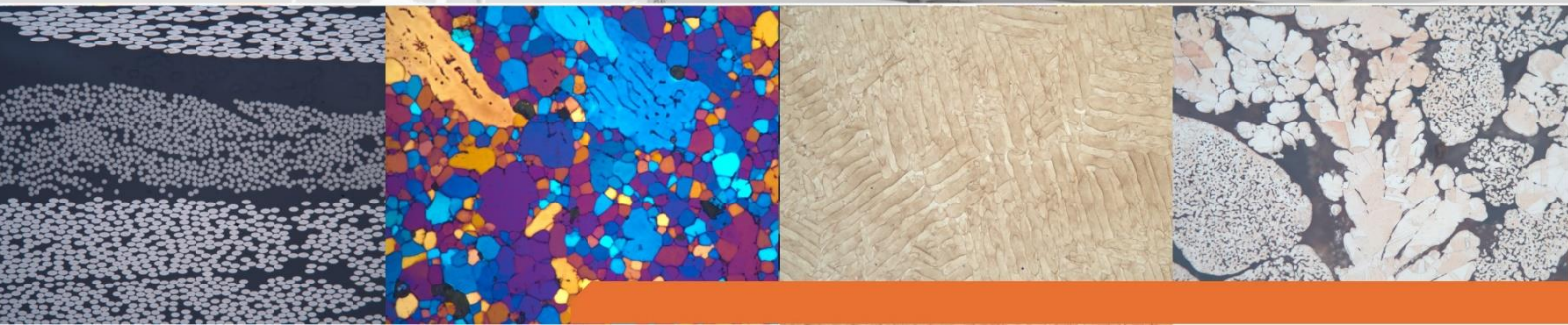


Application lab report

Preparation of plastic components with Qmount



QATM-Preparation method

Objective:

This report shows a suitable preparation method for plastic components (Figure 1). The samples must be mounted with the Qmount UV-mounting device and prepared with the Qpol 250 A1 Eco. The preparation method for cutting serves purely as a recommendation and is shown in gray font. Detailed parameters and images can be found in the following report.



Figure 1: As-received samples.

QATM-Preparation method

Cutting

		Cutting					
Device		Cut-off disc		Anti-corrosion coolant		Clamping tool	
QCUT 200 A		Silicon carbide (92004998)		ATM Cool Cut (95004146)		-Easy-clamping base S (Z2236030) -Qtool 40 S (Z2270201)	
Cutting method							
Horizontal cut (X-axis)							
Parameters							
Feed speed		Pulse parameter		Cut-off disc rotational speed			
0,1mm/s		Without pulse		2500 RPM			
Notes							

UV mounting

 Mounting				
Device	Consumable	Curing time	Mold	Additional equip.
QMOUNT	UV 50	1 Minutes	PP ø 40 mm	-
	UV 55	9 Minutes		
Notes				
- For this application we recommend the Qprep UV 55 mounting resin.				



Figure 2: Qmount UV-mounting device.

QATM-Preparation method



Figure 3: Samples after mounting with UV 50.



Figure 4: Samples after mounting with UV 55.

QATM-Preparation method

Grinding/Polishing

Device		Samples holder	Pressure mode				
QPOL 250 A1 Eco		Z5445025	Single				
Step		MEDIUM		 RPM		 N	 min
	Planar grinding	SiC-Paper P600 self-adhesive + X-Tap	H ₂ O	200	120 ▶▶	20	Till flat
	Grinding	SiC-Paper P1200 self-adhesive + X-Tap	H ₂ O	200	120 ▶▶	20	0:45
	Grinding	SiC-Paper P2500 self-adhesive + X-Tap	H ₂ O	200	120 ▶▶	20	0:45
	Grinding	SiC-Paper P4000 self-adhesive + X-Tap	H ₂ O	200	120 ▶▶	20	0:45
	Polishing	ZETA	Dia. suspension Wb. Poly, 1µm + alc. Lubricant	150	120 ▶▶	25	6:00

Notes

- Pre-dosing for 1 µm: 3 s
Dosing interval and dosing duration for Dia. Suspension 1µm:
Every 30 s for 1,3 s
- Dosing interval and dosing duration for lubricant:
Every 60 s for 1,3 s

QATM-Preparation method



Figure 5: Qpol 250 A1 Eco.

