KCMA

PERFORMANCE AND
CONSTRUCTION STANDARD
FOR KITCHEN AND VANITY CABINETS

KCMA A161.1-2022

Approved American National Standard
ANSI

QUALITY TESTED
KCMA CERTIFIED
CABINET
ANSI/KCMA A161.1

INDEX

KCMA A161.1-2022
Performance and Construction Standard for Kitchen and Vanity Cabinets

This standard has been prepared and is presented by the membership of the Kitchen Cabinet Manufacturers Association.

1.0
Scope and Purpose

1.1 This standard covers factory assembled, kitchen and vanity cabinets.

1.2 This is a performance and construction standard only. It is not intended to specify cabinet design (mechanics or appearance) or materials. This standard is intended to be used to evaluate and measure how well a factory assembled cabinet can be expected to perform when properly installed in accordance with manufacturer's instructions, normally used, and maintained.

1.3 The purpose of this document is to establish a nationally recognized performance standard for kitchen and vanity cabinets. This standard may also be used to evaluate cabinet quality when using new construction methods and/or materials.

2.0
General Construction Requirements

2.1 All wall cabinets shall be fully enclosed with backs, bottoms, sides, and tops. All base cabinets shall be fully enclosed with backs, bottoms, and sides.

Exceptions:
(1) Backs are not required on vanity units (all types), kitchen sink fronts, kitchen sink bases, and cabinets designed to house ovens and refrigerators.

(2) Bottoms are not required on oven cabinets, refrigerator cabinets, kitchen sink fronts, vanity bowl fronts, kitchen drawer units, and vanity drawer units.

(3) Sides are not required on kitchen sink fronts and vanity bowl fronts except when a side is exposed.

2.2 Cabinets containing water heaters or other equipment shall be provided with access panels for servicing or replacement of equipment.

2.3 If cabinets are designed with a toe kick, cabinets designed to rest directly on the floor shall be provided with a toe space of at least 51 mm (2 inches) deep (measured from face of cabinet face frame or side edge of cabinet side) and 76 mm (3 inches) high (measured from bottom edge of the cabinet side).

2.4 All utility cabinets shall meet the same construction requirements as wall cabinets with fully enclosed backs, bottoms, sides, and tops.

2.5 Doors and drawers, in addition to general construction requirements:
(1) Shall be properly aligned with cabinet.

(2) Shall close without excessive binding or looseness.

(3) Shall have means of effective functioning with inclusion of typical industry hardware such as door hinges and drawer slide operating systems.

2.6 Cabinet Construction

2.6.1 All materials shall be of sufficient gauge or thickness to insure rigidity in compliance with this performance standard.

2.6.2 Face frames, when used, shall be of thickness necessary to provide rigid construction to meet physical performance tests.

2.6.3 For frameless cabinets, the sides, tops/bottoms, and backs shall be of thickness necessary to provide rigid construction to meet physical performance tests.

2.6.4 Corner or lineal bracing shall be provided where necessary to ensure rigidity and proper joining of various components to meet the physical performance tests.

2.7 All surfaces of metal cabinets shall be rust resistant (clad or treated) to insure against corrosion. All accessible edges and surfaces shall be free from sharp edges and corners, weld burrs, and metal shearing slivers.

2.8 All solid wood and composite wood materials shall be dried to a moisture content of 10% or less.

2.9 All exposed construction joints shall be fitted in a workmanlike manner as shown in figures 2.9A, 2.9B, 2.9C, 2.9D, and 2.9E

DRAWING 2.9

KEY

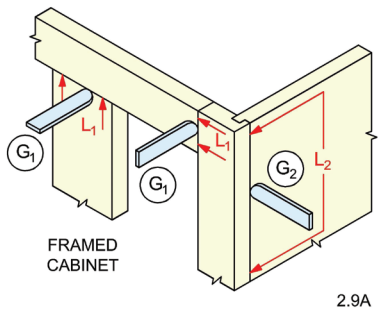
Joint Opening Allowed

G1	0.5 mm (0.02”)
G2	0.8 mm (0.03”)
G3	1.5 mm (0.06”)

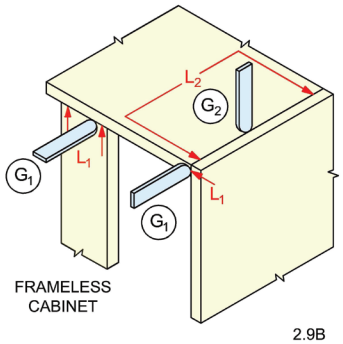
Joint length Opening Allowed if Joint Opening Exceeds G Above

L1	30% of Total Length
L2	203 mm (8”)

Exterior Joints



2.9A



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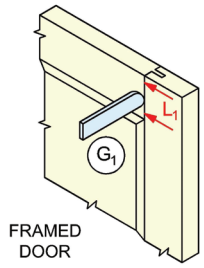

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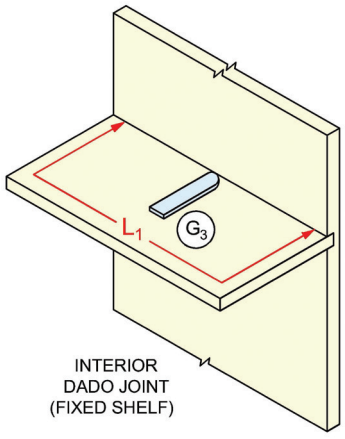

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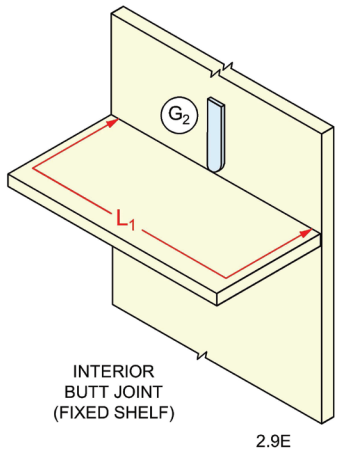


2.9E

3.0

General Test Requirements

3.1 All tests shall be made on cabinets installed according to manufacturer's instructions except where otherwise specified within this standard.

