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Rugs and Carpets Labeling, Legislation and Flammability Testing

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Whether shopping for a carpet or rug, you can count on the label for accurate information. Carpet label information falls under three classifications: (1) information required by law; (2) certification information; and (3) additional information to help consumers.

Required Information

The 1960 Textile Fiber Products Identification Act provides that a label on all rugs and carpets must list:

- The generic names of all surface fibers and their percentages listed in order of predominance by weight. When the fiber quantity is less than five percent, the label must state "other fibers."
- The name or other identification of the manufacturer.
- Country of origin unless it is in the United States.

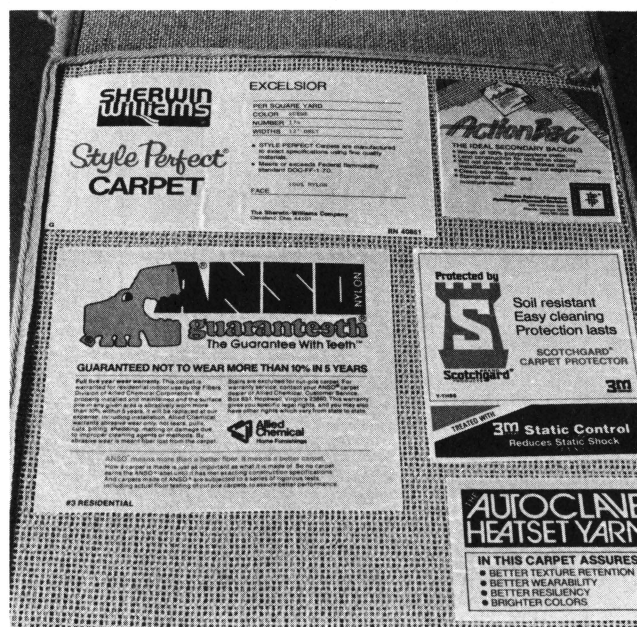
Certification Information

Although not required, additional labels indicate that the carpet meets certain standards set by an agency other than the manufacturer.

Some fiber manufacturers have quality control programs carpet manufacturers must follow when using their fiber. These standards generally include pile density, yarn quality, and in some cases backing quality or construction method. When a carpet carries the fiber producer's registered trademark, you know the carpet manufacturer meets their standards. The label is either a seal of approval by the fiber manufacturer (example: DuPont Dacron) or it may indicate the carpet meets certain standards established by agencies such as the American National Standards Institute, Carpet and Rug Institute or government housing agencies such as Housing and Urban Development, Federal Housing Administration or Farmers Home Administration.

These labels can provide helpful additional information regarding:

- Any special treatment applied to the carpet (except non-flammability) such as soil and stain resistant finishes or anti-static finishes.
- Pattern and color name.
- Other information affecting performance. For example, the term "carpet wool" indicates the fiber is imported. (Our domestic wool is not strong enough for use in



Labels on the back of carpet samples may provide helpful consumer information such as fiber type and content, fabric finishes or guarantees.

carpeting.) A moth-proof label should also appear on wool carpets.

- Place of use such as commercial grade for heavy traffic in public places, indoor-outdoor carpeting, etc.

Carpet Flammability Standards

Since 1971, all large carpets and rugs manufactured or imported in the United States must pass federal standards for nonflammability or be banned from sale. Most carpet samples contain a statement to this effect. For example, the phrases “meets or exceeds Federal Flammability Standard FF-1-70” or “meets or exceeds nonflammability requirements of the U. S. Department of Commerce” are used. Small rugs or carpets less than 24 square feet or 2.2 square meters must also be tested. However, they can be sold if they do not meet the standard if they include a label of possible hazard.

The need for flammability regulations was a result of increased carpet use by consumers, the change from predominately wool to synthetic carpet fibers and, to some extent, a change in carpet construction. In the latter case, shag carpeting is more flammable as it traps more oxygen in its longer and more sparsely tufted yarns.

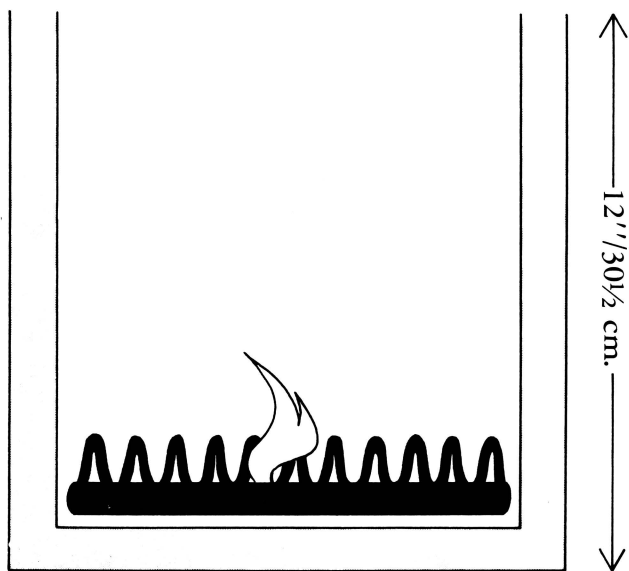
Two federal standards implemented by the amended Flammable Fabrics Act in 1967 apply only to the surface carpet yarns. The first standard applies to carpet and large rugs (more than 6 feet or 1.83 meters on a side). It is designated as DOC FF-1-70 (Department of Commerce - Flammable Fabrics 1-1970) and analyzed by the “pill test.” The second standard, DOC FF-2-70, provides that rugs less than 24 square feet or 2.2 square meters do not need to pass the pill test. If they do not pass the test, they must be labeled “flammable and should not be used near source of ignition.”

