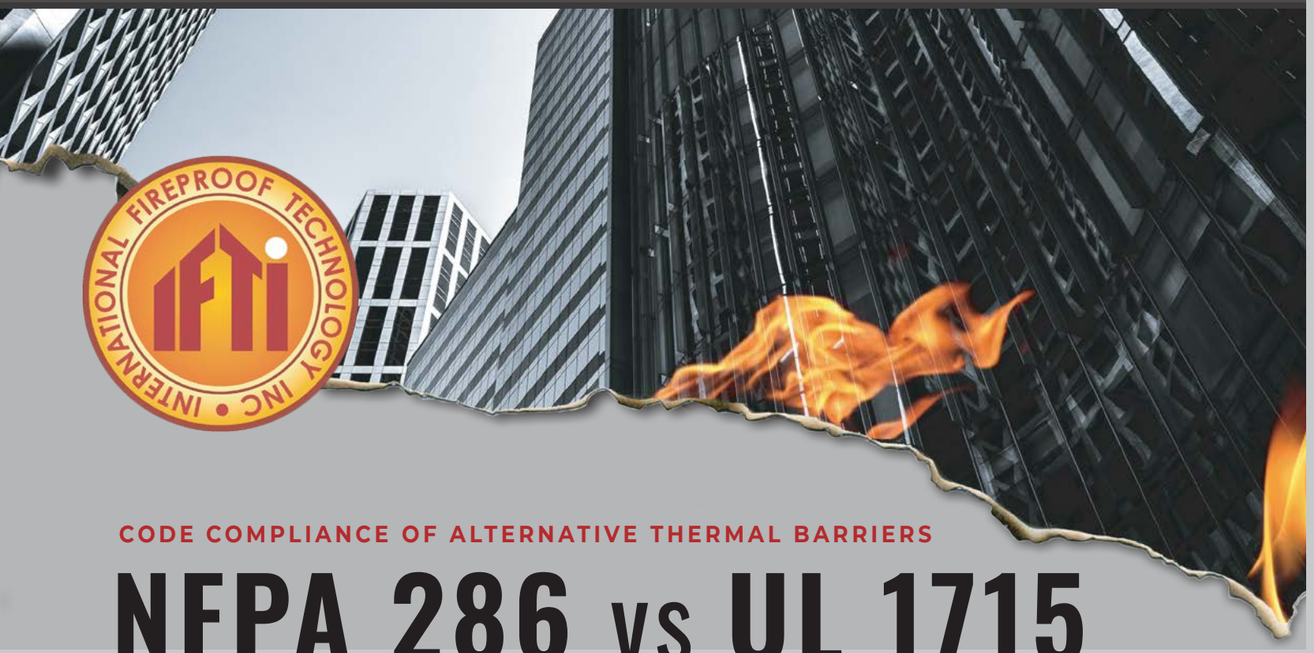

CODE COMPLIANCE OF ALTERNATIVE THERMAL BARRIERS

NFPA 286 vs UL 1715
ROOM CORNER FIRE TESTS

WHAT DOES THE CODE SAY?? UNDERSTANDING IS KEY TO REDUCING LIABILITY

The International Building Code Section 2603.9 states "Foam plastic shall not be required to comply with the requirements of Section 2603.4 where specifically approved based on large-scale tests such as, but not limited to, NFPA 286 (with the acceptance criteria of Section 803.1.2.1), FM 4880, UL 1040 or UL 1715. Such testing shall be related to the actual end-use configuration and be performed on the finished manufactured foam plastic assembly in the maximum thickness intended for use. **Foam plastics that are used as interior finish on the basis of special tests shall also conform to the flame spread and smoke-developed requirements of Chapter 8."**

The NFPA 286 standard is referenced in both Chapter 26 and Chapter 8, so running this method meets BOTH sections of the Code. Alternative to the NFPA 286, Codes allow the use of the UL 1715 to measure the fire growth of the assembly but the UL 1715 is not referenced in Chapter 8 and therefore can only satisfy ONE part of the Code- the alternative thermal barrier but NOT the Interior Finish, meaning assemblies of the foam and coating must then also be tested to one of the methods to qualify as an interior finish – either the ASTM E84 or the NFPA 286.

Chapter 8 contains specific criteria that the NFPA 286 test assembly must meet and is designed to show that the assembly is safe to be used, will not allow the foam to contribute to fire growth and that the amount of smoke generated during the test and the speed that flame travels across the surface comply with the requirements of the BOTH Chapter 26 and Chapter 8.

