
Toe Kick Board Clip Strength Verification

1.0 Objective & Quality Standard

The objective of this procedure is to verify that each toe kick board clip is installed with sufficient retention force to prevent the toe kick board from detaching under normal handling, transport, and installation loads. The acceptable quality standard is that each clip must withstand a minimum axial pull-out force of 50 N (11.2 lbf) without dislodging or permanent deformation of the clip or the cabinet substrate.

This procedure applies to all cabinet bases with toe kick boards assembled in the production line. Any clip that fails the pull-out test must be flagged, reworked, and retested before the unit is released for finishing or shipping.

2.0 Required Tools & Gauges

- Digital pull-force gauge (0-100 N range, ± 1 N accuracy) with a hook attachment
- Calibrated torque screwdriver (for clip screw verification, if applicable)
- Feeler gauge set (0.5 mm to 1.0 mm) for gap inspection
- Marking pen (non-permanent) for identification of tested clips
- Red tag labels for defect identification
- Clip removal tool (flathead screwdriver or pry bar)
- Replacement clips and screws (as needed for rework)

3.0 Safety & Material Handling

- Wear cut-resistant gloves when handling clips and using the pull-force gauge to avoid pinch injuries.
- Ensure the cabinet base is stable and secured on a level work surface before applying force.
- Do not exceed 100 N pull force to avoid damaging the cabinet substrate or the gauge.
- Handle toe kick boards with care to prevent scratches or dents; use non-marring support pads.
- Keep work area clear of loose tools and debris to prevent tripping hazards.

4.0 Step-by-Step Procedure

1. Place the assembled cabinet base on a level, stable work surface with the toe kick area accessible.
2. Visually inspect each toe kick board clip for correct orientation, full seating, and absence of visible damage or deformation.
3. Using a feeler gauge, check that the gap between the toe kick board and the cabinet bottom is uniform and does not exceed 1.0 mm at any point.
4. Attach the hook of the digital pull-force gauge to the center of the clip's retention tab or the edge of the toe kick board at the clip location.
5. Slowly and steadily apply a pull force perpendicular to the cabinet face, increasing to 50 N over approximately 3 seconds.

6. Hold the 50 N force for 2 seconds and observe whether the clip remains securely attached and the toe kick board does not separate.
7. If the clip holds without movement or audible click, mark the clip with a non-permanent pen as passed and release the force.
8. If the clip dislodges, the toe kick board moves, or the clip deforms, immediately release the force and mark the clip as failed with a red tag.
9. Repeat steps 4 through 8 for every clip on the toe kick board (minimum of 3 clips per board, or as specified by the engineering drawing).
10. Record the pull force reading for each clip in the ShopDocs QA module, noting any failures and the exact location.
11. For failed clips, remove the clip using the removal tool, inspect the screw hole and substrate for damage, and install a new clip with a fresh screw.
12. Retest the replaced clip following steps 4 through 8. If it passes, remove the red tag and mark as passed. If it fails again, escalate to the QA supervisor.

5.0 Verification & Defect Reporting

1. After all clips pass the pull-out test, perform a final visual check to ensure the toe kick board is flush and evenly gapped.
2. If any clip fails the test, attach a red tag to the cabinet base with the date, operator ID, and failure description (e.g., clip dislodged at 35 N).
3. Log all out-of-tolerance defects in the ShopDocs QA module, including the clip location, pull force at failure, and corrective action taken.
4. Reworked units must be retested in full (all clips) before being released to the next production stage.
5. If three or more clips fail on the same cabinet base within a shift, notify the production supervisor for root cause analysis and potential process adjustment.
6. Maintain a daily log of clip failure rates and report trends during the weekly quality review meeting.

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.