NFPA

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FIRE RETARDANT IMPREGNATED WOOD AND FIRE RETARDANT COATINGS FOR BUILDING MATERIALS 1979

NATIONAL FIRE PROTECTION ASSOCIATION, INC.
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Standard for
Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

NFPA 703-1979

1979 Edition of NFPA 703

This 1979 edition of NFPA 703 was adopted by the National Fire Protection Association, Inc., on May 16, 1979 at its Annual Meeting in St. Louis, Missouri. It was released by the Standards Council for publication on June 11, 1979.

Origin and Development of NFPA 703

At a 1957 meeting in New York City, the Committee on Flameproofing and Preservative Treatments undertook to develop a Standard for Flameproofing of Wood. Since that meeting the Fire Retardant Coating Industry has expanded considerably, and it is obvious that fire retardant admixtures of plastics and other building materials will require coverage by standard. Thus, the Committee, in its many subsequent meetings, reexamined its approach and expanded the standard to cover all fire retardant treatments.

The first two chapters of the Standard for Fire Retardant Treatments of Building Materials have been developed. Chapter one deals with Fire Retardant Pressure-Impregnations and Chapter two with Fire Retardant Coatings. Both chapters were tentatively adopted by the 1960 Annual Meeting and both were submitted for final adoption at the 1961 Annual Meeting.

This 1979 edition of NFPA 703, *Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials,* supersedes the previous 1961 edition. The change in title was necessary to more adequately cover the subjects included in the text of the standard. The principal changes in this 1979 edition include improved definitions for fire retardant coatings.

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Standard for
Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

NFPA 703-1979

Chapter 1 General

1-1 Scope. This standard provides criteria for defining and identifying fire retardant impregnated wood and fire retardant coated building materials.[1]

Chapter 2 Fire Retardant Impregnated Wood

2-1 Application. These requirements apply to pressure impregnation treatments that reduce certain burning characteristics of wood. Other approved methods of impregnation, providing at least equal performance, are also acceptable.

2-2 Definitions.

2-2.1 Fire Retardant Impregnated Wood is lumber and plywood that has been impregnated by an approved process with fire retardant chemicals and demonstrates one of the following classes:

2-2.1.1 Fire Retardant Treated Wood is a special class of fire retardant impregnated wood that has a flame spread rating of 25 or less with no evidence of significant progressive combustion when tested for 30 minutes duration by the test listed in Section 2-4.

[1]Fire resistance ratings measured on an hourly basis are not covered in this standard. To establish such ratings, tests should be made in accordance with NFPA 251, *Standard Methods of Fire Tests of Building Construction and Materials.*

2-2.1.2 Class A Fire Retardant Impregnated Wood has a flame spread rating of 25 or less when tested for 10 minutes duration by the test listed in Section 2-4.

2-2.1.3 Class B Fire Retardant Impregnated Wood has a flame spread rating of greater than 25 but not more than 75 when tested for 10 minutes duration by the test listed in Section 2-4.

2-3 General.

2-3.1 Where fire retardant impregnated wood is to be subjected to sustained humidity of 80 percent or more or exposure to the weather, certification by a testing laboratory must indicate that there is no increase in listed classification when subjected to the *Standard Rain Test* described in ASTM D-2898.

2-3.2 Fire retardant impregnated lumber and plywood shall be dried after treatment to a moisture content not to exceed 19 percent for lumber and 15 percent for plywood.

2-4 Tests. Fire retardant impregnated treated wood shall be tested by NFPA 255, *Method of Test of Surface Burning Characteristics of Building Materials* (U.L. 723, ASTM E-84).[1]

2-5 Identification. Fire retardant impregnated lumber and plywood shall be labeled to indicate performance with the preceding requirements.

[1]Under the criteria of NFPA 255, the flame spread rating is expressed numerically on a scale for which the zero point is fixed by the performance of asbestos-cement board and the 100 point is fixed by the performance of untreated red oak flooring.

Chapter 3 Fire Retardant Coatings for Building Materials

3-1 Application. These requirements apply to fire retardant coatings such as paints and other surface coatings used to reduce certain burning characteristics of building materials.

3-2 Definitions.

