

4.8 Demand regulators must comply with paragraphs 4.1 through 4.4 after being subjected to the tests specified in subparagraphs (a) and (b) of this paragraph.

(a) The regulator must be vibrated along each mutually perpendicular axis for one hour (three hours total), at a frequency of 5 to 500 cps, and at a double amplitude of 0.036 inches or an acceleration of 2 "g," whichever occurs first. Mask mounted regulators need not be subjected to this vibration test.

(b) The regulator must be subjected to an endurance test of a total of 250,000 breathing cycles. The peak breathing rate must be 30 LPM, STPD, for 200,000 cycles, and 70 LPM, STPD, for 50,000 cycles. The dilution valve must be open during one half of the 200,000 cycles and one half of the 50,000 cycles, and it must be closed during the remaining cycles. During the nonflow portion of the 30 LPM and 70 LPM breathing cycles, a back pressure of 0.5 and 1.0 inches H₂O, respectively, must be applied to the regulator outlet.

4.9 Demand regulators must be free of vibration, flutter, or chatter that will prevent compliance with paragraphs 4.1 through 4.3 when subjected to the following simulated flow conditions:

Cycles	Peak flow per cycle LPM, STPD	Back pressure at 0 LPM, inches H ₂ O	Diluter valve
5,000	100	1.5	Closed
5,000	100	1.5	Open

4.10 Demand regulators, when subject to accelerations up to 3 "g" in any position, must comply with paragraph 4.1(a) except that the specified suction pressures may be exceeded by not more than 0.6 inches H₂O.

5. Maximum Environmental (Cabin) Altitude.

The minimum pressure to which the regulator has been shown to comply under paragraph 4.6(a) or (b) of this standard determines the maximum environmental (cabin) altitude of the regulator, except that the maximum environmental (cabin) altitude must not exceed the value shown in the following table:

CLASS	FEET
Straight or diluter-demand	40,000
Pressure demand	45,000

6. Quality Control.

6.1 Each production regulator must be shown to comply with paragraphs 4.1 through 4.4.

6.2 One regulator selected at random from each lot must be shown to comply with paragraphs 4.1 through 4.10. The lot size may be selected by the

applicant subject to the approval of the Federal Aviation Administration on the basis of evaluation of the quality control system of the applicant (see FAR, § 37.5).

7. Abbreviations and Definitions.

LPM	Liters per minute.
STPD	Standard temperature and pressure, dry (0° C., 760 mm Hg., PH ₂ O=0).
ATPD	Ambient temperature and pressure, dry (70° F.; ambient pressure; PH ₂ O=0).
c.p.s.	Cycles per second.
p.s.i.a.	Pounds per square inch absolute.
g	Acceleration of gravity, 32 feet/second/second.

§ 37.199 Cargo pallets, nets, and containers, TSO-C90a.

[(a) *Applicability*—(1) Minimum performance standards. This Technical Standard Order prescribes the minimum performance standards that aircraft cargo pallets, nets, and containers must meet in order to be identified with the applicable TSO marking. New models of such equipment which are so identified that are manufactured on or after January 22, 1979, must meet the minimum performance standards for cargo pallets, nets, and containers as set forth in National Aerospace Standard, NAS 3610, Revision 6, dated April 30, 1977. National Aerospace Standard, NAS 3610, Revision 6, entitled "CARGO UNIT LOAD DEVICES-SPECIFICATION FOR", is incorporated by reference herein in accordance with 5 U.S.C. 552(a) (1) and § 37.23 and is available as indicated in § 37.23. Additionally, National Aerospace Standard NAS 3610, Revision 6, may be examined at any FAA regional office of the Chief, Engineering and Manufacturing Branch (or in the case of the Western Region, the Chief, Aircraft Engineering Division), and may be obtained from the National Standards Association, Inc., 1321 14th Street, NW., Washington, D.C. 20005, at a cost of twenty-nine dollars and forty cents (\$29.40).]

(2) *Exceptions*. Paragraph 3.5 of NAS 3610 is not essential to compliance with this section since paragraph (b) of this TSO provides the necessary marking requirements.

(b) *Markings*. In lieu of the marking requirements of § 37.7(d), cargo pallets, nets, and containers must be legibly and perma-

nently marked in an area clearly visible after the article is loaded with cargo, with the following information:

(1) Name and address of the manufacturer.

(2) The weight of the article to the nearest pound.

(3) The serial number or date of manufacture or both.

(4) The identification of the article in the code system set out in paragraph 1.2.1 of NAS 3610, Revision 1, approved April 30, 1970.

(5) Any limitations or restrictions.

(6) If the article is not omnidirectional, the words "FORWARD", "AFT", and "SIDE" must be conspicuously and appropriately placed.

[(7) The burning rate determined for the article under paragraph 3.7 of NAS 3610, Revision 6, dated April 30, 1977.]

(8) The applicable TSO number.

(c) *Data requirements.* In addition to the data specified in § 37.5, the manufacturer must furnish to the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Federal Aviation Administration, in the region in which the manufacturer is located (or in the case of the Western Region, the Chief, Aircraft Engineering Division), the following technical data:

(1) One copy of the manufacturer's analysis and/or test results showing compliance with the requirements of this TSO.

(2) One copy of the manufacturer's instructions for installation, operation, servicing, maintenance, and repair of the article.

(3) An assembly drawing of the article showing and describing the actual language of all markings, their location, and size of print.

[(d) *Previously approved equipment.* Cargo pallets, nets, and containers approved prior to January 22, 1979, may continue to be manufactured under the provisions of their original approval.]

§ 37.200 Emergency locator transmitters—TSO-C91.

(a) *Applicability.* This Technical Standard Order prescribes the minimum performance standards that airborne emergency locator transmitters must meet in order to be identified with the applicable TSO marking. Emergency locator transmitters which are to be so identified must meet the requirements prescribed in paragraphs (b) and (c) of this section.

(b) *Basic performance standards.* Basic performance standards are hereby established for the following types of emergency locator transmitters:

(1) *Type ELT(P), (personnel type).* Personnel type emergency locator transmitters must meet the standards prescribed in Radio Technical Commission for Aeronautics Document No. DO-145 titled "Minimum Performance Standards—Personnel Type Emergency Locator Transmitters, ELT(P), Operating on 121.5 and 243.0 Megahertz," dated November 5, 1970.

(2) *Type ELT(AF), (automatic fixed type).* Automatic fixed type emergency locator transmitters must meet the standards for Automatic Fixed (AF) Type equipment set forth in Radio Technical Commission for Aeronautics Document No. DO-147 titled "Minimum Performance Standards—Automatic Fixed, Automatic Portable, and Automatic Deployable Type Emergency Locator Transmitters ELT(AF)(AP)(AD), Operating on 121.5 and 243.0 Megahertz," dated November 5, 1970. Notwithstanding the requirements of paragraphs 2.3.1(a)(1) and 2.3.1(c) of DO-147, a tolerance of $+5$ to -0 milliseconds may be applied to the value "11 milliseconds" prescribed therein.

(3) *Type ELT(AP), (automatic portable type).* Automatic portable type emergency locator transmitters must meet the standards for Automatic Portable (AP) Type equipment prescribed in Radio Technical Commission for Aeronautics Document No. DO-147 titled "Minimum Performance Standards—Automatic Fixed, Automatic