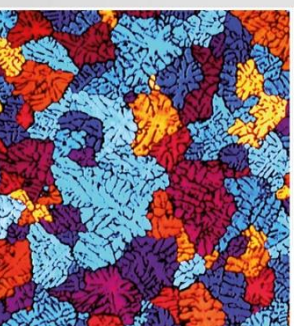
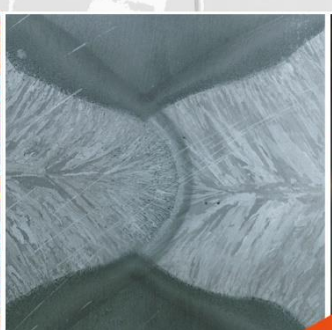
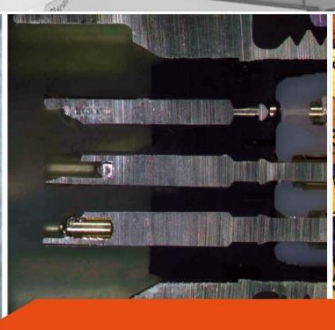
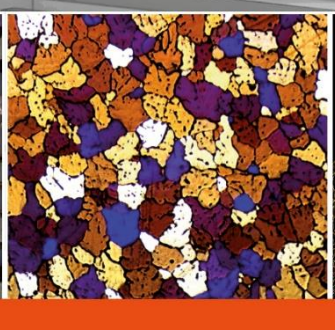
QATM
QUALITY ASSURED

Application lab report

Preparation of a glass sample


QATM-Preparation method

Objective:

This report shows a possible preparation method for a glass sample. The workpiece is first cut with the Qcut 200 A and then mounted with Qprep UV-50 or KEM 30. The sample is finally ground and polished on the Qpol 300 or 250 A1 Eco.

Cutting

Cutting			
Device	Cut-off disc	Anti-corrosion coolant	Clamping tool
Qcut 200 A	Diamond cut-off wheel 92002406	QATM Standard, 95014281	- Easy Clamping Base S Z2236030 - Qtool 40 S Z2270201
Cutting method			
Automatic vertical cutting method (with Y-Axis)			
Parameters			
Feed speed	Pulse parameter	Cut-off disc rotational speed	
0,08 mm/s	Without pulse	3000 RPM	
Notes			
- protect the glass with paper tape against breaking during cutting (picture 2)			

