

Special Reference Material Report

GM 40

Rigid Polyurethane Foam Sprayed on Asbestos Cement Board (Fluorocarbon Blown, Polymeric Isocyanate)

This material was prepared to provide a uniform lot of cellular plastic for use in fire research. Produced under the sponsorship of the Products Research Committee (PRC) on the Fire Safety Aspects of Cellular Plastic Products, these materials are being distributed by the NBS Office of Standard Reference Materials as Special Reference Material, GM 40.

The chemical and physical information provided for this material has been derived from data submitted to the PRC by the manufacturers of the material and/or independent testing laboratories. Neither PRC nor NBS assumes any responsibility for the accuracy of this information.

Applicable American Society for Testing and Materials (ASTM) test methods are indicated.

<u>Property</u> ⁽¹⁾	<u>ASTM Test</u>	<u>Rating</u>
Apparent Density, lb/ft ³	D-1622	2.0
Thermal Conductivity, K-Factor, BTU·in/h·ft ² ·°F	C-177	ND*
Closed Cell Content, % ⁽²⁾	D-1940	92
Compressive Strength, psi	D-1621	
Parallel ⁽³⁾		28
Perpendicular		15
Compressive Modulus, psi	D-1621	
Parallel		ND
Perpendicular		ND
Tensile Strength, psi	D-1623	
Parallel		40
Perpendicular		ND
Flexural Strength, psi	C-203	ND
Shear Strength, psi	C-273	
Parallel		ND
Perpendicular		27
Shear Modulus, psi	C-273	
Parallel		ND
Perpendicular		ND
Coefficient of Linear Expansion, in/in·°F	NA	ND
Water Absorption, % by volume, 96h under 5.1 cm (2 in) head	D-2842	ND
Water Vapor Permeability, Perm-in	C-355	ND

⁽¹⁾ To serve only as a guide for engineering design. Values shown are average values obtained from laboratory specimens. All test methods taken from 1971 ASTM Book of Standards unless otherwise noted. Density based on open blow.

⁽²⁾ Taken from 1968 ASTM Book of Standards.

⁽³⁾ Properties measured to direction of rise as indicated.

* ND = Not Determined.

(over)

<u>Property⁽¹⁾</u>	<u>ASTM Test</u>	<u>Rating</u>	
Dimensional Stability	D-2126		
Net Change in Volume, %	70±1°C, 100% R.H.		
1 day		5	
7 day		11	
14 day		12	
28 day		13	
Net Change in Volume, %	-23.3°C, amb R.H.		
1 day		0.4	
7 day		0.7	
Net Change in Volume, %	93°C, amb R.H.		
1 day		3	
7 day		5	
Surface Burning Characteristics	E-84		
<u>Thickness</u>	<u>Flame Spread Classification**</u>	<u>Smoke Density</u>	<u>Fuel Contribution</u>
2 in	25**	200	15
4 in	25**	280	15

** THIS NUMERICAL FLAME SPREAD RATING IS NOT INTENDED TO REFLECT HAZARDS PRESENTED BY THIS OR ANY OTHER MATERIAL UNDER ACTUAL FIRE CONDITIONS.