

Methenamine Pill Test

Since 1971, the Flammability Fabrics Act has and continues to require that all machine made carpet made of synthetic or natural fibers pass the Methenamine Pill Test, ASTM D 2859-96, Standard for Surface Flammability of Carpets and Rugs of the Consumer Product Safety Commission. FF 1-70 requirements pertain to carpet larger than 24 square feet in size. FF 2-70 pertains to carpet and rug less than 24 square feet in size. The test method and acceptance criteria for both carpets and rugs, machine-made, which are substantially alike in all other aspects of construction and constructional units, including gauge, stitch rate, pile thickness, yarn twist, pile height, primary and secondary back materials, back coat and laminate are the same.

The Pill Test was selected as the flammability test standard because it demonstrates that a carpet will self-extinguish when exposed to a small incendiary source of fire, such as a lighted cigarette, match, or a burning ember from a fireplace. Small sources of fires have shown to be the leading cause of most fires. Studies of fires have also shown that carpet will not likely become involved in a fire until a room reaches flashover (the point in which a room becomes fully involved in a fire). In addition to this, fire experts agree that minimizing a threat from a fire requires that the fire be suppressed while it is still small.

The Pill Test relies on the use of a solid white organic compound Hexamine (known also as Hexamethylentramine and Methenamine) tablet (i.e., “pill”) approximately the same size as a typical aspirin that is used to replicate the source of a fire the size of a lighted cigarette, a match or a fireplace ember. The carpet test specimen (the sample) is first placed in an oven to remove any moisture that may be present. Next, the sample is cut to a 9” x 9” size, and the pill is placed in the center of the sample. The pill is then ignited by a match and allowed to burn for two minutes. If the charred area of the sample extends beyond 3 inches the sample fails. If more than one out of the required eight tested samples fails in this same manner, that carpet cannot be sold in the U.S.

Effective November 12, 2008, all carpet manufacturers in the U.S. are now required to comply with The Consumer Product Safety Improvement (CPSI) Act of 2008. According to this Act, carpet manufacturers are now required to provide a CPSI Certification of Compliance to their dealers with each carpet shipment, and to make Pill Test documents readily available to the Consumer Product Safety Commission upon their request.

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