QATM-Preparation method

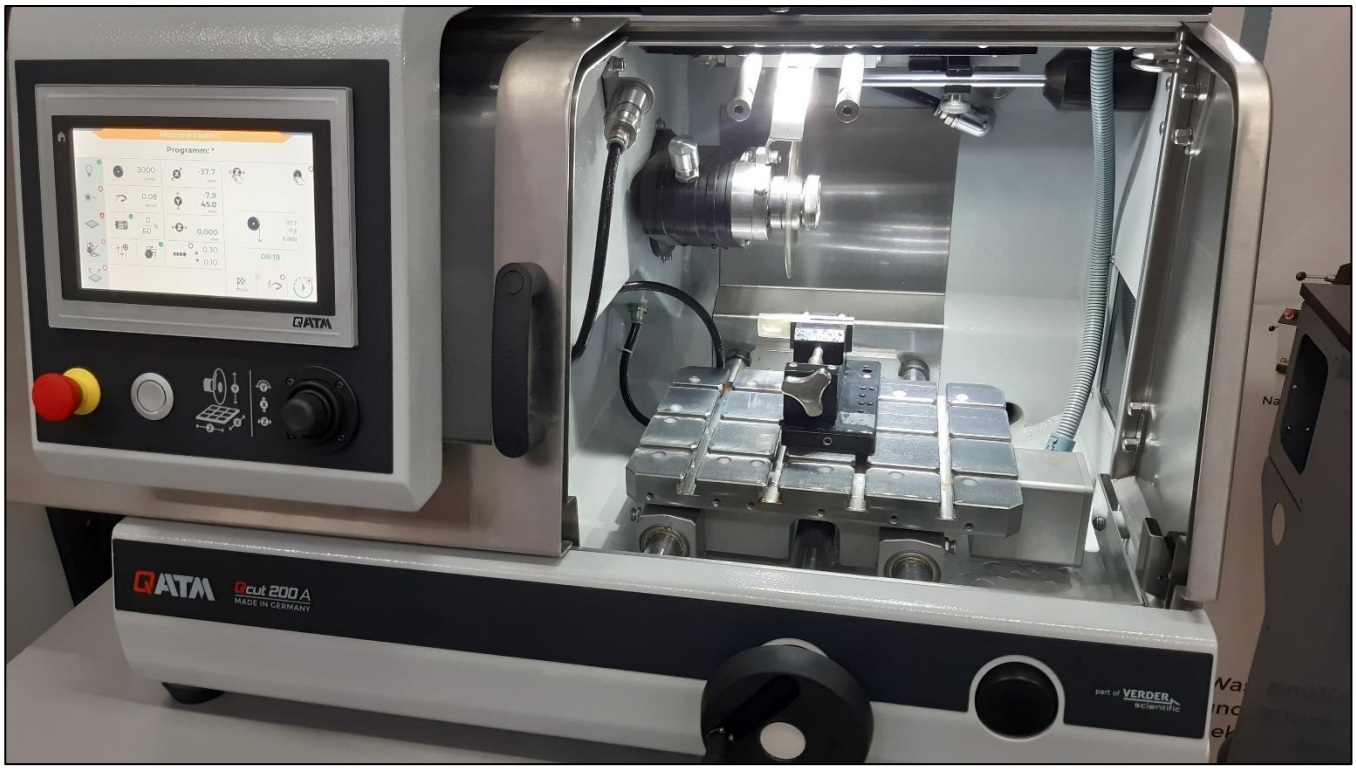


Figure 1: Overview of the cutting machine "Qcut 200 A".