3.2 All tests shall be run at room temperature of 20°C to 27°C (68°F to 80°F) and at a relative humidity of 35% to 70% unless otherwise specified.

3.3 Unless otherwise stated, the following tolerances are applicable:

- Forces: ± 5% of the nominal force
- Velocities: ± 5% of the nominal velocity
- Masses: ± 1% of the nominal mass
- Dimensions: ± 3.175 mm (0.125 in) of the nominal dimension;
- Angles: ± 2° of the nominal angle
- Volume: ± 10% of the nominal volume

3.4 Observation Procedures: The following procedures shall be used to determine compliance when examining samples tested in Sections 8, 9.2.3, 9.3.3, 9.4.3, 9.5.3, 9.6.3, and 9.7.3.

- Examine the test specimen by placing it in a vertical position.
- Lighting shall be from an overhead light source of diffused light having an intensity of 1075 to 2155 lux (100 to 200 foot-candles) on the surface.
- View at an eye-to-specimen distance of 772 to 914.4 cm (30 to 36 inches) and at an angle of 40 to 50 degrees.
- Direct sunlight or other angle light sources, which will accentuate or minimize the effect, shall be avoided.

3.5 Installation Instructions: Manufacturer shall have available installation instructions.

4.0

Hardware Finishing Requirements

Exposed cabinet hardware shall comply with the finishing standards of the current version of ANSI/BHMA A156.9 (American National Standards Institute/ Builders Hardware Manufacturers Association).

5.0

Structural Tests for Cabinets

Structural tests are conducted to assure the structural integrity of the cabinet and its installation. Each of the following tests is designed to measure the ability of the cabinet to withstand service loadings and remain functional.

5.1 Static Loading on Shelves and Bottoms of Cabinets

5.1.1 Purpose: To test ability of shelves and bottoms to withstand loading without excessive deflection or structural damage.

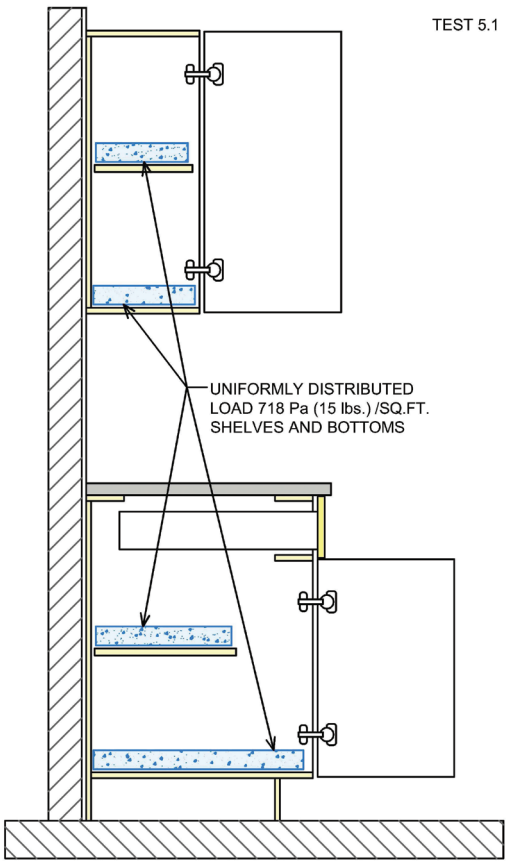
5.1.2 Test Procedure:
A. Mount cabinets according to manufacturer's instructions.

B. Place a 3 lb. sandbag, approximately centered on the shelves, to allow for settlement of the shelves and shelf mounting devices.

C. Apply suitable deflection measuring instrumentation. Instrumentation shall measure any shelf or cabinet bottom deflection.

D. Load all shelves and cabinet bottoms uniformly at 718 Pa (15 lb./ft²). Arrange loads to avoid bridging effect, see figure 5.1.

E. Maintain loading for seven days. Examine loaded cabinets at end of test period.



5.1.3 Required Performance:
1. There shall be no visible sign of joint separation or failure in any part of the cabinets or mounting system.