The ASTM E84 apparatus has a thickness limitation of 4", so a product that is tested to UL 1715 can also test to an ASTM E84 over 4" of foam– while this qualifies in Chapter 8, it is limited in use as the test is only up to a 4" thickness of foam. Testing to UL 1715 is a multi-step process not just a one and done and may not cover the application if the foam is more than 4" thick, users need to be aware of all these requirements.

We urge you to review the full report in order to make the determination if the coatings you are currently accepting as alternative thermal barriers have been tested in accordance with the NFPA 286 and shown to meet the full intent of the I-Codes and NFPA 101 Life Safety Code.

View Complete Report:

(Click here or take a photo of this QR Code with your smart phone)

Q&A

COMPARING NFPA 286 TO UL 1715, IS ONE STANDARD BETTER THAN THE OTHER? YES!

Jensen Hughes, an industry leading fire engineerin g firm focused on evaluating risks, fire protection systems, code consulting and risk assessment completed a 32 page comparison study of the NFPA 286 and UL175 fire tests. Who is Jensen Hughes?

What is their conclusion? 11 Reasons Jensen Hughes Concludes NFPA 286 Testing reduces liability.

What supports their position? See the 36 references here.

Jensen Hughes concludes that: It is recommended that the NFPA 286 fire test be used to determine the flame and fire growth of materials within a compartment. This test method provides a more data-based approach to determining fire performance and thus, results in a more robust test on which to regulate combustible materials in the codes and standards. Furthermore, the NFPA 286 test provides significantly better quantitative measurements for heat release, flashover and smoke generation." These measurements provide definitive proof the assembly complies with the intent of the Code.

Why the attempt to discredit UL? To be clear we are not discrediting UL, we are simply providing code clarification and independent third-party engineering studies to assist end users in making sure they understand the limitations of the testing on products they are considering.

Does the UL 1715 meet Code for fire testing over SPF insulation? The short answer is Maybe. Section 2603.9 of the IBC®, Section R316.6 of the IRC® and Section 10 of NFPA 101 all list the UL 1715 as a method to qualify the assembly for use without a prescriptive thermal barrier. However It is important to note the 2603.9 also states– "Foam plastics that are used as interior finish on the basis of special tests shall also conform to the flame spread and smoke-developed requirements of Chapter 8".

So Interior Finish is Different than Alternative Thermal Barrier? Yes, the two requirements are separate in the Codes and must be tested independently.

What options are available to meet Interior Finish? Code specifies two methods for meeting interior finish, the ASTM E84 or the NFPA 286. UL 1715 is not listed as a method to qualify as interior finish within the I-Codes or NFPA 101. The ASTM E84 method common for most building materials has a thickness limitation of 4". Therefore a product that is tested to UL 1715, as an alternative thermal barrier and ASTM E84 as an interior finish can only be installed up to 4"- the maximum thickness that is able to be tested per ASTM E84. Alternatively it is acceptable to test the assembly in accordance with NFPA 286 at the maximum thickness for which recognition is sought and this assembly, provided it meets the performance criteria listed in the codes, qualifies as an alternative thermal barrier and as a Class A interior finish.

How does the NFPA 286 method qualify for interior finish while the UL 1715 does not? Codes are specific that Flame Spread and Smoke Development must be tested. The UL 1715 method does not measure smoke by default, nor does it contain criteria within the referenced Codes to equate the flame spread performance to that of an interior finish. In contrast, the I-Codes and NFPA 101 Life Safety Code all contain criteria that must be met to qualify the assembly as an interior finish when tested to the NFPA 286 and allows a prescriptive route to compliance, not only as an alternative thermal barrier but also as interior finish.

What if a product is tested to the UL 1715 and uses the same smoke collection method as NFPA 286, does this comply? No, the criteria set for the for the NFPA 286 is specific to that standard, simply taking that criteria and making it applicable to UL 1715 has no basis to show it is acceptable. In fact case studies have shown the UL 1715 will produce less smoke than the NFPA 286 due to the reduced severity of the fire exposure.

It's all about Liability so how can one be sure a products testing meets the Code? Ask for NFPA 286 compliance. IFTI's DC315 carries evaluation reports IAPMO ER-499 and ICC-ESR 3702, both documents clearly state DC315 meets the alternative thermal barrier requirements and interior finish. Users should review evaluation reports to ensure the product they are looking at clearly lists both the alternative thermal barrier AND interior finish compliance.

TO SUM IT UP - TO LEAVE FOAM, MORE THAN 4" THICK, EXPOSED TO THE INTERIOR WITH AN ALTERNATIVE THERMAL BARRIER YOU MUST CONDUCT NFPA 286 TESTING. WHO SAY'S SO!
NFPA 101

Questions? Contact IFTI. » **949-975-8588**
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