



# Physical Properties Guide for Architectural Products

PHYSICAL PROPERTIES	Property (Units)	Thermal Resistance <sup>1,2</sup> Aged R-value per inch @ 75°F mean temp	Compressive Strength (lb/in <sup>2</sup> )min. <sup>3</sup>	Flexural Strength (lb/in <sup>2</sup> )min.	Water Absorption (% by volume) max.	Water Vapor Permeance* (perm)	Dimensional Stability (% linear change) max.	Coefficient of Linear Thermal Expansion (x10 <sup>-6</sup> /in./in./°F)	Complies with ASTM C 578, Type <sup>6</sup>	Maximum Use Temperature (°F)	Flame Spread <sup>6</sup>	Smoke Development	Width (in.)	Length (in.)	Thickness (in.)
ASTM METHOD	C518	D1621	C203	C272	E96	D2126				E84	E84				
CAVITYMATE <sup>®</sup>	5.0	15	40	0.1	1.1	2.0	3.5	X	165	5	165	16	96	1, 1 1/2, 2	
CAVITYMATE <sup>®</sup> Plus	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	16	96	1 1/2, 2	
CAVITYMATE <sup>®</sup> Ultra	5.6	25	50	0.1	1.1	2.0	3.5	IV	165	10	160	16	96	1 5/8, 2	
DECKMATE <sup>®</sup>	5.0	18	40	0.1	< 1.0	2.0	3.5	X	165	5	165	24 48	96 96	2, 3 1, 1 1/2, 2, 2 1/2, 3	
DECKMATE Plus	5.0	25	50	0.1	< 1.0	2.0	3.5	IV	165	5	165	24 48	96 96	2, 3 1, 1 1/2, 2	
FREEZERMATE <sup>®</sup>	5.0	30	50	0.1	0.8	2.0	3.5	IV	165	5	165	24 48	96 96	2, 3, 3	
PERIMATE <sup>®</sup>	7.0 <sup>8</sup>	30	50	0.1	1.1	2.0	3.5	IV	165	5	165	24	96	1 1/2, 2 1/2	
PLAZAMATE <sup>®</sup>	5.0	60	75	0.1	0.8	2.0	3.5	VII	165	5	165	24	96	1 1/2, 2, 3	
RECOVERMATE <sup>®</sup>	2.2 <sup>11</sup>	18	-	-	-	<0.5	3.5	-	200	5	165	48	96	1/2	
ROOFMATE <sup>®</sup>	5.0	40	60	0.1	<1.0	2.0	3.5	VI	165	5	160	24	96	1, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4	
Ribbed ROOFMATE <sup>®</sup>	5.0 <sup>12</sup>	600 <sup>13</sup>	-	0.1	0.8	2.0	3.5	VI	165	5	165	24	96	2	
Z-MATE <sup>®</sup>	5.0	15	40	0.1	1.1	2.0	3.5	X	165	5	165	23 3/8	96	1 1/2, 2	
Dow Protection Board	1.0 <sup>7</sup>	10	-	0.1	0.8 <sup>7</sup>	-	-	-	165	10	200	48	600	3/16	
GRAYBOARD Score Board	5.0	15	40	0.2	1.1	2.0	3.5	X	165	5	165	48	96	1, 1 1/2, 2	
GRAYBOARD Square Edge	5.0	15	40	0.2	1.1	2.0	3.5	X	165	5	165	24	96	1, 1 1/2, 2	
High Load 40	5.0	40	60	0.1	< 1.0	2.0	3.5	VI	165	5	165	24 48	96 96	2,3 2	
High Load 60	5.0	60	75	0.1	0.8	2.0	3.5	VII	165	5	165	24	96	1, 2, 3	
High Load 100	5.0	100	100	0.1	0.8	2.0	3.5	V	165	5	165	24	96	2	
Panel Core	5.0	25	50	1.9 <sup>10</sup>	1.0	2.0	3.5	IV	165	5	165	24.1 48.1	96 96	1 1/2, 3 1/2, 4 3/4, 1, 1 1/2, 2, 3	
Score Board <sup>9</sup>	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	48	96	3/4, 1, 1 1/2, 2, 2 1/2	
Square Edge <sup>9</sup>	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	24 24	96 96	3/4, 1, 1 1/2, 2, 2 1/2, 3, 4 3/4, 1, 1 1/2, 2, 2 1/2, 3	
TONGUE & GROOVE	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	24 48	96 96	3/4, 1, 1 1/2, 2 3/4, 1, 1 1/2, 2	

**NOTES:**

- Values are consistent with the criteria of ASTM C 578 and the requirements of the FTC R-value rule (16 CFR Part 460). The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-value. A fifteen year limited thermal warranty is available.
- R means resistance to heat flow. R-values are expressed in °F·ft<sup>2</sup>·h/BTU.
- Vertical compressive strength is measured at 10% deformation (5% for STYROFOAM PLAZAMATE and for STYROFOAM brand High Load 40, 60 and 100 products) or at yield, whichever occurs first. Since STYROFOAM brand insulations are visco-elastic materials, adequate design safety factors should be

- used to prevent long term creep. for static loads, 3-1 is suggested. For dynamic loads, 5-1 is suggested.
- Water vapor permeance varies with product type and thickness. Values are based on the desiccant method and they apply to Insulation 1 inch in thickness. Thicker products have lower permeance.
- Former Federal Specification HH-I-524C was cancelled in 1985 and replaced by ASTM Specification C 578.
- This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
- For 1/4" thickness.
- For 1.5" thickness.

- If using these products for z-furring applications, please contact your local Dow Sales Representative for exact Product sizes.
  - Water absorption per ASTM D2842
  - For 1/2" thickness
  - R value is 10.0 for nominal 2" thickness and 15.0 for nominal 3" thickness
  - Recommended load (psf) including 5:1 design factor
- Not all products are available in all parts of the country. Other product sizes are available on a made-to-order basis. Please contact your Dow sales representative with questions.