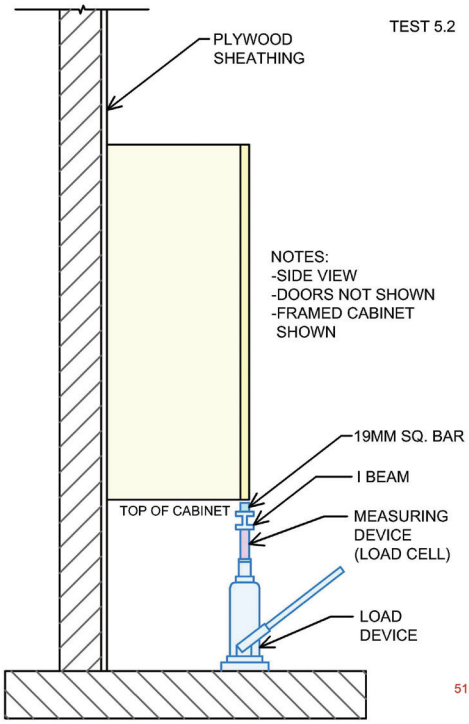
2. The loaded shelves and bottoms shall not deflect more than 1.6 mm (0.0625 inch) per 305 mm (lineal foot) between supports. Maximum deflection of the loaded shelves or bottoms shall be 6.4 mm (0.25 inch) between any two supports.

5.2 Static Loading for Mounted Wall Cabinet and Wall Hung Base Cabinets

5.2.1 Purpose: To assure that wall cabinets will not have excessive structural damage and remain fastened to the wall with extra loading beyond shelf and bottom loading. This test applies to mounted wall cabinets and wall mounted base cabinets 24 inches in height or greater.

5.2.2 Test Procedures:
A. Mount wall cabinet according to manufacturer's instructions. Invert the cabinet so that the top of the cabinet is in contact with the loading device.

B. Place loading device on the center of the front of the cabinet as shown in figure 5.2. The I-beam used for applying the load should be at least as wide as the width of the cabinet. Zero out the weight of the I-beam and bar. Apply the load slowly, taking 4 minutes to reach 272 kg (600 pounds), 150 pounds/minute for cabinets wider than 36 inches.



5.2.3 Required Performance:
Wall cabinets and wall hung base cabinets up to 36 inches in width, shall accept the net loading of 272 kg (600 pounds) without any visible sign of failure in the cabinet or the mounting system. Wall hung base cabinets, between 36 inches and 60 inches in width, shall accept the net loading of 363 kg (800 pounds) without any visible sign of failure in the cabinet or the mounting system. Wall hung base cabinets greater than 60 inches in width shall accept the net loading of 9 kg/ inch of width (20 pounds/inch of width) without any visible sign of failure in the cabinet or the mounting system.

5.3 Base Front Joint Loading

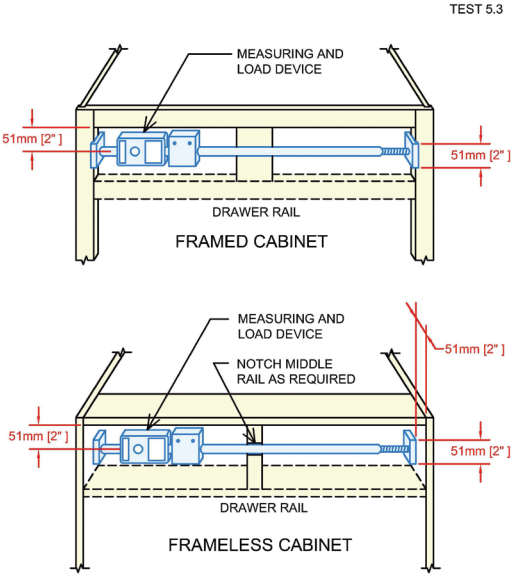
5.3.1 Purpose: To test test the strength of base-front joints to withstand potential stresses that may be applied when joining modular cabinets in the kitchen, and to insure reliable front joints that will not open after the cabinet is in service.

5.3.2 Test Procedure:
A. If any drawer hardware would interfere with the test, remove it before testing.

B. (1) Place center of loading device 51 mm (2 inches) below bottom of top rail or cabinet top, see figure 5.3 Framed cabinet.

(2) Frameless Cabinet Construction: Place center of loading device 51 mm (2 inches) below bottom of top rail or cabinet top and 51 mm (2 inches) inside from front edge, see figure 5.3 Frameless Cabinet.

C. Apply load slowly, taking 4 minutes to reach 113.4 kg (250 pounds) for cabinets with drawer rail; or 91 kg (200 pounds) for cabinets without drawer rail.



5.3.3 Required Performance:
There shall be no visible sign of joint failure on exposed face of the cabinet when full test load is reached. Joint failure is defined as an increase in joint opening as a result of the test.

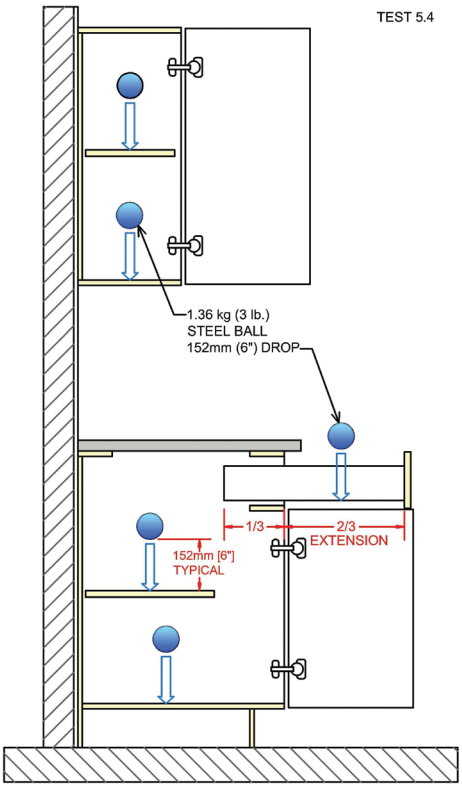
5.4 Impact on Shelves, Cabinet Bottoms, and Drawer Bottoms

5.4.1 Purpose: To test ability of shelves, bottoms, and drawer bottoms to withstand the dropping of cans and other items on their surfaces.

