

Drawer Front Quick Release Mechanism Test

1.0 Objective & Quality Standard

The objective of this procedure is to verify that the quick release mechanism on each drawer front engages and disengages smoothly without binding, excessive force, or misalignment. The mechanism must fully seat within 2 seconds of actuation and release with a consistent force between 5 N and 15 N measured at the release tab. No lateral play exceeding 0.5 mm is permitted when the drawer front is locked in position.

2.0 Required Tools & Gauges

- Digital force gauge (0-50 N range, ± 0.1 N accuracy)
- Dial indicator with magnetic base (0.01 mm resolution)
- Stopwatch or timer (0.1 second resolution)
- Feeler gauge set (0.1 mm to 1.0 mm)
- Non-marring pry tool (plastic or nylon)
- Inspection mirror and flashlight
- Clean lint-free cloth

3.0 Safety & Material Handling

- Wear safety glasses to protect against spring-loaded components during release testing.
- Handle drawer fronts with clean, dry hands or nitrile gloves to avoid oil or dirt transfer.
- Place drawer fronts on a padded, non-marring work surface to prevent scratches.
- Keep fingers clear of pinch points when actuating the release mechanism.

4.0 Step-by-Step Procedure

1. Inspect the drawer front and quick release mechanism for any visible damage, debris, or misalignment before testing.
2. Wipe the mechanism and mating surfaces with a clean lint-free cloth to remove any dust or residue.
3. Position the drawer front on a flat, padded surface with the quick release mechanism facing upward and accessible.
4. Manually engage the quick release mechanism by pressing the drawer front firmly onto the mounting bracket until a distinct click is heard or felt.
5. Start the stopwatch immediately after the click and verify that the mechanism fully seats within 2.0 seconds. Record the seating time.
6. Using the dial indicator, measure any lateral play by applying a 5 N lateral force to the drawer front. The play must not exceed 0.5 mm. Record the measurement.
7. Attach the digital force gauge to the release tab and pull perpendicular to the tab at a steady rate. Record the peak force required to disengage the mechanism. Acceptable range: 5 N to 15 N.

8. Repeat the engagement and release cycle three times. Each cycle must meet the seating time, lateral play, and release force criteria.
9. Inspect the mechanism and drawer front for any signs of wear, deformation, or loosening after the three cycles.
10. If any cycle fails, mark the drawer front with a red tag and proceed to Section 5.0 for defect reporting.
11. Document all measurements and observations in the ShopDocs QA module under the Drawer Front Quick Release Test checklist.
12. Pass the drawer front to the next assembly station only if all criteria are met and documented.

5.0 Verification & Defect Reporting

1. If the seating time exceeds 2.0 seconds, lateral play exceeds 0.5 mm, or release force is outside 5-15 N, red-tag the drawer front and isolate it in the designated rework area.
2. Inspect the quick release mechanism for bent tabs, debris, or worn springs. If repairable, adjust or replace the mechanism per manufacturer specifications.
3. If the mechanism is damaged beyond repair, scrap the drawer front and initiate a non-conformance report in ShopDocs.
4. Log all defects with photos and measurements in the ShopDocs QA module for root cause analysis and trend tracking.
5. Notify the production supervisor immediately if three or more consecutive drawer fronts fail the test, indicating a potential process or tooling issue.

Regulatory Disclaimer: This document is a generic quality assurance template. The end-user assumes all liability for validating all dimensional tolerances, testing procedures, and engineering specifications against actual production requirements before deployment.