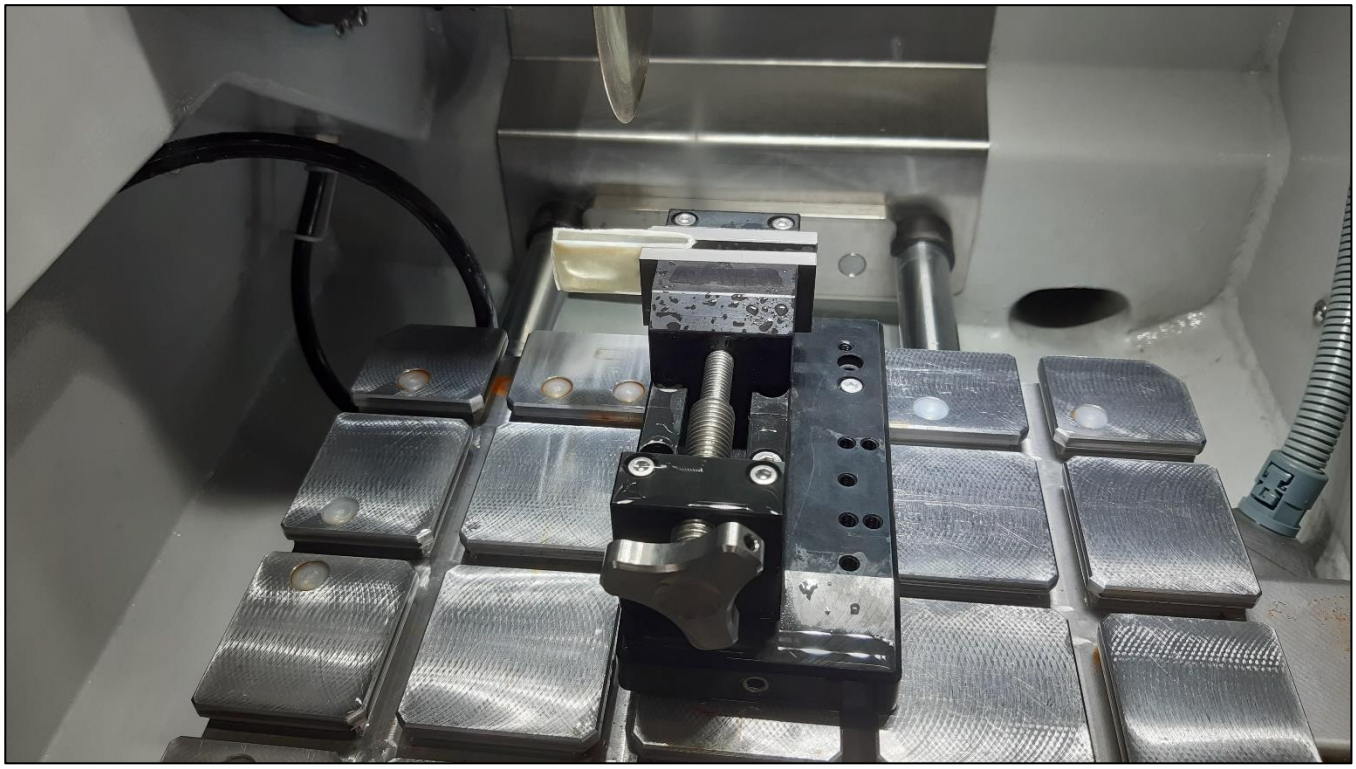


Figure 2: Overview of the clamping tool – glass sample is protected with paper tape.

QATM-Preparation method

UV mounting

Mounting				
Device	Consumable	Curing time	Mold	Additional equip.
QMOUNT	UV 50	1-1,5 Minutes	PP or PE, ø 40 mm	-
Notes				
- we recommend doing the mounting in a way that enables you to grind and polish the glass sample from both sides				

Cold mounting (alternative)

Mounting					
Consumable	Mixing ratio		Curing time	Mold	Additional equip.
KEM 30	Volume / Weight		Max. 15 Minutes	PP or PE, ø 40 mm	- dosing spoon - mixing cup - mixing stick
	2:1				
Notes					
- we recommend doing the mounting in a way that enables you to grind and polish the glass sample from both sides					

