

special marking required in §163.003-25(b).

(d) *Spreaders*. Each pilot ladder with 5 or more steps must have one or more spreaders that meet the following requirements:

(1) Each spreader must be at least 1.8 m (70 in.) long.

(2) The spreaders must be positioned at intervals of not more than 9 steps.

(3) The lowest spreader on a ladder must be on the fifth step from the bottom.

(e) *Fasteners*. Each fastening device securing a part of a pilot ladder must have a means to prevent the device from loosening.

(f) *Workmanship*. A pilot ladder must not have splinters, burrs, sharp edges, corners, projections, or other defects that could injure a person using the ladder.

(g) *Special arrangements for pilot hoists*. Each pilot ladder produced for use with an approved pilot hoist must have at least 8 steps. The top ends of its suspension members need not have an eye splice or thimble or be arranged as required in paragraph (b) of this section if necessary to permit attaching the ladder to fittings of a particular pilot hoist. The spreader required in paragraph (d) of this section may be omitted from an 8 step ladder for a pilot hoist.

[CGD 74-140, 46 FR 63291, Dec. 31, 1981, as amended by CGD 79-032, 49 FR 25456, June 21, 1984]

#### § 163.003-15 Performance.

(a) Each pilot ladder must be capable of being rolled up for storage.

(b) Each ladder when rolled up must be able to unroll freely and hang vertically.

(c) Each suspension member must be arranged so that, when the ladder is in use on a vessel, the suspension member cannot come in contact with the vessel's side.

(d) Each step must be arranged so that it can bear on the side of the vessel when the ladder is in use.

#### § 163.003-17 Strength.

(a) Each pilot ladder must be designed to pass the approval tests in §163.003-21.

(b) [Reserved]

#### § 163.003-21 Approval tests.

(a) *General*. Each approval test must be conducted on a ladder of the longest length for which approval has been requested. If the ladder fails one of the tests, the cause of the failure must be identified and any needed design changes made. After a test failure and any design change, the failed test, and any other previously completed tests affected by the change, must be rerun. Any ladder step that has a residual deflection after testing under this section may not be used thereafter in any ladder represented as Coast Guard approved.

(b) *Visual examination*. Before starting the approval tests, an assembled pilot ladder is examined for evidence of noncompliance with the requirements in §§163.003-11, 163.003-13, and 163.003-15.

(c) The following approval tests must be conducted:

(1) *Step flexibility test*. This test is performed on six different steps, one of which must be a molded step and one of which must be a replacement step if special replacement steps are made by the manufacturer. Each step is placed on a pair of supports located at the points where the step would ordinarily be attached to the suspension members. A static load must be applied uniformly for a period of at least one minute over a contact surface that is at the center of the step and is approximately 100 mm (4 in.) wide. The load must be 150 kg (330 lb.) for each molded step that is used only as one of the four bottom steps in the ladder. The load must be 320 kg (700 lb.) for each other step. The deflection of the step is measured while the step is under load and after the load is removed. The step must not deflect more than 20 mm ( $\frac{3}{4}$  in.) under the load, and there must be no residual deflection after the load is removed.

(2) *Strength test #1*. An assembled ladder is supported so that a static load, if placed on any of its steps, would exert a force on both the step and each suspension member. A static load of 900 kg (2,000 lb.) is then placed on one step for at least one minute. The load must be uniformly distributed over a contact surface that is approximately 100 mm (4 in.) wide. The center of the contact surface must be at the center of the