

High-yield artifact matrix

Artifact	Likely cause(s)	Best fix (bench-tested)
Compression / wrinkling	Dull blade; block warm; clearance too small; fast stroke	New blade; cool block; ↑ clearance angle; slow, steady stroke; ↓ bath temperature
Chatter / washboarding	Clearance too large; hard/overfixed; vibration; paraffin too hard/cold	↓ clearance angle; soften/soak block; tighten clamps; adjust temp or paraffin MP
Knife / score marks	Nick/debris; hard inclusion	Shift to fresh blade area; clean; recut deeper; decalcify residual grit
Sections lift (stains)	Poor adhesion; incomplete drying; contaminated slides	Use charged slides; oven dry 60 °C for 10–20 min; clean bath; avoid oils
Folds	Bath too hot; overcrowded ribbons; poor layout	Lower bath temp; float fewer sections; gentle stretch; pick up without air
Floaters / contamination	Dirty water bath/forceps/brush; recirculated debris	Change bath often; skim; dedicate clean tools per case
Static / curl (cryo)	Dry air; antiroll misalignment	Humidify chamber; adjust antiroll plate; antistatic brush