5.4.2 Test Procedure:
A. Mount cabinets according to manufacturer's instructions.

B. Drop 1.36 kg (3 pound) steel ball from 152 mm (6 inches) above shelf and bottom surfaces. Center each drop between supports, see figure 5.4.

C. Open drawer two-thirds of its depth. Center 1.36 kg (3 pound) steel ball over exposed portion of drawer bottom surface and drop from 152 mm (6 inches) above surface, see figure 5.4.



5.4.3 Required Performance:
(1) The shelves and bottoms shall not be damaged (except for superficial indentation where ball struck) and shall retain their original positions.

(2) The drawer shall not be damaged (except for superficial indentation where ball struck) and shall operate as before the test.

(3) There shall be no visible sign of joint separation or failure in any part of the cabinet or mounting system.

5.5 Impact on Base Cabinet Front and Door

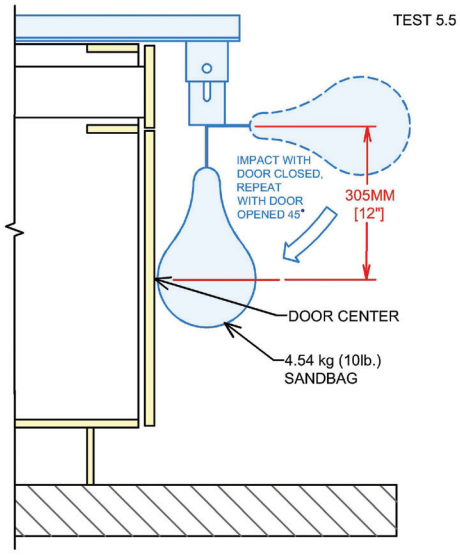
5.5.1 Purpose: To test ability of base cabinet, cabinet door, and connection means to withstand impacts such as children may cause in falling against or hitting the units.

5.5.2 Test Procedure:
A. Mount base cabinet according to manufacturer's instructions.

B. Using 4.54 kg (10 pound) sandbag and 305 mm (12 inch) drop, apply impact to center of fully closed cabinet door as shown in figure 5.5.

C. Repeat test with door opened to 45° angle.

D. Tighten hinge screws, if necessary, before inspection.



5.5.3 Required Performance:
(1) After impact, there shall be no visible sign of damage to the cabinet door, hardware, or hardware connections. Door shall operate as before the test.

(2) There shall be no visible sign of joint separation or failure of any part of the cabinet or mounting system.

6.0 Door Operation Tests

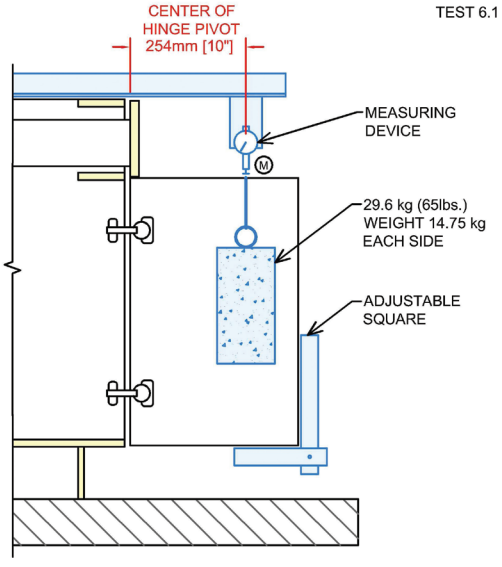
6.1 Door Racking and Hinge Loading

6.1.1 Purpose: To test the ability of the cabinet, door, hinges, and attachment means to withstand abnormal loading.

6.1.2 Test Procedure:
A. Mount base cabinet according to manufacturer's instructions. Do not use the door used in the 5.5 test. Tighten screws if necessary. With door opened to the 90° position, record shape of door with adjustable square and set measuring device at M (see drawing) before application of weight, see figure 6.1.

B. With door at 90° open position, slowly apply 29.5 kg (65 pounds) of weight on door (14.75 kg or 32.5 pounds on each side), 254 mm (10 inches) from center of hinges.

C. Slowly operate the door through 10 cycles from 90° (+0°/ -5°) open to 20° open and returning to the 90° open position. Door must remain weighted for 10 minutes. At end of test period, remove weight from door, close and open unweighted door to 90°, wait 10 minutes and remeasure at distance M and shape of door with adjustable square.



6.1.3 Required Performance:
(1) Door shall retain its original shape as measured with adjustable square and shall show no visible sign of damage or loss in functionality. The door-holding or closure device shall be adequate to hold the door in the closed position.

(2) The amount of set at point M shall not exceed 1.65 mm (0.065 inch).

(3) Hinges and cabinet shall show no visible sign of damage or loss in functionality.

(4) Hardware attachment should not become loose (cabinet to hinge and hinge to door connections).