Carpet Flammability Testing

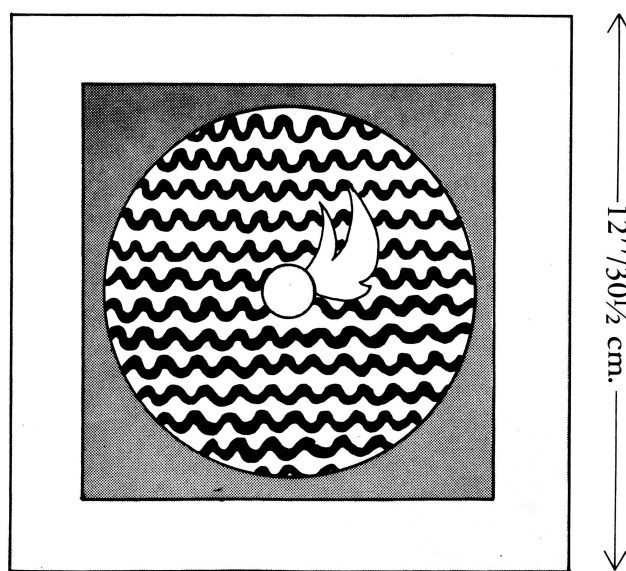
Testing is the only way to predict carpet’s flammability. Factors that affect flammability include the surface fiber type, yarn construction or texture, pile density or thickness, pile height and the type of pad or underlay. The pill test measures only carpet surface flammability and screens out carpet easily ignited by a small incendiary source such as cigarettes, matches or fireplace ember.

Before carpet is sold to retailers, mills use the following procedure to test carpet surface flammability. A sample representative of the carpet lot and large enough for cutting eight 9 inch x 9 inch (22.86 cm x 22.86 cm) samples is selected for testing. If the carpet has had a fire retardant treatment, the sample is washed by standardized methods prior to cutting. In addition, the sample is vacuumed to free it of loose end fuzz. Next, the samples are cut, dried in an oven for two hours to remove moisture and then cooled in a moisture-free container. Each sample is placed in a specially designed testing cabinet which eliminates any drafts. Finally, a methenamine tablet is placed in the center of the sample and the tablet ignited with a match. If the charred or burned area is more than three inches in any direction from the center, the sample fails the test. Seven of the eight samples must pass this test or the carpet lot is rejected and removed from the market. Carpet is recalled if it does not comply with the specified standards.

