
Hinge Plate Base Height Verification

1.0 Objective & Quality Standard

The objective of this procedure is to verify that the base height of each hinge plate installed on a cabinet door is within the specified tolerance to ensure consistent door alignment, proper reveal, and smooth operation. The acceptable tolerance for hinge plate base height is ± 0.5 mm from the nominal value specified in the engineering drawing (typically 37 mm for standard European hinges). Any deviation outside this range must be flagged and corrected before proceeding with door installation.

2.0 Required Tools & Gauges

- Digital Caliper (0-150 mm range, resolution 0.01 mm)
- Set of metric feeler gauges (0.05 mm to 1.00 mm)
- Hinge plate template or jig (if applicable)
- Torque screwdriver (calibrated, with appropriate bit)
- Non-marring assembly mat or work surface
- Red tag or defect marker for non-conforming parts

3.0 Safety & Material Handling

- Wear clean, rubber-grip gloves to prevent oil transfer and protect door surfaces.
- Place doors on a non-marring assembly mat to avoid scratches.
- Ensure work area is well-lit and free of clutter to prevent misalignment or damage.
- Use proper lifting techniques when handling doors to avoid strain.

4.0 Step-by-Step Procedure

1. Retrieve the cabinet door and place it face-down on the non-marring assembly mat with the hinge plate facing upward.
2. Visually inspect the hinge plate for any obvious damage, deformation, or misalignment. If any defects are found, red-tag the door and proceed to Section 5.0.
3. Zero the digital caliper and verify calibration using a known standard (e.g., 25 mm gauge block). Record the calibration check result on the QA log.
4. Position the caliper jaws perpendicular to the hinge plate base surface. Measure the distance from the door edge to the base of the hinge plate at the center of the plate.
5. Record the measurement to the nearest 0.01 mm. Repeat the measurement at two additional points along the hinge plate (left and right sides) to ensure uniform height.
6. Calculate the average of the three measurements. Compare the average to the nominal value specified in the engineering drawing (e.g., 37 mm).

7. If the average measurement is within ± 0.5 mm of the nominal value, mark the door as accepted and proceed to the next assembly step.
8. If the average measurement is outside the tolerance, use the feeler gauge to check for any debris or obstruction under the hinge plate. If debris is found, clean the area and re-measure.
9. If the measurement remains out of tolerance after cleaning, loosen the hinge plate screws using the torque screwdriver, adjust the plate position, and retighten to the specified torque (typically 0.5 Nm). Re-measure.
10. If adjustment does not bring the measurement within tolerance, red-tag the door with a non-conformance tag and move it to the rework area. Document the deviation in the ShopDocs QA module.
11. For accepted doors, verify that all hinge plate screws are tightened to the specified torque using the torque screwdriver. Perform a final visual check for any gaps or misalignment.
12. Sign off on the QA checklist in ShopDocs, confirming that the hinge plate base height verification is complete and within tolerance.

5.0 Verification & Defect Reporting

1. After completing the measurement and adjustment steps, perform a final verification by measuring the hinge plate base height at the center point again. The measurement must be within ± 0.5 mm of the nominal value.
2. If the final measurement is out of tolerance, immediately red-tag the door with a non-conformance tag indicating the measured value and the nominal requirement.
3. Move the red-tagged door to the designated rework area. Attach a detailed description of the defect (e.g., 'Hinge plate base height 36.2 mm, nominal 37.0 mm').
4. Log the defect in the ShopDocs QA module, including the door ID, operator name, date, and measured values. Select the defect category 'Hinge Plate Height Deviation'.
5. Notify the production supervisor and the quality manager of the defect for root cause analysis. Do not proceed with door installation until the defect is resolved.
6. For reworked doors, repeat the entire verification procedure from Step 4.0 before returning the door to the production line.

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.