

ASTM E-84 Classification for KYDEX® Thermoplastic Sheet

For information applicable to KYDEX® FST please refer to 300 series technical briefs.

TB - 111-E

ASTM E-84 Classification

KYDEX® sheet is often used as a building material and must therefore be subjected to the surface burning specification as outlined in ASTM E-84: Surface Burning Characteristics of Building Materials. Note: UL 723 and NFPA 255 are fundamentally the same test method as ASTM E-84 and are all often referred to as the "Tunnel Test".

The purpose of the test is to determine the comparative burning characteristics of a material by evaluating the spread of flame over its surface and the density of the smoke developed when exposed to a test fire, and consequently establish a basis on which surface burning characteristics of different materials may be compared without specific considerations of all the end-use parameters that might affect the surface burning characteristics.

The Flame-Spread Index (FSI) and Smoke-Developed Index (SDI) are numerical classifications based upon a standard surface burning test such as ASTM E-84. Flame spread is the ability for a flame to travel along the surface of a material away from the fire source while smoke developed is a measure of the concentration of smoke given off as a material burns. A low FSI indicates a low burn rate and a low SDI indicates a low smoke development rate.

The building, fire, and life safety codes (IBC, IFC, NFPA 5000, NFPA 101, and NFPA 1/UFC) all contain requirements that limit interior wall and ceiling finishes to 3 classes. The FSI and SDI obtained during the 10-minute test are used to classify materials from best (Class A or I), to moderate (Class B or II), to least (Class C or III), see details below.

Code Classification	Flame Spread Index	Smoke Developed Index
I or A	0-25	450
II or B	26-75	450
III or C	76-200	450

The following is a list of qualified KYDEX® sheet products. The classification is good for the tested thickness and below.

Product	KYDEX® 152 WG	KYDEX® 110	KYDEX® 150	KYDEX® 160	KYDEX® 115	KYDEX® 150
Classification	Class I/A	Class I/A	Class I/A	Class I/A	Class I/A	Class II/B
Thickness	1.02mm (0.040")	1.52mm (0.060")	1.52mm (0.060")	3.18mm (0.125")	2.03mm (0.080")	2.36mm (0.093")

For detailed information or results on KYDEX® sheet products, please contact the KYDEX, LLC.

KYDEX, LLC

ISO 9001 and 14001 Certified

Customer Service

6685 Low St, Bloomsburg, PA 17815 USA
 Phone: 800.325.3133, +1.570.389.5810
 Outside the US: +1.570.389.5814
 Fax: 800.452.0155, +1.570.387.7786
 Email: info@kydex.com

Technical Service

Phone: 800.682.8758
 Fax: +1.570.387.8722
 Outside the US: +1.570.387.6997
 Email: techservice@kydex.com

www.kydex.com

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability of the accuracy of this information or the suitability of our products in any given situation. Users should conduct their own tests to determine the suitability of each product for their particular purposes. Data in the physical property table represents typical values and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal laboratory conditions. Right to change physical properties as a result of technical progress is reserved. THE PRODUCTS DISCUSSED ARE SOLD WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, EITHER EXPRESSED OR IMPLIED, EXCEPT AS PROVIDED IN OUR STANDARD TERMS AND CONDITIONS OF SALE. Buyer assumes all responsibility for loss or damage arising from the handling and use of our products, whether done in accordance with directions or not. In no event shall the supplier or the manufacturer be liable for incidental or consequential damages. Also, statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Consult local code and regulatory agencies for specific requirements regarding code compliance, transporting, processing, recycling and disposal of our product. Product not intended for use as a heat resistant surface. Texture, product grade and other conditions may cause variations in appearance.

This information supersedes all previously published data.