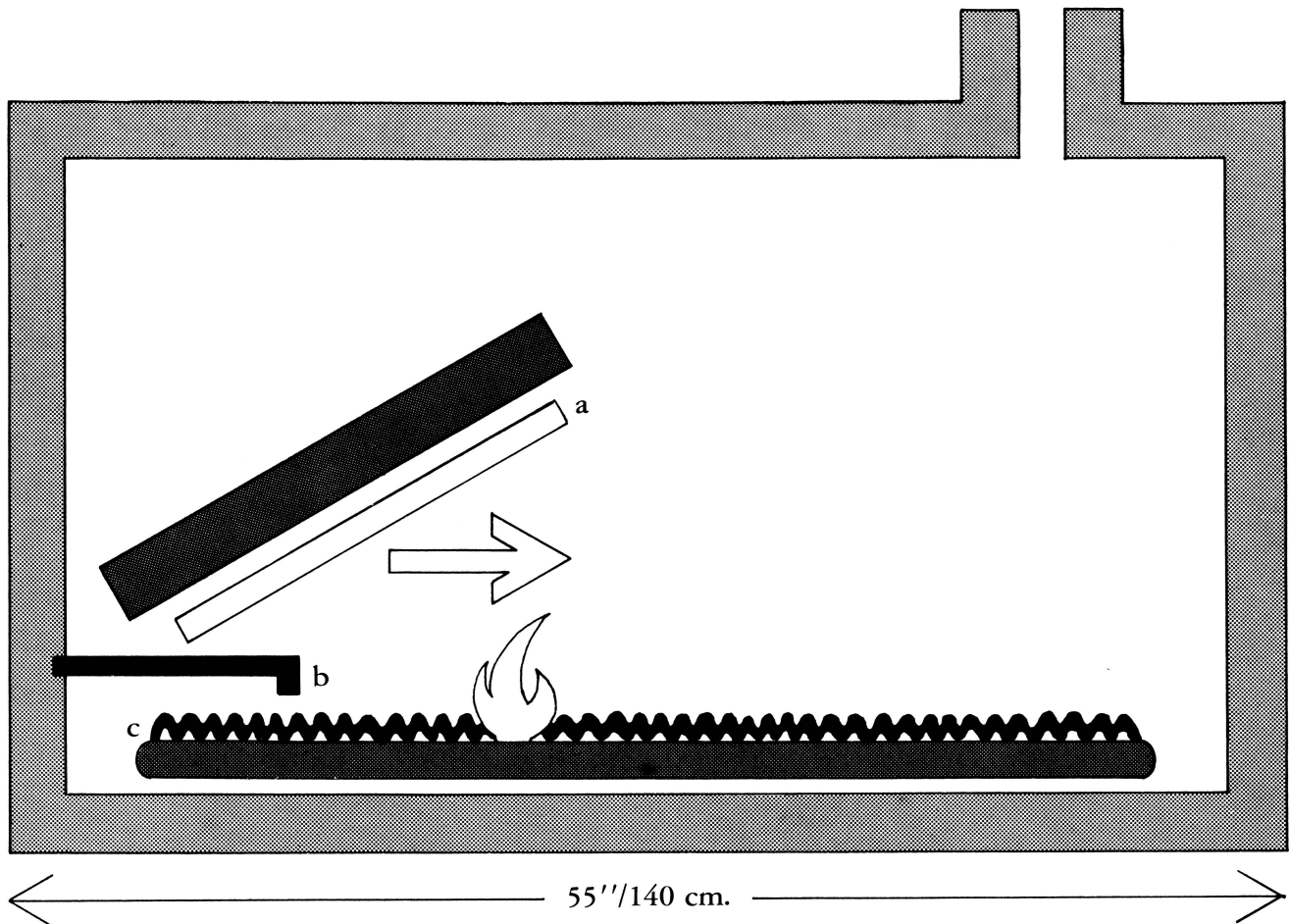
This test also applies to carpet squares or tiles intended for installation in an area greater than 24 square feet. In addition, synthetic fiber mats or hides need to meet these standards. One of a kind carpets or rugs such as antiques or Orientals are excluded from the regulations as are resilient smooth surface coverings like asphalt or vinyl products.



Side view of standard pill test. This test screens out easily ignited carpets.



Top view of standard pill test. Ignited methenamine pill shown in center of a nine-inch diameter carpet sample. If the sample is burned more than three inches it fails the test.



Side elevation flooring radiant panel test. a) radiant surface, b) pilot flame, c) carpet sample. The amount of energy radiated onto the carpet affects whether or not progressive flaming occurs. This test allows for flexibility in evaluating different floorings and underlays used with carpet.

Other Flammability Regulations

Although all commercial carpets need to meet the DOC FF-1-70 standard, some governmental agencies require meeting additional standards. * For example, there are a variety of state and local regulations for commercial carpets. These may include more stringent tests where fire conditions are more severe as in hospitals, nursing homes and hotel corridors. For carpet used in these areas, the federal government has adopted the Radiant Panel Test. In this test, the flame spread is measured in a simulated corridor fire situation by radiating heat onto the carpet. The test results are translated into numerical values that indicate the carpet's flammability performance. These numerical values serve as a carpet selection guide to administrators.

Flammability standards have changed the fibers and construction used in carpets. The most visible change is toward lower level pile and more dense carpet construction. However, the most important effect is protecting people from the risk of fire.

*Specific requirements can be obtained from a Carpet and Rug Institute publication, "Regulations and Specifications for Carpets and Rugs," Carpet and Rug Institute, Box 2048, Dalton, Georgia 30720

References

- Benjamin, I. A. and S. Davis, "Flammability Testing for Carpets," U. S. Department of Commerce, National Bureau of Standards, April 1978.
- Carpet Specifier's Handbook*, 2nd Edition, The Carpet and Rug Institute, 1976.
- "Commerce Issues Final Version of Carpet Flammability Standard," *Textile Chemist and Colorist*, Vol. 2, No. 9, May 6, 1970.
- Hopper, R. N. "Carpet, Rugs and Flammability," Carpet and Rug Institute Newsletter.
- Paules, G. E. "New Fire Safety Standard for Carpet Affords Users Meaningful Protection," *American Dye-stuff Reporter*, Vol. 59, No. 8, August 1970.
- Reece, Linda E. "Buying Carpet," Extension Bulletin 409, Agricultural Extension Service, University of Minnesota.

To simplify information, trade names and illustrations of products have been used. No endorsement of these products is intended, nor is criticism of similar products which are not mentioned.

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