

The Leather Flex Test: SOP & Lab Readiness Checklist

Estimated Time: 4-24 Hours

Samples Required: 4-6 pieces

Date: _____

Inspector Name: _____

Part 1: Lab Equipment & Readiness Checklist

- Bally Flexometer: Calibrated and verified for cycle consistency.
- Measuring & Logging Tools: Specimen cutter, digital calipers, and logs.
- Visual Inspection Tools: Camera and 25x microscope.
- Wet Testing Supplies: Distilled water, blotting paper, and vacuum desiccator.

Part 2: Step-by-Step Execution

Step 1: Write the Job-Specific Test Plan

- Draft test plan (Material, thickness, Finish, etc.).
- Perform sensory check (fold by hand).
- Define framework (prototype/production).
- Cite standard (ISO 5402-1 or SATRA TM55).
- Record method revision in PO/Tech Pack.
- Peer review of plan.

Step 2: Prepare and Condition the Specimens

- Pull from production lot.
- Cut 4-6 pieces using die.
- Align parallel/perpendicular to backbone.
- Mark flesh side with details.
- Condition for Dry Test / Vacuum saturate for Wet Test.

Step 3: Mount the Specimen

- Set clamps to twice specimen thickness.

Fold inwards and seat against top stop.

Secure lower clamp without over-tensioning.

Verify alignment and lack of twists.

Step 4: Execute and Monitor

Monitor first 100 cycles.

Pause at checkpoints for inspection.

Maintain strict operator log.

Step 5: Inspect for Damage

Ignore clamp marks; focus on flex zone.

Naked eye + 25x microscope examination.

Document failure modes (cracking, crazing, flaking, etc.).

Peer verification of findings.

Step 6: Disposition and Corrective Action

Assign final status: Approve, Approve with Condition, Retest, Reject.

Follow strict retest rule for one-off failures.

Request CAP for failed batches.

Secure record in Golden Sample file.
