
Drawer Slide Extension Under Load – Quality Verification Procedure

1.0 Objective & Quality Standard

The objective of this procedure is to verify that each fully assembled drawer with installed slides extends smoothly and fully under a defined load without binding, sticking, or excessive deflection. The quality standard requires that the drawer extends to at least 95% of the slide's rated travel length under a load of 20 kg (44 lbs) applied evenly to the drawer face. Any hesitation, noise, or deviation beyond 5 mm from the expected travel path constitutes a defect.

2.0 Required Tools & Gauges

- Calibrated test weight set (20 kg total, in 5 kg increments)
- Digital caliper (0-300 mm range, 0.01 mm resolution)
- Steel rule (1000 mm, 0.5 mm graduations)
- Feeler gauge set (0.05 mm to 1.00 mm)
- Marking pen (non-permanent, fine tip)
- Inspection checklist (ShopDocs QA module)

3.0 Safety & Material Handling

- Wear approved safety glasses and closed-toe steel-toe boots during load testing.
- Use two hands and a stable stance when placing test weights to prevent dropping or pinching.
- Ensure the cabinet is secured on a level, non-slip surface before applying load.
- Handle drawer fronts with clean, dry gloves to avoid marking or scratching.
- Do not exceed the slide manufacturer's maximum load rating; verify rating on slide label.

4.0 Step-by-Step Procedure

1. Position the assembled cabinet on a level, rigid workbench and confirm it does not rock or shift.
2. Select the drawer to be tested and ensure it is fully closed with slides engaged.
3. Place the 20 kg test weight evenly across the drawer face, centered left-to-right and front-to-back.
4. Slowly pull the drawer handle outward using steady, even force until the slide reaches full extension.
5. Measure the extended length from the cabinet face to the drawer front using the steel rule; record the value.
6. Compare the measured extension to the slide's rated travel length; acceptable range is 95% to 100% of rated travel.
7. While extended, visually inspect the drawer for any lateral deflection or twist; use the steel rule to check alignment with the cabinet opening.
8. Slowly push the drawer closed, noting any binding, sticking, or unusual noise; repeat the open/close cycle three times.
9. After the third cycle, remove the test weight and inspect the slide rails for any visible damage, deformation, or debris.

10. Use the feeler gauge to check the gap between the drawer side and cabinet opening at the front and rear; acceptable gap is $1.0 \text{ mm} \pm 0.3 \text{ mm}$.
11. Record all measurements and observations on the ShopDocs QA checklist for the specific drawer and cabinet unit.
12. If any measurement or observation falls outside the defined tolerances, flag the unit for rework per Section 5.0.

5.0 Verification & Defect Reporting

1. After completing the load test, verify that all recorded measurements meet the tolerances defined in Section 1.0.
2. If the drawer fails to extend to at least 95% of rated travel, or if binding, noise, or deflection exceeds 5 mm, attach a red tag to the drawer face with the defect code 'DSL-01'.
3. For gap deviations outside $1.0 \text{ mm} \pm 0.3 \text{ mm}$, attach a red tag with defect code 'DSL-02' and note the measured gap.
4. Immediately report the defect to the assembly lead and log the issue in the ShopDocs QA module with photos and measurements.
5. Rework steps: adjust slide mounting brackets, realign drawer front, or replace damaged slides; then retest per this procedure.
6. If the same defect recurs on more than 2% of units in a batch, escalate to the Quality Manager for root cause analysis and process adjustment.

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.