

## Flammability Test Results

Lumiform™ PETG meets the performance requirements established by the United States model building codes for light transmitting plastics. The provisions of these codes provide adequate regulation for most applications of light transmitting plastics.

Lumiform™ PETG\*\* resin passes the ASTM E-84, Steiner Tunnel Test with a Class B fire rating; flame spread index less than 75 and smoke density less than 450.

ASTM E-84 Steiner Tunnel Test*	Class B	Flame Spread Index: 45-75* Smoke Developed Index: 15-120*
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**Note:** A class B material can be used in place of a class A material when installed with an approved, automatic fire suppression system.

In addition to the Steiner Tunnel Test there are three specific ASTM tests which are the basic criteria for a plastic material to be recognized by BOCA, ICBO and SBCCI

ASTM D-635 Combustion Rating**	CC1	Burn rate less than 1-in per minute
ASTM D-1929 Self Ignition Temperature	Pass	Greater than 800°F
ASTM D-2843 Smoke Density Rating**	Pass	55.4% Density

Although the industry recognizes the ASTM E-84 test as the benchmark for fire classification ratings, the Steiner Tunnel test was never intended to accurately describe the actual behavior of a material in a fire. In recognition of this fact, Lumiform™ PETG was subjected to the National Fire Protection Association's room-corner burn test, NFPA 286: Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth. The NFPA 286 test is a more effective simulation of the dynamics and physics involved in a fire because it accurately describes the behavior of a building material during a real fire situation. For this reason, fire scientists and fire protection engineers prefer the NFPA 286 test to other testing methods when generating data to describe and model mechanics of an actual fire. Lumiform™ PETG passed the NFPA 286 test in the following configurations.

NFPA 286 Room Corner Burn Test		Pass	See configurations below
.060 Wall Configuration	Rigid Mount 16" Centers	4' x 8' Sheet	Attached to the wall
.060 Wall Configuration	Perimeter Mount 24" Centers	4' x 8' Sheet	Attached to the wall
.236 Wall Configuration	Rigid Mount 16" Centers	4' x 8' Sheet	Attached to the wall
.236 Wall Configuration	Perimeter Mount 24" Centers	4' x 8' Sheet	Attached to the wall
.060 Wall Configuration	Rigid Mount 16" Centers	4' x 8' Sheet	Sheet 1" away from wall
.354 Wall Configuration	Rigid Mount 16" Centers	4' x 8' Sheet	Sheet 1" away from wall

NFPA 101 (Section 6-5.3) refers use of light transmitting plastic for interior applications to authorities and organizations having local jurisdiction. Such authorities typically adopt the U.S. Model Building Codes, which are supported by the organizations listed below:

Building Officials and Code Administration International (BOCA)  
International Conference of Building Officials (ICBO)  
Southern Building Code Congress International (SBCCI)

\* Consistent with standard industry and testing practice, the flame spread and smoke developed were recorded while the material remained in the original test position. These results do not include the material that ignited on the furnace floor.

\*\* Further information on the flammability of PETG resin can be found at [www.lumicor.com](http://www.lumicor.com) in the Eastman flammability testing document

\*\*\* Further information on test procedures can be found at [www.lumicor.com](http://www.lumicor.com) in the flammability test data document