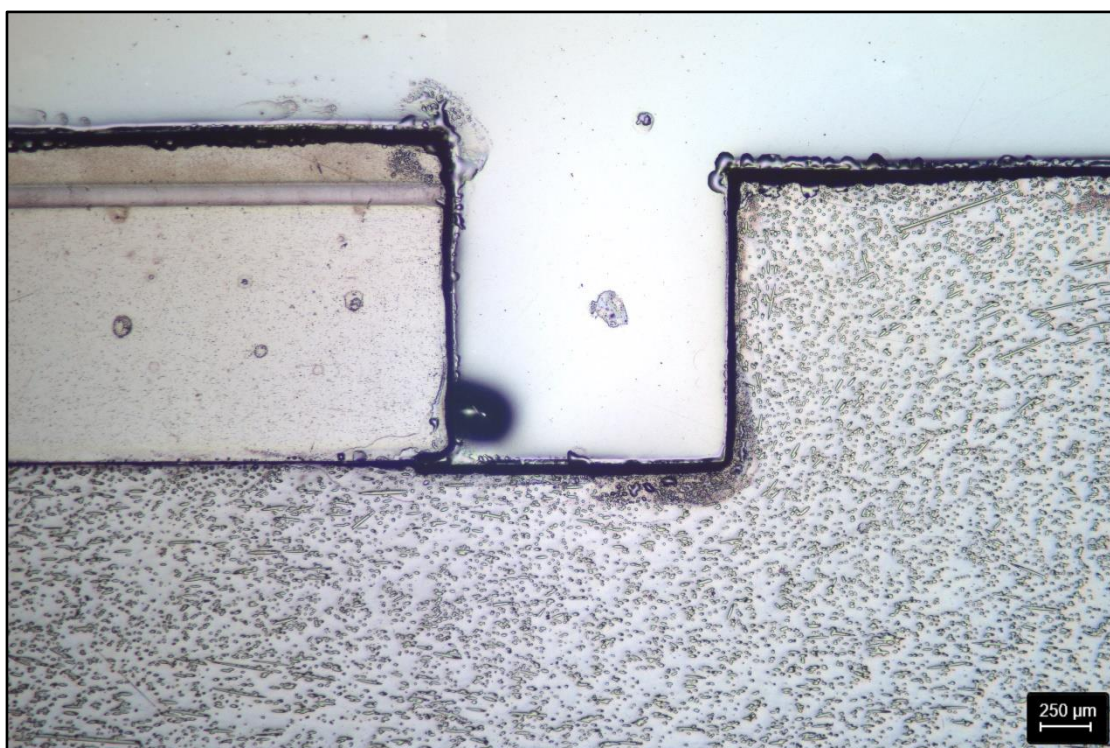


Figure 6: UV 50 after preparation – 25x.

QATM-Preparation method

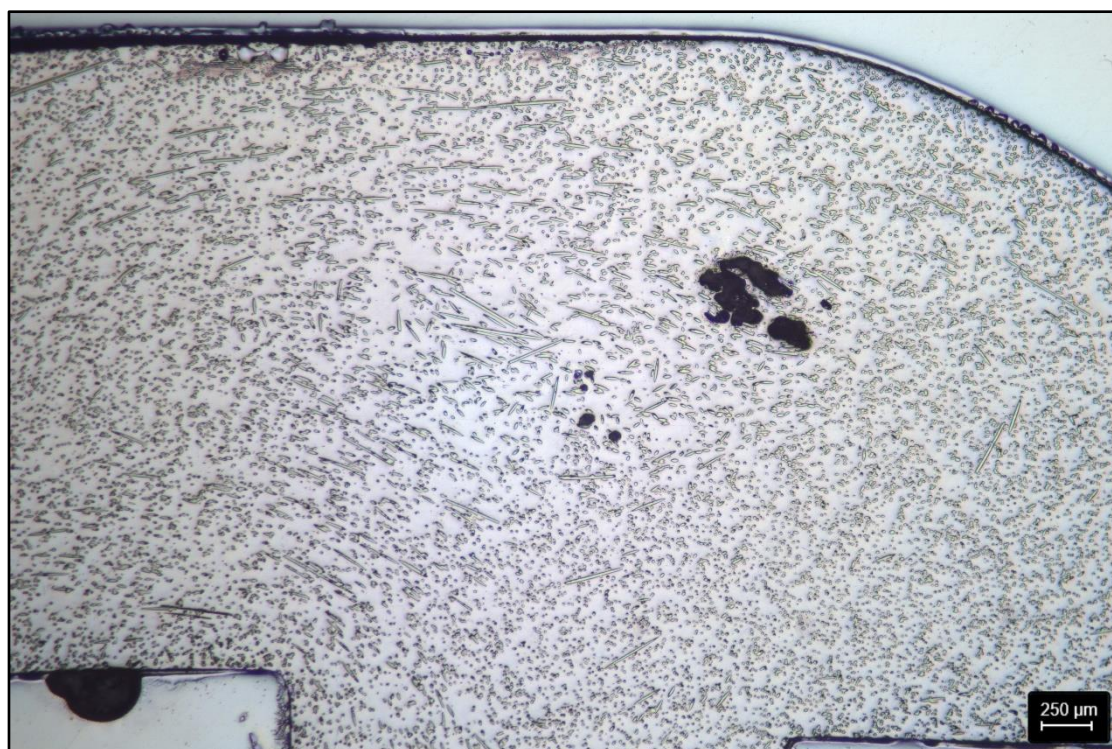


Figure 7: UV 50 after preparation – 25x.