QATM-Preparation method

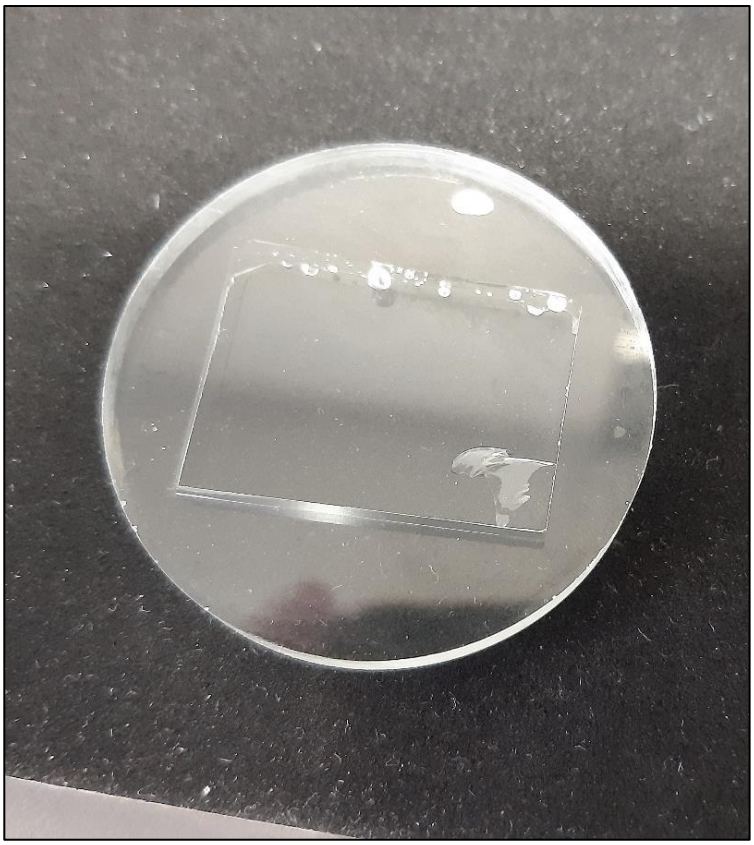


Figure 3: Overview of prepared glass sample – cold mounting with KEM 50 UV.

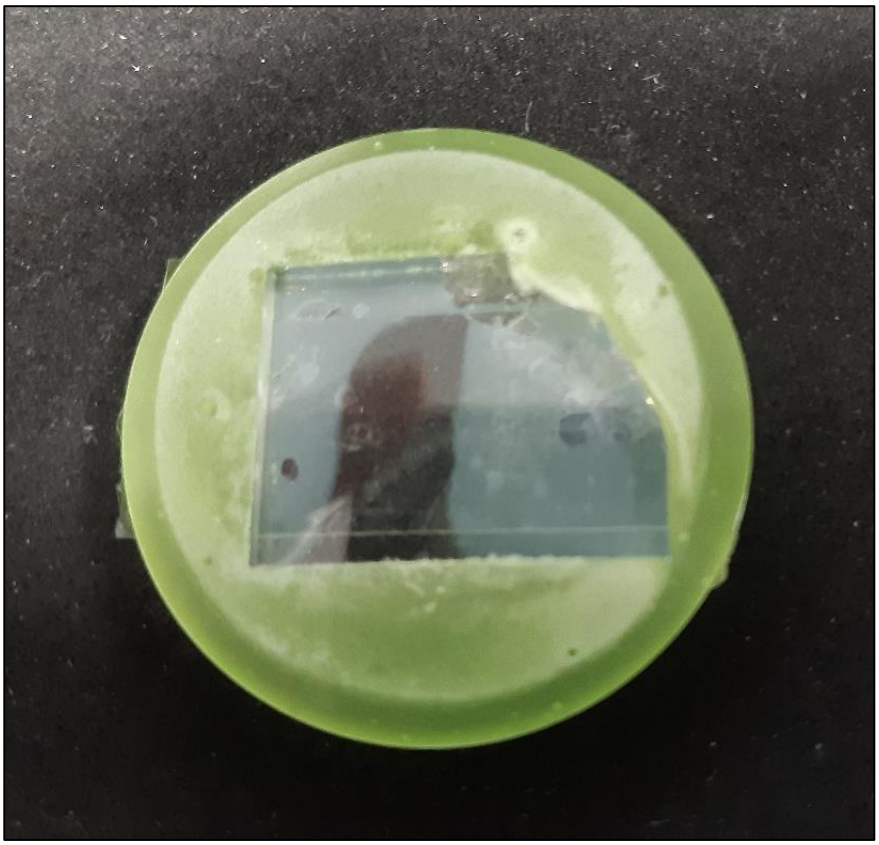


Figure 4: Overview of prepared glass sample – cold mounting with KEM 30.

