

Insulation Insights

FIRE PERFORMANCE OF POLYISO

All construction materials, including foam plastics such as polyiso insulation, must provide a suitable margin of fire safety. Polyiso possesses a high level of inherent fire resistance when compared to other foam plastic insulations due to its unique structure of strong isocyanurate chemical bonds. These bonds result in improved high-temperature resistance (up to 390°F [199°C], more than twice that of other building insulation foams) which in turn leads to enhanced fire resistance. In addition, because polyiso does not melt or drip when exposed to flame, but rather forms a protective surface char, its fire resistance is further enhanced, especially in terms of flame spread and flashover potential.

Polyiso passes both the ANSI UL 1256 and FM 4450 fire tests without a thermal barrier. Polyiso, a thermoset material, stays intact during fire exposure in the ASTM E84 or "Tunnel Test." It forms a protective char layer and remains in place during the test, thereby meeting all building code requirements and contributing to a fire-safe building. For more information on polyiso's performance in fire tests, visit the [PIMA Website](#) where you can find the following papers:

Technical Bulletin 103:

Discusses polyiso insulation as it relates to building codes in construction and fire tests in walls and ceilings, including ASTM E84 and ASTM E119.

Technical Bulletin 104:

Provides an overview of polyiso insulation requirements for roof systems and key issues in fire performance, including the importance of the FM 4450 Calorimeter Tests and the UL 1256 Resistance to Interior Spread of Flame test.

Technical Bulletin 105:

Provides an in-depth look at fire test procedures for building applications.

Energy Smart Polyiso

15 Franklin Street ■ Portland, Maine 04101 ■ 888.746.1114 ■ info@hpanels.com ■ www.hunterpanels.com