A **Fire Retardant Coating** is a coating that reduces the flame spread of Douglas Fir and all other tested combustible surfaces to which it is applied at least 50 percent or to a flame spread classification value of 75 or less, whichever is the lesser value, and has a smoke developed rating not exceeding 200.

A **Class A Fire Retardant Coating** shall, as applied to building materials, reduce the flame spread to 25 or less and have a smoke developed rating not exceeding 200.

A **Class B Fire Retardant Coating** shall, as applied to building materials, reduce the flame spread to greater than 25 but not more than 75 and have a smoke developed rating not exceeding 200.

3-3 General.

3-3.1 Fire retardant coatings shall remain stable and adhere under all atmospheric conditions to which the material is exposed.

3-3.2 A fire retardant coating shall not be used for unprotected outdoor installations unless labeled for such installations.

3-3.3 The classification of fire retardant coatings is applicable only when the coating is applied at the rates of coverage and to the type or kind of surfaces indicated on the test report when the coating is applied in accordance with the directions supplied by the manufacturer with the container.

3-3.4 These coatings shall be applied in accordance with the manufacturer's direction.

3-3.5 The authority having jurisdiction may require that the application be certified by the applicator as being in conformance with the manufacturer's direction for application.

3-3.6 Fire retardant coating shall not be overcoated with any coating unless both the fire retardant coating and the overcoat have been tested as a system and are found to meet the requirements of Section 3-2.

3-4 Tests.

3-4.1 Fire retardant coatings shall be tested by NFPA 255, *Method of Test of Surface Burning Characteristics of Building Materials* (U.L. 723, ASTM E-84).[1]

3-4.2 Where fire retardant coatings are to be subjected to sustained humidity of 80 percent or more or exposure to the weather, certification by a testing laboratory must indicate that there is no increase in listed classification when subject to the *Standard Rain Test* described in ASTM D-2898.

3-5 Maintenance of Protection. Fire retardant coatings shall possess the desired degree of permanency and shall be maintained so as to retain the effectiveness of the treatment under the service conditions encountered in actual use.

3-6 Identification.

3-6.1 Each container of fire retardant coating material shall be labeled to indicate conformance with the preceding requirements and shall include the manufacturer's instructions for application.

[1]The flame spread rating is expressed numerically on a scale for which the zero point is fixed by the performance of asbestos-cement board and the 100 point is fixed by the performance of red oak flooring.

Appendix A

This Appendix is not part of this NFPA Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials, NFPA 703, but is included for information purposes only.

A-1 NFPA Standards.

NFPA 251-1979, *Standard Methods of Fire Tests of Building Construction and Materials.*

NFPA 255-1979, *Method of Test of Surface Burning Characteristics of Building Materials.*

A-2 ASTM Publications.

ASTM D-2898-1977, *Standard Rain Test.*

ASTM E-84-1977, *Surface Burning Characteristics of Building Materials.*

Official NFPA Definitions

APPROVED: means "acceptable to the authority having jurisdiction."

NOTE: The National Fire Protection Association does not approve, inspect or certify any installations, procedures, equipment or materials nor does it approve or evaluate testing laboratories. In determining the acceptability of installations or procedures, equipment or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization concerned with product evaluations which is in a position to determine compliance with appropriate standards for the current production of listed items.

AUTHORITY HAVING JURISDICTION: The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, an installation, or a procedure.

NOTE: The phrase "authority having jurisdiction" is used in NFPA documents in a broad manner since jurisdictions and "approval" agencies vary as do their responsibilities. Where public safety is primary, the "authority having jurisdiction" may be a federal, state, local, or other regional department or individual such as a fire chief, fire marshal, chief of a fire prevention bureau, labor department, health department, building official, electrical inspector, or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the "authority having jurisdiction." In many circumstances the property owner or his designated agent assumes the role of the "authority having jurisdiction"; at government installations, the commanding officer or departmental official may be the "authority having jurisdiction."

LABELED: Equipment or materials to which has been attached a label, symbol or other identifying mark of an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

LISTED: Equipment or materials included in a list published by an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. The "authority having jurisdiction" should utilize the system employed by the listing organization to identify a listed product.

SHALL: indicates a mandatory requirement.

SHOULD: indicates a recommendation or that which is advised but not required.

Notes and footnotes are informatory only and are not mandatory.