

Processor Schedule Templates

Editable planning examples for formalin-fixed, paraffin-embedded tissue. These are starting templates, not universal validated cycles.

Use only after local verification. Schedule selection depends on fixation, tissue type and thickness, cassette load, reagent condition, processor design, temperature, vacuum/pressure, and downstream testing.

Template A - Small biopsies (generally up to about 2 mm)

Station	Reagent	Example time	Temperature / vacuum	Run notes
1	70% ethanol	15 min	Ambient; optional agitation	Begin graded dehydration; avoid unnecessary delay after fixation.
2	90-95% ethanol	15 min	Ambient	Adjust to validated lab sequence.
3	100% ethanol	15 min	Ambient	Use fresh, water-free alcohol.
4	100% ethanol	15 min	Ambient	Second absolute change.
5	100% ethanol	30 min	Ambient	Confirm load does not overwhelm reagent capacity.
6	Clearing agent 1	20 min	Ambient or validated heat	Check compatibility with processor and paraffin.
7	Clearing agent 2	20 min	Ambient or validated heat	Avoid water carryover.
8	Paraffin 1	25 min	Wax MP + 2-4 C; vacuum if validated	Minimize excess heat exposure.
9	Paraffin 2	25 min	Wax MP + 2-4 C; vacuum if validated	Final infiltration.

Template B - Routine specimens (about 2-4 mm)

Station	Reagent	Example time	Temperature / vacuum	Run notes
1	70% ethanol	30 min	Ambient	Suitable after adequate fixation.
2	80% ethanol	30 min	Ambient	Optional depending on validated workflow.
3	95% ethanol	45 min	Ambient	Graded dehydration limits abrupt distortion.
4	100% ethanol	45 min	Ambient	First absolute.
5	100% ethanol	45 min	Ambient	Second absolute.
6	100% ethanol	45 min	Ambient	Third change for routine loads if validated.
7	Clearing agent 1	45 min	Validated temperature	Monitor for cloudiness or water contamination.
8	Clearing agent 2	45 min	Validated temperature	Avoid prolonged clearing of delicate tissue.
9	Paraffin 1	45 min	Wax MP + 2-4 C; vacuum if validated	Do not exceed validated wax temperature.
10	Paraffin 2	45 min	Wax MP + 2-4 C; vacuum if validated	Final infiltration.

Template C - Large, fatty, fibrous, or dense specimens (up to the locally accepted cassette thickness)

Station	Reagent	Example time	Temperature / vacuum	Run notes
1	70% ethanol	45-60 min	Ambient	Ensure tissue is fully fixed and trimmed appropriately.
2	80% ethanol	45-60 min	Ambient	Longer schedules may be needed for dense tissue.
3	95% ethanol	60 min	Ambient	Consider separate runs for very fatty specimens.
4	100% ethanol	60 min	Ambient	Fresh reagent and controlled cassette load are critical.
5	100% ethanol	60 min	Ambient	Second absolute.
6	100% ethanol	60 min	Ambient	Third absolute if locally validated.
7	Clearing agent 1	60 min	Validated heat / vacuum	Avoid over-clearing and brittleness.
8	Clearing agent 2	60 min	Validated heat / vacuum	Confirm solvent is compatible with wax.
9	Paraffin 1	60 min	Wax MP + 2-4 C; vacuum	Extend infiltration rather than raising temperature excessively.
10	Paraffin 2	60 min	Wax MP + 2-4 C; vacuum	Final infiltration.
11	Paraffin 3 (optional)	45-60 min	Wax MP + 2-4 C; vacuum	Use only if validated for dense/fatty loads.

Pre-run verification

Check	Document
Specimen category and maximum thickness	_____
Fixation start/end and fixative	_____
Cassette count / load limit	_____
Reagent rotation status and lot	_____
Paraffin melting point / set temperature	_____
Vacuum / pressure settings	_____
Downstream IHC, ISH, molecular, or special-stain needs	_____
Approval / validation reference	_____

References used for the educational framework: Leica Biosystems, Science of Tissue Processing and An Introduction to Specimen Processing. Exact timings must be validated on the local processor and specimen mix.