QATM-Preparation method

Grinding/Polishing

Device	Sample holder	Pressure mode				
Qpol 300 A1 Eco+/ Qpol 250 A1 Eco	Z5446025/ Z5445025	Single				
Step	**MEDIUM**		**RPM**		**N**	**min**
Planar grinding	SiC-Paper, self-adhesive P320	H_2O	125	75 ►►	10	Till sample is plane (0:45)
Grinding	VEGA 10 µm	H_2O	125	75 ►►	15	3:00
Grinding	Polaris H 3 µm	H_2O	150	100 ►►	20	7:00
Polishing	GAMMA or DELTA	Dia Complete Poly, 3 µm	150	100 ►►	30	14:00

Notes

- SH = rpm for sample holder
- WP = rpm for working plate

- pre-dosing time for polishing with 3 µm = 3 s
- dosing interval and dosing time for 3 µm = every 45 s for 2 s

- recommendation: before starting to polish the opposide glass surface **protect the finished** glass surface with tape

QATM-Preparation method

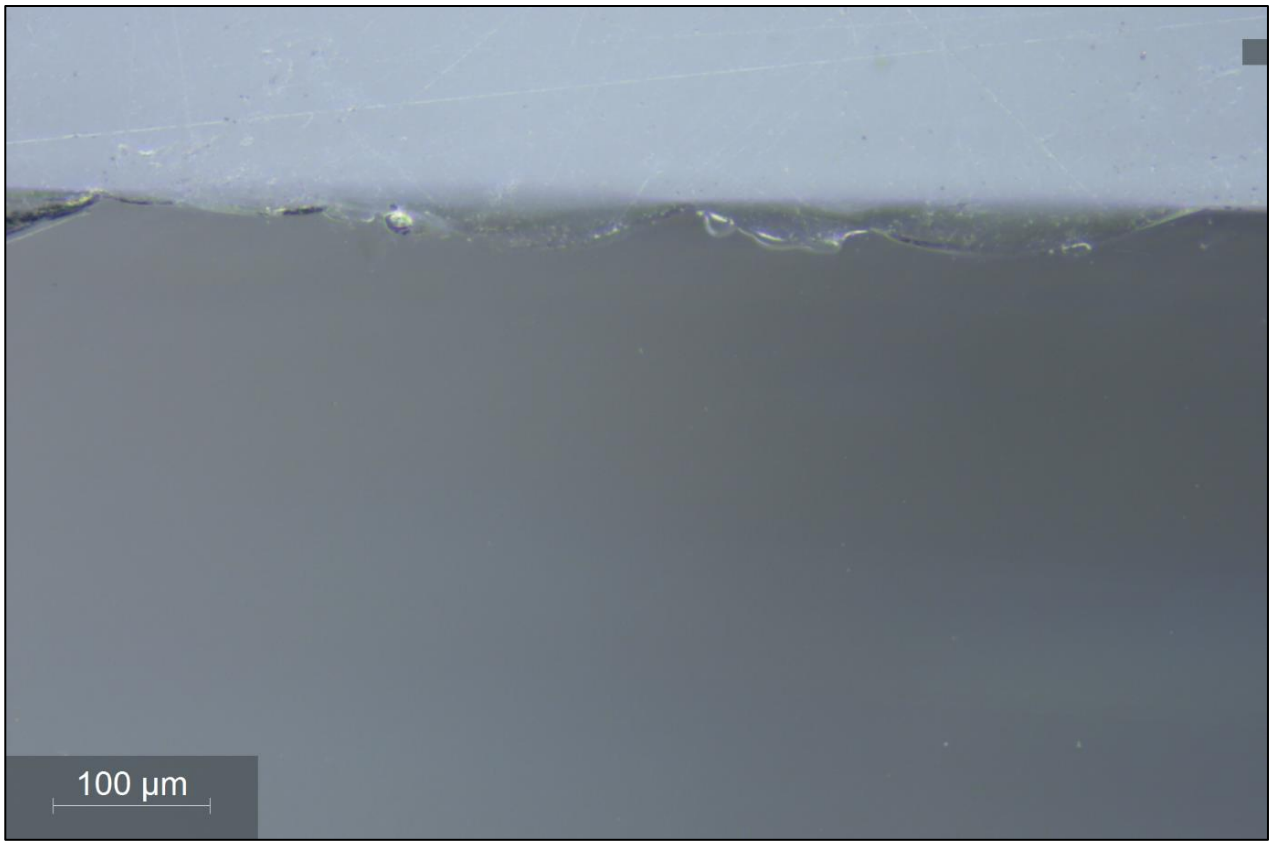


Figure 5: Glass surface after polishing with GAMMA and 3 µm – edge area with darkfield -100 x.