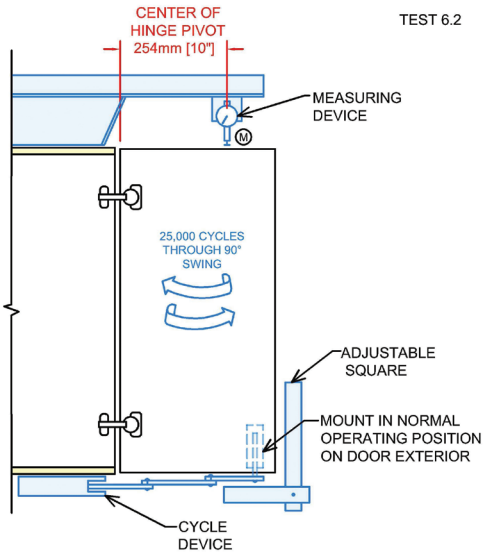
6.2 Door, Door-Holding and Hinge Operation

6.2.1 Purpose: To test the ability of door, door-holding or closure device, hinge, and attachment means to operate during normal usage.

6.2.2 Test Procedure:
A. Mount wall cabinet according to manufacturer's instructions. The door-holding or closure device (spring catch, magnetic catch, self-closing hinges, or other) shall be part of this test.

B. Before testing, record the shape of the door with adjustable square or other device and record the door elevation with the door open 90° (+0°/-5°) at point M, see figure 6.2.

C. Attach cycling mechanism to door at normal operating position so that no additional loads are placed on hinges. One cycle shall consist of operation through 90° (+0°-5°) swing open and close with full engagement and disengagement of holding device. Operate door through 25,000 cycles at a speed of 20 ± 2 cycles per minute.



6.2.3 Required Performance:
(1) After 25,000 cycles, the door shall be operable with no loss in functionality and the door-holding or closure device shall be adequate to hold door in closed position.

(2) The door shape shall be the same as before the test, as recorded in 6.2.2 B above.

(3) The measurement at point M (sag) shall not exceed 1.6 mm (0.065 inch).

(4) Hinges shall show no visible sign of damage or loss in functionality.

(5) Hardware attachment should not become loose (cabinet to hinge and hinge to door connections).

7.0 Drawer Operation Tests

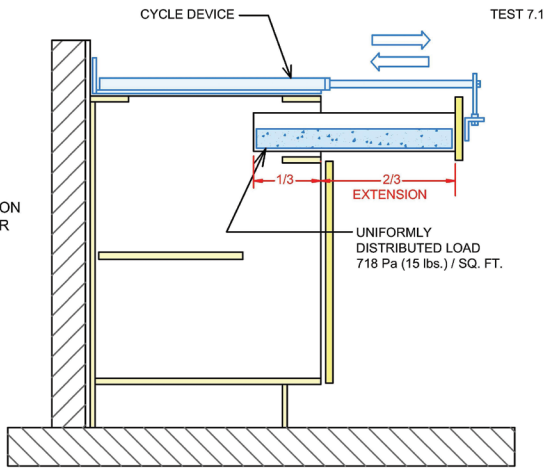
7.1 Drawer Operation

7.1.1 Purpose: To test ability of the drawer box and drawer hardware to operate with loading during normal usage.

7.1.2 Test Procedure:
A. Mount base cabinet according to manufacturer's instructions.

B. Tighten all screws. Load drawer uniformly at 718 Pa (15 lb./ft²) as shown in figure 7.1.

C. Operate drawer through 25,000 cycles. One cycle shall consist of opening drawer two-thirds of its extension length and returning it to closed position. Attach cycling mechanism so that no additional loads are placed on drawer. Operate at a speed of 20 Cycles per minute (± 2 cpm).



7.1.3 Required Performance:
(1) After the completion of the 25,000 cycles, and while still loaded, drawer shall remain operable with no loss of functionality at completion of test.

(2) There shall be no failure in any part of the drawer assembly or operating system.

(3) Drawer bottom shall not have deflected to a position that interferes with drawer operation.

7.2 Drawer-Closing Impact

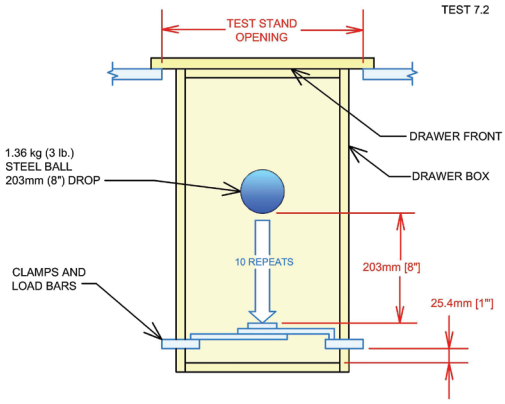
7.2.1 Purpose: To test ability of the drawer-front assembly to withstand the drawer-closing impact normally expected in household usage.

7.2.2 Test Procedures:
A. Mount drawer in test stand as shown in figure 7.2.

B. Attach clamps to drawer sides 25 mm (1 inch) above drawer back.

C. Adjust loading bars to the full width of the inside of the drawer. Lay bars on top of clamps. Lengths will vary for adjustment to full width of inside drawer box.

D. Drop 1.36 kg (3 pound) steel ball 203 mm (8 inches) onto the center of the loading bars. Repeat for a total of 10 drops.



