

Fire Rating – Curtains

The term '*fire rating*' is used in New Zealand Building Code Compliance Document Fire Safety C/AS1 to mean '*fire resistance rating*'. However *Fire rating* is a misleading term as all organic products are 'combustible' or 'flammable' to some degree. Fabric flammability is an important textile issue, especially for stage drapery that will be used in a public space such as a school, theatre or special event venue. Although all fabrics will burn, some are naturally more resistant to fire than others. Those that are more flammable can have their fire resistance drastically improved by treatment with fire retardant chemicals.

Fire retardant treatment:

The flammability of fabric can be drastically reduced through the use of *fire retardants*. Many natural fibers, including cotton, can be topically treated with a chemical that reduces the fabric's flammability to the extent that it becomes nearly non-combustible. During a fire, the chemical reacts with the gases and tars generated naturally by the fabric, converting the gases and tars to carbon char, thus drastically slowing the fabric's burning rate. Some polyester fabrics are considered *permanently fire retardant*. This is because fire retardant properties are built directly into the molecular structure of the fibers. Other synthetic fabrics can also be topically treated with chemicals after the manufacturing process.

There are companies that specialise in applying *fire retardant* coating to drapes, particularly those used in a commercial setting. It is recommended that fabrics should be tested for flammability, colour fastness (dye running), shrinkage and appearance (i.e. a shiny fabric could be dulled) before application. Ideally all tests should be carried out on a scrap of fabric or in an inconspicuous area on an existing drape.

Durability and cleaning of drapes:

When a fabric is designated as *permanently fire retardant* the flame retardant treatment will last for the life of the fabric. The drapery can be laundered or dry-cleaned as recommended by the drapery manufacturer. In the case of fabrics that are designated as *fire retardant*, that have been topically treated with chemicals, the flame retardant in the fabric will dissipate over time, particularly with repeated cleaning. Fabrics must be dry-cleaned with a non-liquid cleaning agent, as specified by manufacturer of the coating and in some cases the coating will have to be reapplied. Usually manufacturers of the coating will certify the treatment for up to five years – but this will vary depending on the product and method of application.

We recommend that if someone is wanting to prepare a quotation for any private or commercial job that has rooms for use by the general public, including halls, theatres, schools etc it is essential that they check with the fire department first.

Note: The information above is provided for educational purposes only, please refer to suppliers of fire retardant services and/or fabrics for more detailed and up to date technical details relating to fabrics, treatments and applications.

Information supplied courtesy of Mollers, 2011.