



Stagedoor TECHNICAL LIMITED

How to Perform your own Flame Retardancy Test

Drape will Burn

There is no question that drapes will burn in a fire. The purpose of having drapes treated is to prevent or slow down the spread of flame once the flame is removed. There is no such thing as Fire-Proof, but there are Flame Retardant or Flame Resistant fabrics and treatments. You can purchase treatments that you can add to paint or directly apply to your drapes but the problem with these treatments is that they are only as good as the application.

The Purpose of NFPA 705 Recommended Practice for Field Flame Test of Textiles and Films

This recommended practice provides guidance to enforcement officials for the field application of open flame to textiles and films that have been in use in the field or for which reliable laboratory data are not available.

These methods described, and the results, do not correlate with any known test method, and factors relating to reproducibility and correlation have not been determined; therefore, they should not be relied upon when more definitive test data is available. i.e. NFPA-701 or CAN/ULC S109. The field test method is utility only when the authority having jurisdiction has no reliable data, and therefore, is forced to rely solely on the field test findings.

The field test is an exclusionary test and does not confirm that the materials are safe or that they will pass a NFPA 701 or CAN/ULC S109 test, however, it can demonstrate that they will not. A material that fails a NFPA 705 test will, without a doubt, fail a NFPA 701 or CAN/ULC S109 test and clearly possess unacceptable flame propagation properties. A passed NFPA 705 test indicates very little as items that do not burn under NFPA 705 conditions may burn under NFPA 701 or CAN/ULC S109 conditions or in an actual fire.

How do you test Stage Drapes to see if they are Flame Retarded?

You must burn them, wait a minute just a small cutting from the drape. This is called a field test and the procedure is described in *NFPA 705 Recommended Practice for Field Flame Test of Textiles and Films* standard. The current standard has been effective since 2013 and is scheduled for an update in 2018.

This test has a limited and varying degree of accuracy as it is:

- a) Often times performed by someone who has not done it before
- b) Done under conditions that could affect the results
- c) Performed on a representative piece that may pass whereas the rest of the drapery may not.
- d) Not performed as described by the standard.

By saying this, we do not mean that this test should not be done. Instead, it should be used as a guide line on determining whether the drape is still flame retarded or should be retreated or replaced.

Before performing the test

Before conducting the test, clean your drape, and ensure it is clean and dry. It makes no sense on testing the dust and dirt; it will probably give you a failure. Also, inspect your drape for any white chalky looking staining. This chalky like staining is an indication that the drape has gotten wet at some point and the flame-retardant treatment is possibly compromised. If there is excessive staining, say more than 10% of the surface area, then you should consider having the drape retreated or maybe replaced.



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The Test Procedure

1) Cut a minimum size piece of fabric; 12.7mm by 101.6mm (½ in by 4 in) from the drape. Choose an area that would not cause any visible damage to the drape. Some draperies provide a test piece of fabric that is from the same roll the drape was made from.

2) Perform the test in a draft-free and safe location, free of other combustibles. After all, the purpose of the test is to ensure that the drapes will not burn. It would be hard to explain to the officials that the fire started when you were testing a piece of fabric to make sure it would not burn.

3) The sample should be suspended (preferably by means of a spring clip, tongs, pliers or similar device) with the long 101.6mm (4") side being vertical. Do not hold it with your hand, you may get seriously burnt.

4) The flame from a common wood kitchen match or similar flame source is to be applied to the centre of the bottom edge 12.7 mm (1/2 in.) above the bottom of the flame for 12 seconds. A common flame source used is a lighter, the problem with this is that you must keep the lighter lit and still for the prescribed length of time. This is something most people cannot do. We recommend you use a candle or tea light candle that is sitting on a flat non-combustible surface and after 12 seconds carefully remove the flame source away from the sample. To be safe maybe cover the surface with a piece of aluminium foil or maybe an old cookie sheet.

5) During this 12 seconds' test procedure, the flames should not spread anymore than 4" above the bottom of the sample and any materials that break away should drip flaming particles onto a surface and remain burning after they land. There should be no more than 2 seconds of burning after the flame source has been removed.

6) A common mistake made during step 4 is that people will often watch the flame burn the fabric once it ignites and then watch it go out. Once the flame goes out, they will move the flame closer to the fabric and relight it again. They may try this over and over every time the flame goes out not knowing that the purpose of the test is to determine if the fabric will not maintain a flame or if it will self-extinguish. What people are confused about is the fact that the flame is always supposed to go out on a flame retarded treated fabric.

7) Document your results. You can use the attached sample form or create one of your own and along with any other Flame Retardancy Certificates and Test Reports that you may have for your drapery. Be sure to file these results so that when the Fire Department comes in you can easily find them.

Tech Guide

Drape Log

Drape Name _____

Height _____ Width _____

Fullness _____ Serial Number _____

Fabric _____

Date of Purchase _____

Supplier / Manufacturer _____

Flame Retardancy Rating _____ FR _____ IFR _____

Flame Certificate Yes _____ No _____

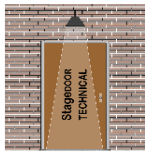
NFPA-705 Field Flame Test

Date	Whom	Signature	Results	
			Pass	Fail

Before

After

Form Courtesy of:



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