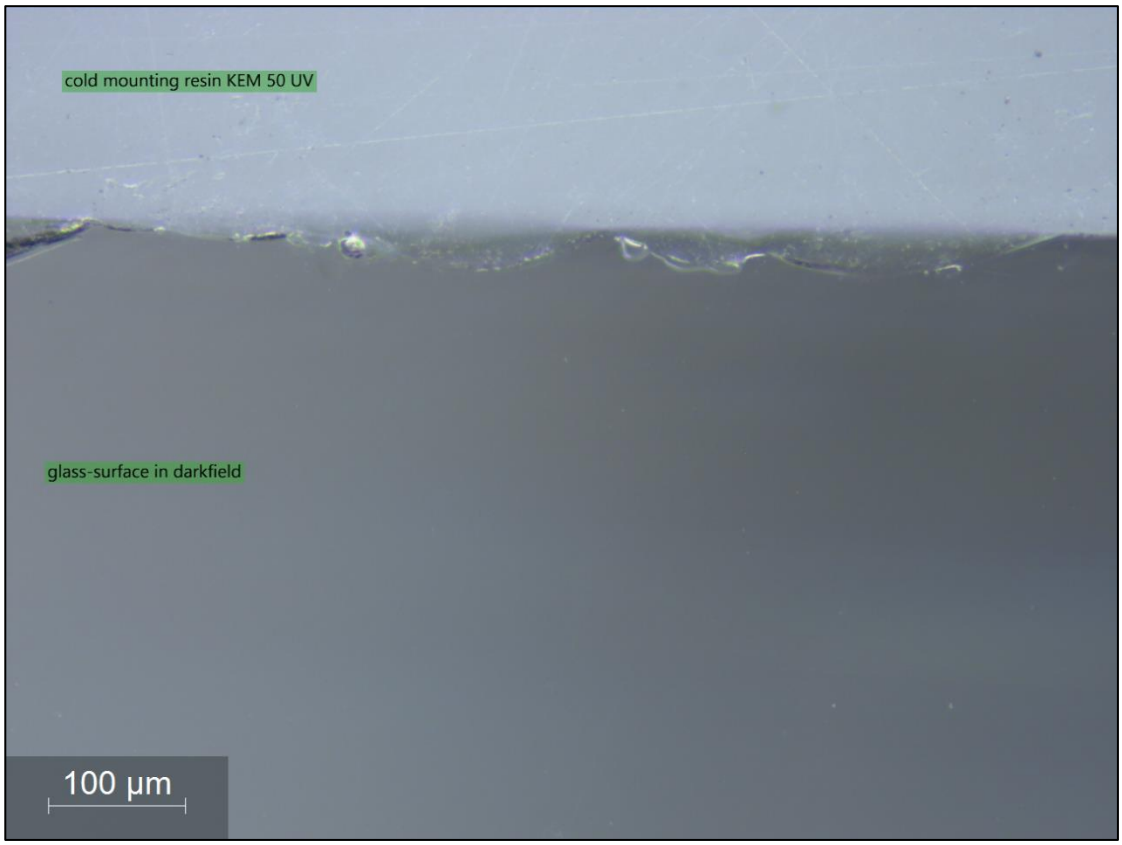


Figure 6: Glass surface after polishing with GAMMA and 3 µm – edge area with darkfield - 100 x.

QATM-Preparation method

Figure 7: Glass surface after polishing with GAMMA and 3 µm – core area with darkfield - 100 x.

Figure 8: Glass surface after polishing with GAMMA and 3 µm – core area with brightfield - 100 x.