7.2.3 Required Performance: There shall be no looseness or attachment failure in any part of the drawer front assembly.

8.0
Finish Specifications

8.1 Appearance.

8.1.1 All exterior exposed surfaces and edges except the edges of sides and the edges of back panels shall be free of saw marks and other imperfections and shall be filled and sanded, edge-banded or otherwise finished. Improper application of the various finishing coats on exterior of cabinet, e.g., runs, orange peel, fatty edges, blushing, etc. shall not be acceptable. Finish shall be clean and free of scratches and residue. Touch-up colors and/or burn-in repairs shall be matched with the surrounding areas of the finished surfaces (including filled nail and staple holes). The finish shall be free of any printing that may be caused by packing material.

Exceptions:
(1) Sides do not have to be finished on individual units, but exposed sides as installed must be factory finished or covered with factory finished panels in the field.

(2) Toe space/kick do not have to be finished but must be covered or finished in the field..

(3) Undersides of wall cabinet bottoms are interior exposed surfaces and shall comply with the provisions of Section 8.1.3.

8.1.2 All exterior exposed parts of cabinets (except toe space/kick and parts normally covered after installation) shall have nails and staples set and holes filled.

8.1.3 All interior exposed surfaces shall be free of saw marks and poor workmanship and shall be covered with a decorative film/paper material or have a minimum of one coat of clear or pigmented finish.

9.0
Finish Tests

9.1 General. These tests create, in accelerated form, the cumulative effects of years of normal kitchen conditions on factory finished cabinets. Except where otherwise specified, a cabinet door shall be used for evaluation in the finishing tests. The door to be used in any given test shall be representative of a normal production run. All tests shall be run on new surfaces after cabinet finish has aged a minimum of 10 days.

9.2 Shrinkage and Heat Resistance

9.2.1 Purpose: To test ability of the finish to withstand high heat for long periods, such as inside truck, boxcar or other transport or storage facility; or in service under normal kitchen conditions.

9.2.2 Test Procedure:
A. Use door not used in other section 9 test. Stabilize door at room temperature and humidity for 24 hours.

B. Place door in hotbox, 49°C ± 3°C (120°F ± 5°F) and 70% ± 5% relative humidity for 24 hours. Remove and allow door to stabilize at original room temperature and humidity conditions.

9.2.3 Required Performance: By visual examination, the door finish shall show no discoloration, evidence of blistering, or checks when examined under the procedures of Section 3.4. In event of failure during initial examination following testing, the tested parts shall be permitted to stand for 14 days and then shall be reexamined for the same performance requirements.

9.3 Hot and Cold Check Resistance

9.3.1 Purpose: To test ability of the finish to withstand hot and cold cycles for prolonged periods.

9.3.2 Test Procedure:
A. Use cabinet door not used in other section 9 test. Stabilize at room temperature and humidity.

B. Cycle as follows: Place door in hotbox, 49° C ± 3°C (120°F ± 5°F) and 70% ± 5% humidity for 1 hour. Remove for 0.5 hour and allow to reach original room temperature and humidity conditions. Place in cold box, -21°C ± 3°C (-5°F ± 5°F) for 1 hour. Remove and allow door to reach original room temperature and humidity conditions.

C. Repeat for total of 5 cycles.

9.3.3 Required Performance: The finish shall show no discoloration, evidence of blistering, or checks when examined under the procedures of Section 3.4. In the event of failure during initial examination, the tested parts shall be permitted to stand for 14 days and then shall be reexamined for the same performance requirements.

9.4 Chemical Resistance

9.4.1 Purpose: To test ability of finish to withstand substances typically found in the kitchen and bath.

9.4.2 Test Procedure:
A. This test shall be performed on these exterior exposed surfaces: door, face frame, drawer front and side.

B. With cabinet in normal vertical position, place 1cc +/- 0.5cc of each of the following test materials on each of the four surfaces to be tested: **lemon, orange and grape juices, tomato ketchup, coffee** (prepared for drinking at 46°C (115°F ±5°F), with 1 teaspoon of instant coffee mixed in 1 cup of water), **vinegar, olive oil, 100-proof alcohol**, and the **detergent solution** (see Glossary 10.4) for observation at 24 hours. **Mustard** shall be applied and then observed at 1 hour.

C. Permit the materials to stand for the stated times, then sponge wash the surfaces with clear water, dry with a clean cloth, and perform observation.

9.4.3 Required Performance: There shall be no discoloration, stain, or whitening that will not disperse with ordinary polishing when examined under the procedures of Section 3.4. In event of failure during initial examination following testing, the tested parts shall be permitted to stand for 14 days and then shall be reexamined for the same performance requirements.

9.5 Detergent and Water Resistance

9.5.1 Purpose: Too test the door edge for proper application of the finish or edge treatment.

9.5.2 Test Procedure:
A. Use cabinet door not used in another section 9 test. Stabilize at room temperature and humidity.

