

## FIRE CONSTRUCTION REQUIREMENTS – INTERIOR FINISH MATERIALS

### INTRODUCTION

The general requirements to be followed for interior finish materials are contained in Section 6-5 of the Life Safety Code (NFPA 101).

In order to limit the potential for fast spreading fires and the development of large quantities of toxic combustion products, it is preferable to use interior finish materials which have "flame spread" ratings of 25 or less and "smoke developed" ratings of 50 or less as determined by the ASTM E-84 (NFPA 255) test. Of particular concern are thermal and acoustic insulating materials manufactured with expanded foam, most of which greatly exceed these values. This chapter describes procedures for the selection and safe use of interior finish materials.

### PROCEDURES

1. If practical, interior finish materials should have a flame spread rating of 25 or less and a smoke developed rating of 50 or less as determined by the ASTM E-84 (NFPA 255) test. (Note: Manufacturers often avoid presenting results in terms of these ratings when their products "fail" the ASTM E-84 test.)
2. Materials with a flame spread rating >25 and smoke developed rating >50 may be covered by a rigid noncombustible thermal barrier such as sheetrock to mitigate the consequences of the higher flame spread and smoke development properties. In order to be effective, the material should be in direct contact with the barrier.
3. Table 1, "Commercially Available Acoustic Absorbers Meeting Flammability Guidelines," provides a list of acoustic products which have been reviewed and were found to have a flame spread rating of 25 or less and a smoke developed rating of 50 or less according to the available manufacturers' information.

**TABLE 1**  
**Commercially Available Acoustic Absorbers Meeting Flammability Guidelines<sup>1</sup>**

PRODUCT NAME	TYPE	MANUFACTURER	THICKNESS	CONSTRUCTION	NRC <sup>2</sup>
Acoustic Panels	Rigid	Koch 824-2124	2-6"	Perforated Steel Covered Fiberglass	0.95
Acoustical Panels	Rigid	Craxton Products (612) 546-3436	1 1/8-2 1/8"	Tedlar PVC Film Covered Fiberglass	0.8-1.00
Acoust-X	Flexible	Johnston Environmental (800) 854-3358	1/2"	Aluminized Quilted Fiberglass	0.70
Audex P	Spray-on	American Coatings 967-8700	3/8-1/2"	Portland Cement and Vermiculite	0.55-0.65
Baffles, Inserts, Panels, Walls	Rigid	MPC (216) 523-1371	1 1/4-2 1/2"	Verel Modacrylic Fabric Covered Fiberglass	0.75-1.00
Custom Absorber	Flexible	E.N. Murray 631-0626	2"	FR Fabric Covered Fiberglass	---
Fibersorb	Flexible	United Acoustic Products (814) 838-7691	3/4"	Vinyl-Coated Glass Fabric Covered Fiberglass	0.65
Office Dividers (Series 800 & 960)	Rigid	Conwed (800) 221-0938	2"	FR-701 Polyester Fabric Covered Fiberglass	0.60-0.85
Pan-L-Wall	Rigid	Industrial Noise Control 628-3800	2-4"	Perforated Aluminum or Steel Covered Fiberglass	0.95-1.00
Solimide TA-301	Flexible	IMI-Tech Corporation 358-3393	1-2"	Polyimide Foam	0.75-0.85
Sonex 1	Flexible	Illbruck (612) 521-3555	2"	Melamine Foam	1.0
Sorba-Glas	Flexible	Industrial Noise Control 628-3800	1-2"	Vinyl-Coated Glass Fabric Covered Fiberglass	0.75-0.80
Ultralite Duct Liner	Flexible	CertainTeed 921-6123	1/2-2"	Resin-Bonded Fiberglass	0.50-0.95
Varitone Absorption Liner	Rigid	Industrial Acoustics 945-0040	2-4"	Perforated Steel Covered Fiberglass	0.95

<sup>1</sup>Flame spread rating  $\leq 25$  and smoke developed rating  $\leq 50$  per ASTM E-84 test.

<sup>2</sup>Noise Reduction Coefficient, sound energy absorbed divided by sound energy incident.