

relevant performance Schedule such as could normally be carried out in 5 to 15 minutes. This time does not include any necessary period of preheating in cases where delayed switching is used. Normally the equipment specification shall contain a clause indicating which tests should be given particular attention during the performance check.

**5. Description of Tests—**(1) Visual Inspection and Performance Test—Visual inspection shall be carried out to ensure that the equipment is of sound construction. This is to be followed by the performance test in accordance with the relevant performance Schedule.

(2) Inspection under Vibration—(a) Normal Range—The equipment complete with its chassis covers and shock absorbers (if supplied) shall in its normal operating position be clamped to a vibration table, which shall be vibrated at all frequencies between 0 and 12½ Hz with a total excursion of 3.2 mm. The whole frequency range shall be explored in not less than 8 minutes, during which period the equipment shall be kept working continuously. A performance check shall be carried out during the above test.

The procedure may be repeated with vibrations in 3 mutually perpendicular directions.

(b) Extended Range—The equipment complete with its chassis covers and shock absorbers (if supplied) shall in its normal operating position be clamped to a vibration table, which shall be vibrated at all frequencies between—

- (i) 0 and 12½ Hz with a total excursion of 3.2 mm;
- (ii) 12½ Hz and 25 Hz with a total excursion of 0.76 mm;
- (iii) 25 Hz and 50 Hz with a total excursion of 0.2 mm.

Each range of frequencies shall be explored in not less than 8 minutes, during which period the equipment shall be kept working continuously. A performance check shall be carried out during the above test.

The procedure may be repeated with vibrations in 3 mutually perpendicular directions.

(3) Bump Test—

(a) The equipment shall be clamped as described in subclause (2) of this clause:

(b) The equipment shall be subjected to not less than 500 bumps at a fixed rate in the range of 1 to 4 bumps per second with a free drop of at least 25 mm. The surface on which the equipment is mounted shall be subjected to a mean peak deceleration of 40g ( $\pm 4g$ ). The test shall be followed by a visual inspection, the equipment not being deemed to have failed if only simple repairs need to be carried out:

(c) A performance check shall follow the foregoing test.

(4) Dry-heat Cycle—

(a) Class B Equipment—

(i) The equipment shall be placed in a chamber which is maintained at a constant temperature of  $+55^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for a period of 2 hours. The equipment shall be kept working continuously. Radiotelegraph transmitters shall be arranged to send morse dots. Double sideband radiotelephone transmitters shall be modulated to a depth of 50 percent, and single sideband radiotelephone transmitters shall be adjusted to produce an output 6dB below rated peak envelope power when set to class of emission A3J and driven by 2 equal level audio frequency tones:

(ii) At the end of the 2 hours, the equipment shall be subjected to a performance check at the controlled temperature:

(b) Class X Equipment—

(i) The equipment shall be placed in a chamber which is maintained at a constant temperature of  $+70^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for a period of 10 hours:

(ii) The chamber shall then be cooled to  $+55^{\circ}\text{C} \pm 1^{\circ}\text{C}$  and

the equipment shall be kept working continuously at that temperature for a period of 2 hours. Radiotelegraph transmitters shall be arranged to send morse dots. Double sideband radiotelephone transmitters shall be modulated to a depth of 50 percent, and single sideband radiotelephone transmitters shall be adjusted to produce an output 6dB below rated peak envelope power when set to class of emission A3J and driven by 2 equal level audio frequency tones:

(iii) At the end of the 2 hours, the equipment shall be subjected to a performance check at a temperature of  $+55^{\circ}\text{C} \pm 1^{\circ}\text{C}$

(c) Class B and Class X Equipment—

At the conclusion of the performance check, the equipment shall be exposed to normal room temperature for at least 3 hours before the damp-heat cycle.

(5) Damp-heat Cycle—(a) The equipment shall be placed in a chamber which, within a period not exceeding 2 hours, shall be heated from room temperature to  $+40^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , and shall be brought to a relative humidity of not less than 95 percent:

(b) The chamber shall be maintained at a temperature of  $+40^{\circ}\text{C} \pm 1^{\circ}\text{C}$  for a minimum period of 12 hours and at a relative humidity of not less than 95 percent:

(c) At the beginning of the last 60 minutes of the above period, fans and any sources of heat provided in the equipment may be switched on:

(d) During the last 30 minutes of the period referred to in paragraph (b) of this subclause, and while the temperature of the chamber is still  $+40^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , at a relative humidity of not less than 95 percent, the equipment shall be subjected to a performance check:

(e) The temperature shall then be allowed to fall below  $+25^{\circ}\text{C}$  in not less than 1 hour, while the equipment is enclosed in the chamber, and shall then be exposed to normal room temperature and humidity for a period of 3 to 6 hours before the low temperature cycle.

(6) Low-temperature Cycle—

(a) Class B Equipment—

(i) The equipment shall be placed in a chamber which is maintained at a temperature of  $-15^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , at normal atmospheric pressure, for a minimum period of 12 hours:

(ii) During the last 30 minutes of that period, the equipment shall be subjected to a Performance check at the controlled temperature:

(b) Class X Equipment—

(i) The equipment shall be placed in a chamber which is maintained at a temperature of  $-25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , at normal atmospheric pressure, for a minimum period of 12 hours:

(ii) During the last 30 minutes of that period, The equipment shall be subjected to a performance check at the controlled temperature.

(7) Rain Test—

(a) The equipment shall be placed in a chamber fitted with 8 shower-heads, the discharge end of which shall consist of a flat non-corrodible plate 1.6 mm thick, having 36 holes each of 1 mm diameter evenly spaced on concentric circles as follows: Sixteen holes on the periphery of a circle of 51 mm diameter; and

Eight holes on the periphery of a circle of 38 mm diameter; and

Eight holes on the periphery of a circle of 25 mm diameter; and;

Four holes on the periphery of a circle of 13 mm diameter

(b) The shower-heads shall be arranged at a distance of 500 to 800 mm from the equipment in such a manner that spray from 4 of the shower-heads is directed downwards at any angle