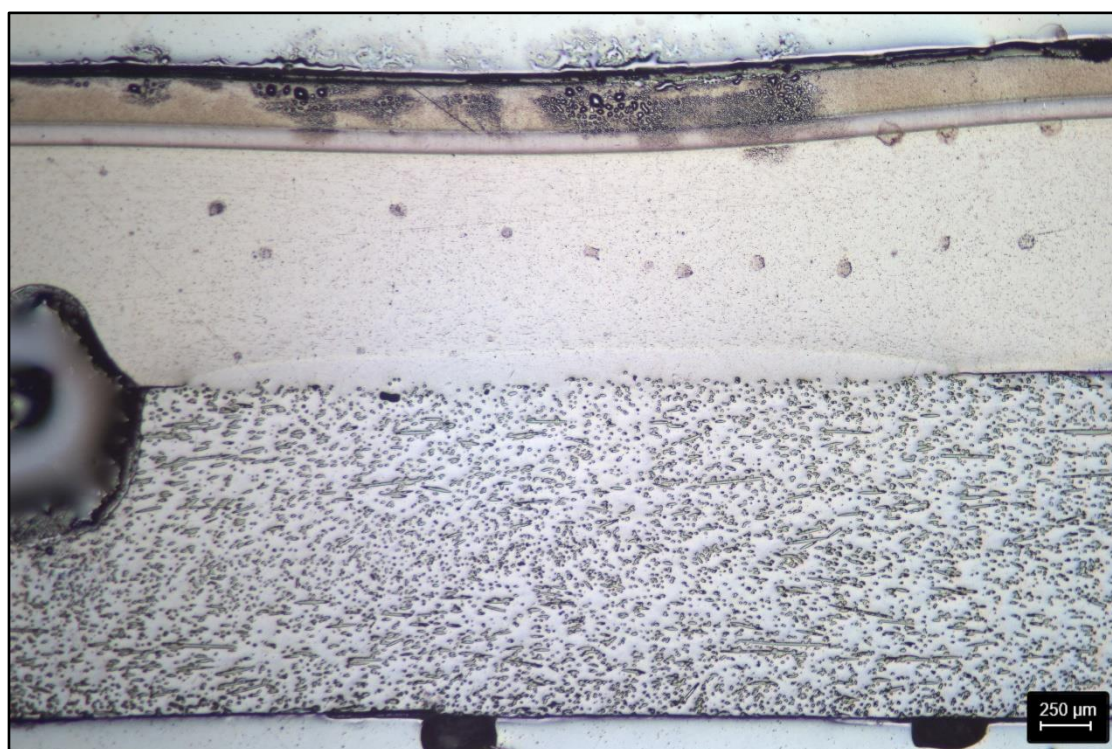


Figure 8: UV 50 after preparation – 25x.