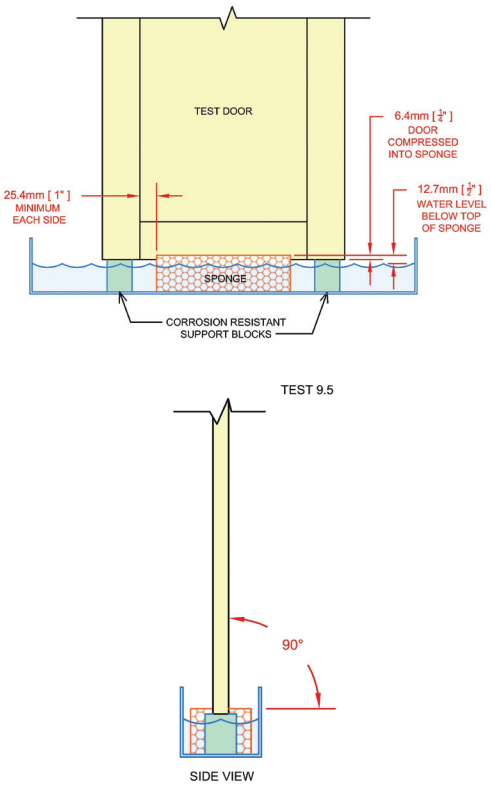
B. See figure 9.5 for suggested test equipment. Use #8 cellulose sponge or equivalent. Use full length of sponge except: For frame door, cut sponge length to 2 inches shorter than the shoulder length of the door rail. The edge of the sponge shall not be within 1 inch of the rail joint.

C. Detergent solution shall be 0.5% by weight of an unconcentrated liquid dishwashing detergent (see Glossary 10.4) and water.

D. Level trough and fill with detergent solution to 0.5 inch below top level of sponge. Place test door on sponge in a vertical position.

E. Doors with no material splices or seams contacting the sponge (ex. solid wood stained or painted doors) shall remain on sponge for a duration of 24 hours.

F. Doors with material splices or seams contacting the sponge (ex. edgebanded, rigid thermofoil, etc.) shall remain on sponge for a duration of 4 hours.



9.5.3 Required Performance:
(1) There shall be no delamination or swelling.

(2). The finish shall show no discoloration and no evidence of blistering, checking, or whitening, when examined under the procedures of Section 3.4. In event of failure during initial examination following testing, the tested parts shall be permitted to stand for 14 days and then shall be reexamined for the same performance requirements.

9.6 Metal Cabinet Rust Resistance

9.6.1 Purpose: To test metal cabinets for rust resistance. (This test to be completed for metal cabinets only.)

9.6.2 Test Procedure:
A. Test shall be made on finished end or section thereof approximately 127 mm x 229 mm (5 inches x 9 inches), taken from regular production.

B. Scratch back of panel diagonally from corner to corner with razor blade to bare metal.

C. Expose for 288 hours (12 days) at 100% relative humidity and 37°C to 39°C (98°F to 102°F). Inspect every 24 hours for the first 72 hours.

9.6.3 Required Performance:
(1) At end of test period there shall be no blisters on the test unit when examined under the procedures of Section 3.4.

(2) Rust creepage from edges of scratches shall not exceed 1.6 mm (0.0625 inch) when examined under the procedures of Section 3.4.

9.7 Water Holdout of Interior Surfaces

9.7.1 Purpose: To test the durability of internal shelves against residual water and heat damage.

9.7.2 Test Procedure:
A. Any shelf may be used for the test.

B. The shelf will be in a horizontal position.

C. A ceramic coffee cup[1] will be used.

D. Fill a flat bottomed vessel with 0.5 inch of water.

E. Heat the water to boiling, and then turn the heat off. Wait 5 seconds before starting the test.

F. Turn the coffee cup upside down and dip the cup in the hot water so the top of the cup touches the bottom of the vessel with the 0.5 inch of hot water (top 0.5 inch of the cup is immersed in the hot water).

G. Remove the cup from the water after 2 (±0.5) seconds, wait 5 (± 1) seconds, and place the cup upside down on the shelf.

H. After 24-hours carefully remove the cup and check the shelf for damage.

9.7.3 Required Performance:
(1) There shall be no delamintion or swelling.

(2) The finish shall show no discoloration and no evidence of blistering, checking, or whitening, when examined under the procedures of Section 3.4. In the event of failure during initial examination following testing, the tested parts shall be permitted to stand for 14-days and then shall be reexamined for the same performance requirements.

[1]Royal Norfolk Classic White Round Stoneware Mug, 14 oz., Dollar Tree SKU#: 18239 or equivalent.

10.0 Glossary

10.1 Cabinet Terms

Back: Rear vertical panel of a cabinet.

Base Cabinet: A cabinet installed on or near floor. Typical depth, 24 inches. Typical height to top of countertop, 36 inches.

Bottom: Lowest horizontal component of a cabinet interior.

Bracing: Additional member used for reinforcing and/or joining various cabinet parts.

Cabinet Mounting System: The method of attaching cabinets to wall or ceiling.

Door: A movable frame or barrier, typically turning on hinges or sliding, by which the cabinet entrance is opened or closed.

Door-Holding or Closure Device: Integrated mechanism within the design of the door hinge used to assist in closing the door and holding the door in a closed position.

Drawer: A five-sided, box-shaped container fitting into a cabinet so that it can be drawn out horizontally. Often referred to as drawer box.

Drawer Base Cabinet: A base cabinet with all-drawer storage space.

Drawer Front: Facing or decorative panel attached to the front of the drawer. Often referred to as drawer head or "dummy" front. A drawer front attached to the drawer box (typically with screws) creates a drawer assembly.

Drawer Operating System: Mechanical hardware installed in cabinet allowing drawer to open and close. Often referred to as drawer slides, glides or guides.

Excessive Binding: Interruption of fluid movement of drawer or door.

Face Frame: Components attached to the front of a cabinet body which overlay the edges of the cabinet body and provide an attachment point for doors and external hardware.

