

diametrically opposite the hot junction of the furnace thermocouple.

(i) *Heating period.* The heating period begins upon insertion of the specimen into the furnace and continues for 20 minutes, or until peak temperatures have passed.

(j) *Test observations.* Temperature measurements at each thermocouple are made at intervals of not more than 10 seconds during the heating period, and note is taken of the occurrence and duration of any flaming. At the end of the heating period, the specimen is removed from the furnace and weighed while still hot.

(k) *Test results.* Material is approved under this subpart if the test results of the sample submitted are within the following limits:

(1) The highest temperature recorded for each specimen during the test by the furnace thermocouple, when averaged with the highest temperatures recorded for the other specimens, is not more than 50 °C. above the stabilized furnace temperature.

(2) The highest temperature recorded for each specimen during the test by the surface thermocouple, when averaged with the highest temperatures recorded for the other specimens, is not more than 50 °C. above the stabilized furnace temperature.

(3) The duration of flaming of each specimen during the test, when averaged with duration of flaming recorded for the other specimens, is not more than 10 seconds.

(4) The average weight loss of the specimens after heating is not more than 50 percent of their average weight after conditioning.

(1) *Fiberglass and other materials that melt at 750 °C. ±10 °C.* If the material submitted for approval is fiberglass or other material that melts at 750° ±10 °C., it is tested as described in paragraphs (b) through (k) of this section, except the average weight loss of the sample is determined as follows:

(1) Five cylindrical specimens in addition to the five cylindrical specimens required in paragraph (b) of this section are prepared as described in paragraph (b) of this section.

(2) Each of the additional specimens is placed on a weighing dish and both the specimen and the weighing dish are

conditioned as described in paragraph (c) of this section.

(3) The weight of each specimen and its weighing dish is determined as described in paragraph (d) of this section.

(4) After a specimen and weighing dish are conditioned and weighed, they are placed in the specimen holder with the specimen supported by weighing dish. No specimen thermocouple or surface thermocouple is attached to the specimen.

(5) The apparatus is prepared as described in paragraph (g) of this section, and after the furnace temperature has stabilized for at least 10 minutes, the specimen and weighing dish are inserted into the furnace. The specimen and weighing dish are then heated for 20 minutes or until peak temperatures have passed. At the end of the heating period, the specimen and weighing dish are removed from the furnace and weighed while still hot.

(6) The average weight loss of the specimens after heating may not be more than 50 percent of their average weight before heating.

§ 164.009-17 Density measurement.

(a) The measurements described in this section are made to determine the density of a sample.

(b) If the sample is a solid material, a specimen that has a length of 305 mm, a width of 305 mm, and thickness equal to that of the sample is prepared. The length and width are measured to the nearest 0.80 mm and the thickness to the nearest 0.25 mm. Allowance is made for any irregularity in the surfaces of the specimen. The average of at least four measurements of each dimension is determined.

(c) If the sample is fibrous insulation, a specimen is prepared from sheets of the sample submitted. The sample is a cube and each dimension is 305 mm ±1.60 mm. The average of at least four measurements of each dimension is determined.

(d) The weight of a specimen is determined with a sensitive balance scale accurate to at least 0.5 percent of the weight of the specimen.

(e) The dimension and weight measurements of a specimen are made after it has been conditioned for at least one week, and for any additional time

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needed for the specimen to reach a constant weight, in an atmosphere that is 22.8 °C. ±2 °C. and 50 percent ±5 percent relative humidity.

§ 164.009-19 Measurement of moisture and volatile matter content.

(a) The measurements described in this section are made to determine the moisture and volatile matter content of a sample.

(b) A specimen cut from the density specimen of a sample is conditioned for at least one week, and for any additional time needed for the specimen to reach a constant weight, in an atmosphere that is 22.8 °C. ±2 °C., and 50 percent ±5 percent relative humidity. The conditioned specimen is then weighed and transferred to a previously weighed wide mouth weighing bottle that has a glass stopper. With the stopper removed, the bottle, stopper, and specimen are heated at 105 °C. ±5 °C. for four hours. After four hours, the stopper is inserted in the bottle and the bottle and sample are cooled and weighed.

(c) The content of moisture and volatile matter is the difference between the two weighings and is reported as a percentage of the weight of the conditioned specimen.

§ 164.009-21 Laboratory report.

The laboratory report of the test and measurements of a material contains the following:

- (a) Name of the designated laboratory.
- (b) Name of manufacturer of the material.
- (c) Date of receipt of the material and dates of the test and measurements.
- (d) Trade name of the material.
- (e) Description of the material.
- (f) Density of the sample.
- (g) Percentage of moisture and volatile matter in the sample.
- (h) Description of the specimens tested if the specimens are prepared from composite material.
- (i) If the test was done on individual components of the sample, a description of the components.
- (j) Test results including the following:
 - (1) Complete time and temperature data for each thermocouple.

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(2) Each observation of flame emission and the time and duration of each emission.

§ 164.009-23 Factory inspection.

The Coast Guard does not inspect noncombustible materials approved under this subpart on a regular schedule. However, the Commander of the Coast Guard District in which a factory is located may detail a marine inspector at any time to visit a factory where a noncombustible material is manufactured to conduct an inspection of the manufacturing and quality control procedures and to select representative samples of the material for examination or tests to verify that the material is as stated in the original application for approval. The manufacturer is advised in advance of the time of testing samples selected and may witness the tests upon request.

§ 164.009-25 Marking.

The manufacturer must mark each shipping container for an approved noncombustible material with the approval number and date of approval of the material.

Subpart 164.012—Interior Finishes for Merchant Vessels

§ 164.012-1 Applicable specifications.

(a) The following specifications, of the issue in effect on the contract date for the particular installation on any vessel, form a part of this subpart:

- (1) American Society for Testing Materials' standard: E 84-98, Standard Test Method for Surface Burning Characteristics of Building Materials.
- (2) National Fire Protection Association's standard: NFPA No. 255—Method of Test of Surface Burning Characteristics of Building Materials.
- (3) Coast Guard specifications: 164.008—Bulkhead Panels for Merchant Vessels. 164.009—Incombustible Materials for Merchant Vessels.

(b) A copy of this subpart, together with copies of the specifications referred to in this section, shall be kept on file by the manufacturer of any Interior Finish except those qualifying under §164.012-5(c). It should be noted that the standards listed in paragraphs