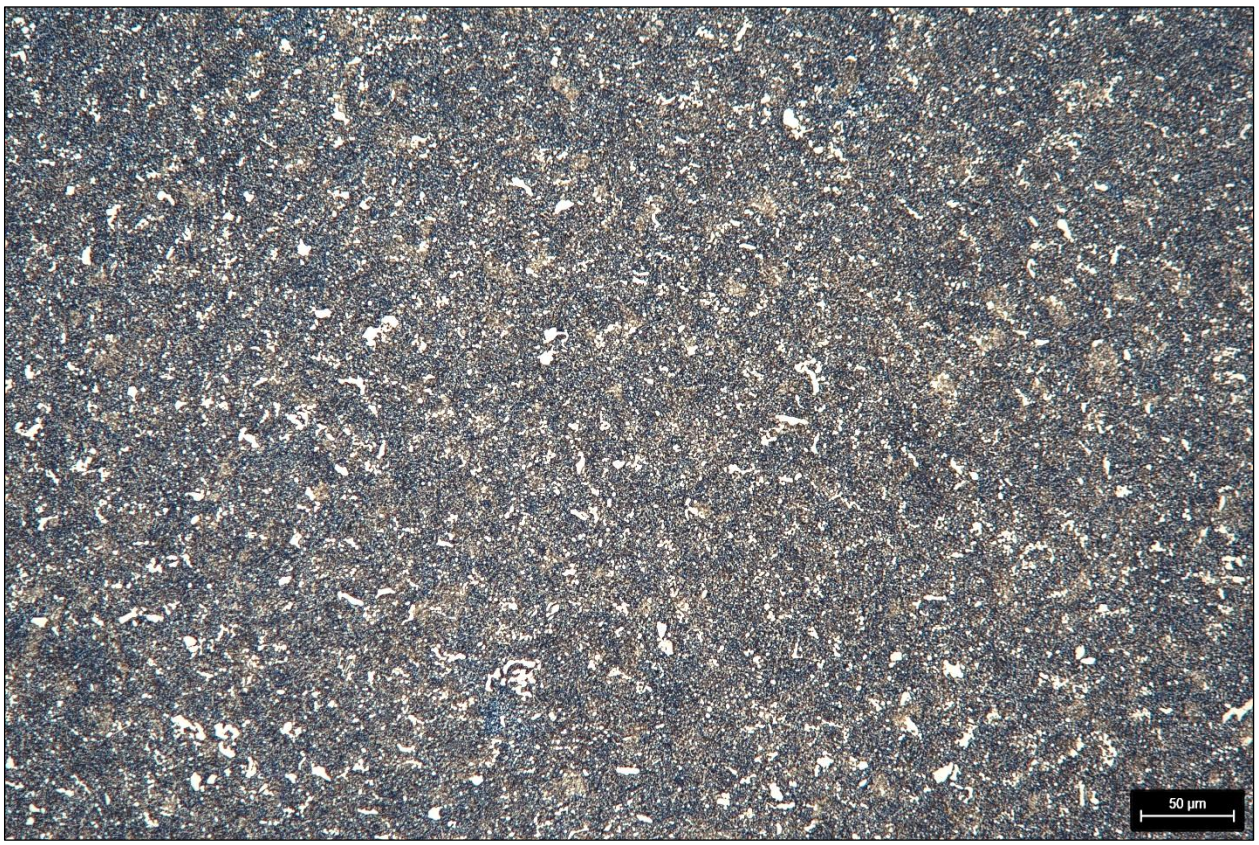


Figure 9: Sample 2585_15_OF4 after etching with NITAL – 200 x

QATM-Preparation method

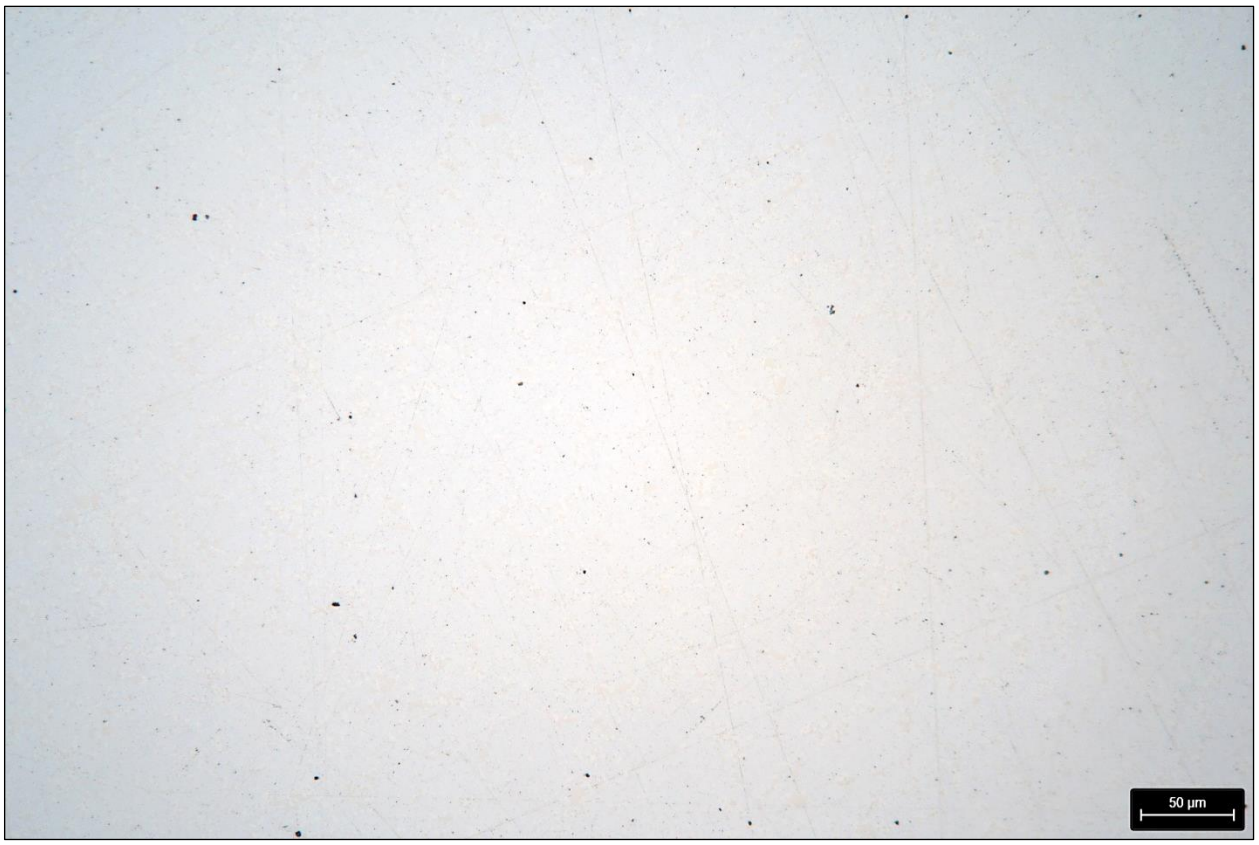


Figure 10: Sample 2585_15_OF4 after polishing step with GAMMA and 3 µm – 200 x

Figure 11: Sample 2493_12 after polishing step with GAMMA and 3 µm – 200 x