Framed Cabinet: A cabinet with a face frame formed using rails and stiles that is attached to the front of the cabinet box. Doors, if provided, are attached to the face frame.

Frameless Cabinet: A cabinet that does not have a face frame. Doors, if provided, are attached directly to the cabinet box.

Hinges: Device used to connect door to cabinet so door can be opened and closed.

Modular Cabinet: A cabinet designed to be joined with other cabinets.

Oven Cabinet: A cabinet, installed on or near floor, designed to accommodate built-in oven(s). Usual depth, 24 inches. Usual height, 84 inches or taller.

Mullion: A vertical member between stiles.

Rail: A horizontal component of a door or face frame.

Refrigerator Cabinet: A cabinet, installed on or near floor, designed to accommodate a refrigerator. Typical depth, 24 inches. Typical height, 84 inches or taller.

Shelf: A horizontal storage surface in a cabinet often designed to be adjustable when suspended on supports.

Side: A vertical surface on the end of a cabinet. Often referred to as an end panel, return, or gable.

Sink Base Cabinet: A base cabinet designed to accommodate a sink.

Sink Front: A cabinet front, with toe rail, for use in front of sink area.

Stile: Vertical outside member of door or face frame.

Toe Space: A recess under face frame or front edge of a base cabinet. Often referred to as toe kick, toe board or toe rail area.

Top: Horizontal panel used to enclose the top of a cabinet. The uppermost component of a cabinet interior.

Utility Cabinet: Various cabinets, installed on or near floor, designed to accommodate appliances and/or accessories. Typical depth, 12 inches or 24 inches. Typical height, 84 inches or taller.

Vanity Base: A base-type cabinet used in bathroom.

Vanity Sink Base: A vanity cabinet for use with a bathroom sink bowl.

Vanity Sink Front: A vanity front for use with a bathroom sink bowl.

Vanity Drawer Base: A vanity base with all-drawer storage.

Wall Cabinet: A cabinet designed to be mounted on the wall above base cabinet. Typical depth, 12 inches. Typical height, 12 to 42 inches.

Wall Hung Base/Vanity Cabinet: Base or vanity cabinet designed to be installed on the wall without any contact or support from the floor. Unit provides visual appearance of being suspended or floating. Often referred to as wall mounted base/vanity or floating base/vanity. Typical depth, 21 inches.

10.2 Finishing Terms

Blistering: The formation of bubbles or pimples on the surface of the finished work.

Blushing: The formation of a white or grayish cloud-like haze in the film during the drying process.

Burning In: A process of repairing scratches and damaged spots in a finish.

Checks: A pattern of small cracks in the finish. Also known as cold checking.

Cold Checking: Small cracks that appear in the dried film after it is repeatedly subjected to sudden and appreciable reductions in temperature.

Discoloration: Alteration of original color.

Fatty Edges: The thick edge, sometimes found on heavily coated work that results in a rounded, thicker film along the edges of the work.

Orange Peel: A finish defect. A pebbled surface like that of an orange skin.

Printing: The impression left in the finished surface after pressure has been removed.

Residue: Dirt or dust in the finish.

Runs: Defects in the finish caused by an excessive amount of material being applied, so that a portion of the material flows down in an irregular or curtained effect.

Scratches: Abrasions in the finish surface produced after finish is cured.

Touch-Up: A process of repairing scratches or damaged spots in a finish.

Whitening: A condition brought about in the dried finish by absorption of moisture.

10.3 Metric Conversion Terms

Dimensions
1 inch (in) = 25.4 millimeters (mm)
1 meter (m) = 39.370 in

Mass
1 gram (g) = 0.0022046 pound (lb)
1 lb = 453.5924 g

Force
1 newton (N) = 101.9716 g
1 N = 0.2248 lb

Force/area
1 pascal (Pa) = 1 N/m2
1 N/m2 = 0.02088 pounds per square foot (psf)

10.4 Miscellaneous Terms

Composition Board: Any processed wood product, such as particleboard, medium density fiberboard, hardboard, or flakeboard.

Countertop: The working surface on top of a base cabinet(s) that may contain a backsplash.

Deflection: The bending of a part due to applied loading.

Delamination: The separation of the layers of a laminated material.

Detergent Solution: A liquid solution consisting of water plus one-half percent (by weight) of an un-concentrated liquid dishwashing detergent intended for hand washing

Exposed Cabinet Exterior: Any part of the outside of the cabinet that can be seen in normal usage after installation.

Exposed Cabinet Interior: Any part of the inside of the cabinet that can be seen in normal usage after installation, including all storage surfaces.

Exposed Hardware: Any hardware that can be seen in normal usage after installation.

Factory-Assembled Cabinet: Factory manufactured, and factory finished cabinet that is assembled prior to shipping. (Doors and/or drawer fronts may be factory finished and shipped separately from cabinet.)

Factory-Finished: Finish applied to cabinet or cabinet components prior to shipping.

Factory-Manufactured: Cabinet or cabinet component(s) machined, assembled, or sub assembled in a factory prior to shipping.

Moisture Content: The percentage ascertained by subtracting the oven dried weight from the original weight of the part, dividing by the oven dried weight, and multiplying by 100. Use of electrical moisture meter is permitted. The weight of water in wood expressed as a percentage of the moisture free wood's weight.

Saw Marks: Ridges left by a saw.

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KITCHEN CABINET MANUFACTURERS ASSOCIATION

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