

Australian/New Zealand Standard®

Domestic kitchen assemblies—Methods of test

Method 13: Determination of wear and fatigue of drawers, sliding shelves and runners

1 SCOPE This Standard sets out the procedure for determining the ability of a drawer or sliding shelf assembly to withstand wear and fatigue.

2 PRINCIPLE The storage parts of the unit to be tested are fully loaded with weights. The drawer or sliding shelf assembly is loaded and then cycled open and shut for 80 000 cycles.

3 APPARATUS The following apparatus is required:

- (a) *Weights*—to provide a load that will not reinforce the unit or redistribute the load, e.g. metal bars or lead shot in bags.

NOTE: If metal bars are used the front row shall be aligned with the front edge of the surface. If lead shot in bags is used, the bags should be divided into small compartments to prevent the contents moving during testing.

- (b) *Mechanism*—capable of gently opening and shutting the drawer at a maximum rate of 6 cycles (open and shut) per minute.

4 PROCEDURE The procedure is as follows:

- (a) Examine and record the condition of the drawer or sliding shelf and runners before the test.
- (b) Load all the storage parts, except the component to be tested, of the unit with weights to the appropriate mass as specified in Table 1.
- (c) Load the drawer or sliding shelf undergoing test with the appropriate mass specified in Table 2.
- (d) Measure and record the vertical position of the front of the drawer or sliding shelf in the fully open and fully closed positions.
- (e) Measure and record the force required to open and close the drawer before the test.
- (f) Open the drawer or sliding shelf from the fully closed position to the point at which one-third of the inside length (depth) of the drawer, or at least 100 mm remains in the carcass (see Figure 1). For drawers or shelves on runners that are equipped with any sort of built-in stop in the open position, open the drawer fully without stressing the stops.
- (g) Close the drawer or sliding shelf fully and firmly, without applying vertical force, at a speed of not greater than 0.25 m/s. When closing the drawer ensure that no downwards force is exerted on the drawer or runners, i.e. having the point of application of the force either at or slightly above the level of the runners.
- (h) Repeat for the 80 000 cycles.

TABLE 1
LOADS APPLIED TO PARTS OTHER
THAN THE PART BEING TESTED

Part	Load	
	kg/m ²	kg/m ³
Wall unit shelf Floor unit shelf Pantry shelf	66	—
Cutlery drawer	—	330
All other drawers Basket	—	250

NOTES:

- 1 The area of shelves is calculated by including any space between the back of the shelf and the inside face of the back panel or, where no back panel is fitted, the rear edge of the end panel of the unit.
- 2 Where there are part-width shelves, the load applicable to the area between the front of the shelf and the inside surface of the door should be transferred to the same area of the full-width horizontal surface immediately below.
- 3 Internal volume is equal to the area of drawer bottom times the maximum height free of obstruction.

TABLE 2
LOADS APPLIED TO PARTS
UNDERGOING TEST

Part	Test load		
	kg/dm ²	kg/dm ³	Cycles
Wall unit shelf Floor unit shelf Pantry shelf	175	—	—
Cutlery drawer	—	400	100 000
All other drawers	—	330	50 000
Basket	—	330	25 000

- (i) Examine and record the condition of the drawer or sliding shelf and runners after the test.
- (j) Measure and record the vertical position of the front of drawer or sliding shelf in the fully open and fully closed positions after the test.
- (k) Measure and record the force required to open and close the drawer after the test.
- (l) Record a pass if, after the test, the force required to move the loaded drawer or sliding shelf did not exceed 70 N and to maintain the movement did not exceed 45 N.