QATM-Preparation method

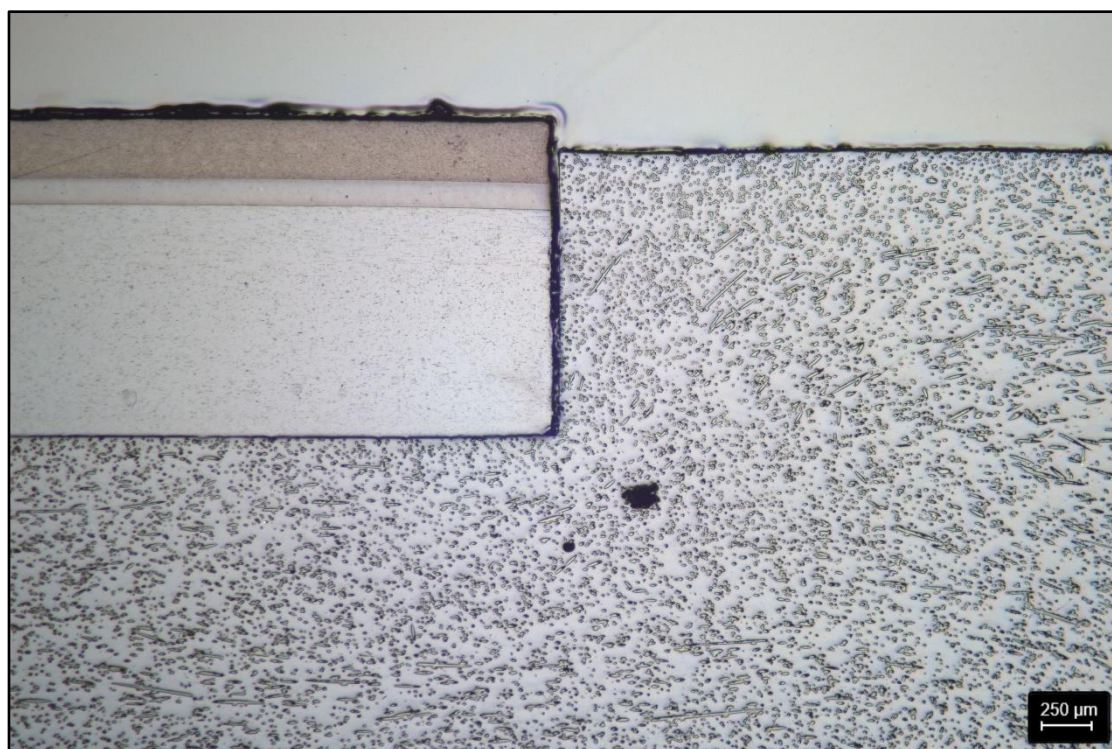


Figure 9: UV 55 after preparation – 25x.



Figure 10: UV 55 after preparation – 25x.

QATM-Preparation method

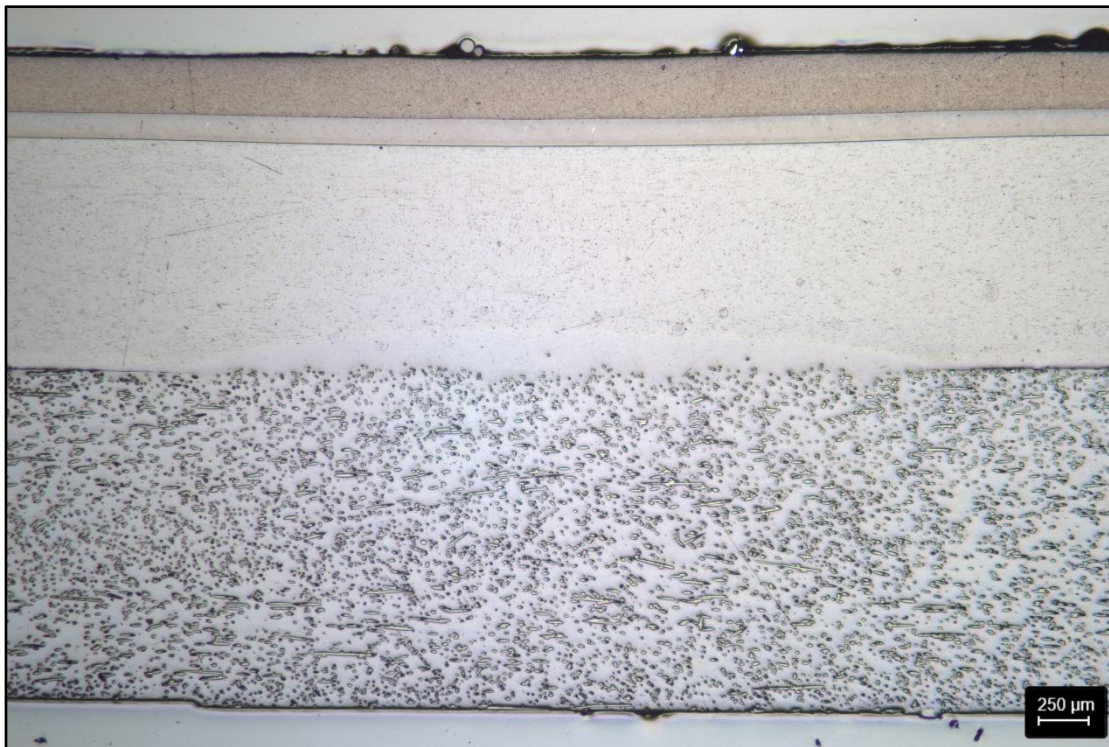


Figure 11: UV 55 after preparation – 25x.

Results

- For this application we recommend the UV 55 mounting material because of the lower gap formation (see figure 9-11)
- During preparation, make sure that the sample edge is not rounded off too much.