
Drawer Box Diagonal Squareness Check

1.0 Objective & Quality Standard

The objective of this procedure is to verify that each assembled drawer box is square within the specified tolerance. A square drawer box ensures proper alignment with cabinet openings, smooth glide operation, and consistent reveal gaps. The acceptable tolerance for diagonal difference is 1.5 mm maximum. Any drawer box exceeding this limit must be rejected and reworked.

2.0 Required Tools & Gauges

- Digital caliper (0-300 mm range, 0.01 mm resolution)
- Steel measuring tape (metric, 3 m length)
- Flat reference surface (granite or precision ground steel plate)
- Marker or pencil for identification
- Inspection log sheet or digital QA form (ShopDocs)

3.0 Safety & Material Handling

- Wear cut-resistant gloves when handling drawer boxes with sharp edges or exposed fasteners.
- Place drawer box on a clean, flat surface to avoid scratching or damaging finished surfaces.
- Use proper lifting technique (bend knees, keep back straight) to avoid strain when handling large or heavy drawer boxes.
- Ensure work area is free of clutter to prevent tripping or accidental damage to the drawer box.

4.0 Step-by-Step Procedure

1. Place the assembled drawer box on a flat reference surface with the front face oriented upward.
2. Visually inspect the drawer box for any obvious defects such as loose joints, cracks, or misaligned components. If defects are found, tag and set aside for rework before proceeding.
3. Using the steel measuring tape, measure the distance from the top left corner to the bottom right corner of the drawer box (diagonal A). Record the measurement to the nearest 0.5 mm.
4. Measure the distance from the top right corner to the bottom left corner of the drawer box (diagonal B). Record the measurement to the nearest 0.5 mm.
5. Calculate the absolute difference between diagonal A and diagonal B. For example, if diagonal A = 612.0 mm and diagonal B = 613.5 mm, the difference is 1.5 mm.
6. Compare the calculated difference to the acceptable tolerance of 1.5 mm maximum. If the difference is 1.5 mm or less, the drawer box passes the squareness check.
7. If the difference exceeds 1.5 mm, mark the drawer box with a red tag indicating 'Out of Square – Rework Required' and place it in the designated rework area.

8. Record the pass/fail result and the measured diagonal values in the inspection log or ShopDocs QA module. Include operator name, date, and any relevant notes.

5.0 Verification & Defect Reporting

1. For any drawer box that fails the squareness check, the operator must immediately notify the production supervisor or QA lead.
2. The defective drawer box must be reworked by disassembling the affected joints, correcting the alignment, and reassembling. After rework, the drawer box must be re-inspected following the same procedure.
3. All out-of-tolerance defects must be logged in the ShopDocs QA module with details including the measured diagonal values, operator ID, and date. This data will be used for root cause analysis and continuous improvement.
4. If a recurring pattern of out-of-square drawer boxes is observed (e.g., more than 5% of a batch), the QA manager must initiate a corrective action to review the assembly process, jig condition, or material quality.

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.