

# Military Standards – MIL C-4150J

WYLE LABORATORIES Inc. in the USA have performed the following tests to the MIL C-4150J STANDARD on the Peli™ Cases listed:

1400	1450	1470	1500	1520
1550	1600	1620	1550	1700

The MIL-C-4150-J Tests the following:

<b>Weight</b>	<b>Reusability</b>	<b>Handling</b>	<b>Vibration</b>
<b>Leak</b>	<b>Impact</b>	<b>Drop</b>	

## Environmental tests:

### WEIGHT

Visually inspect the test specimen. Weigh the test specimen, measure the inside length, width, base and lid depth. Establish the minimum weight required during first article testing in accordance with MIL-C-4150J (*see Weight and Drop Table on page 2*).

### LEAK

Visually inspect the test specimen. Place the test specimen in a submersion tank. Verify the upper most surface is beneath the water surface not less than one inch or more than two inches. Verify the water temperature is not less than 40°F below the temperature at which the specimen is sealed. Allow the test specimen to soak for one hour.

N.B. The leak test is performed before and after every other test.

### REUSABILITY

Visually inspect the test specimen, open and close the test specimen 5 times. No tools or other aids are to be used. Visually inspect the test specimen for degradation. Ease of operation and freedom from interference shall constitute acceptance.

### IMPACT

Visually inspect the test specimen. Place the test specimen in a chamber. Install a thermocouple on the test specimen. Increase the chamber temperature to +60°C (+6/-0) at a rate that would preclude thermal shock. Allow the test specimen to soak at +60°C (+6/-0) until stabile.

After the temperature soak, remove the test specimen from the chamber and load the test specimen with the appropriate test load as specified in the Weight and Drop Table (*see page 2*). Subject the test specimen to one incline impact on each surface.

Perform the same procedure in the chamber, but this time decrease the temperature to -20°C. After the temperature soak, repeat the impact test whilst loaded with the same weights.

## HANDLING

Visually inspect the test specimen. Load the specimen with the appropriate test load as specified in the Weight and Drop Table (*see page 2*). Suspend the case a sufficient distance from the floor to the ground by one handle, or lifting ring, for a minimum of two minutes. Perform a visual inspection for damage, failure or deformation.

## DROP

Visually inspect the test specimen. Perform the same procedure as for the impact test in the temperature chamber (+60°C).

After the temperature soak, remove the test specimen from the chamber, and load the test specimen with the appropriate test load as specified in the Weight and Drop Table (*see below*). Drop the specimen, at the height designated in the Weight and Drop Table (*see below*), in each of the following orientations (8 drops).

- Cornerwise drop on each of two sets of diagonally opposite corners.
- Followed by one flat drop on the bottom.
- One flat drop on the top.
- Flat drops on two adjacent sides.

Repeat the drop tests as above, but first re-soak the case in the temperature chamber at a temperature of -20°C.

## VIBRATION

Visually inspect the test specimen. Load each test specimen with the appropriate test load, as specified in the Weight and Drop Table (*see below*). Place the test specimen on a vibration machine. Each specimen is to be tested on all positions in which the specimen might be shipped. If more than one shipping position is reasonable, interrupt the test at equal periods of time, and change the position. Midway in the period of time that the specimen is tested resting on each surface, the specimen shall be rotated 180 degrees, if the specimen rocks on the platform.

The vibration platform was started at a frequency of 3-Hertz and one inch double amplitude. Steadily increased the frequency until the specimen leaves the platform, i.e. until a shim 1/16 inch thick could be easily slid under the test specimen. Unless failure occurs, the total time for the vibration shall be two hours if the specimen is tested in one position, and three hours if tested in multiple positions.

## Weight and Drop Table for Peli Cases:

CASE MODEL	MINIMUM WEIGHT REQUIRED	DROP WEIGHT	DROP HEIGHT
1400	9 Kg	11 Kg	760 mm
1450	9 Kg	11.5 Kg	760 mm
1470	9 Kg	11 Kg	760 mm
1500	9 Kg	12 Kg	760 mm
1520	13.5 Kg	17.5 Kg	640 mm
1550	22.5 Kg	28 Kg	530 mm
1600	22.5 Kg	28 Kg	530 mm
1620	41 Kg	50.5 Kg	460 mm
1650	32 Kg	41.5 Kg	480 mm
1700	22.5 Kg	29.5 Kg	530 mm

The above information is to be used as a guide only for the testing procedure of the MIL Standard. If you require more detailed information on a specific Peli™ Case, please contact Peli™ Products S.A.