



# MOLDED POLYSTYRENE

COLD CHAIN | PROTECTIVE PACKAGING | OEM COMPONENTS

## PHYSICAL PROPERTIES

PROPERTY		75	100	125	150	200	250	300
Nominal Density	lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	0.75 (12)	1.00 (16)	1.25 (20)	1.50 (24)	2.00 (32)	2.50 (40)	3.00 (48)
Density (min)	lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	0.70 (12)	0.90 (15)	1.15 (18)	1.35 (22)	1.80 (29)	2.40 (38)	3.00 (48)
ASTM C578 Classification	-	Type XI	Type I	Type VIII	Type II	Type IX	Type XIV	Type XV
R-value per inch at 75°F	°F·ft <sup>2</sup> ·h/Btu (°K·m <sup>2</sup> /W)	3.2 (0.57)	3.9 (0.68)	3.9 (0.69)	4.2 (0.73)	4.4 (0.77)	4.4 (0.77)	4.5 (0.78)
R-value per inch at 40°F	°F·ft <sup>2</sup> ·h/Btu (°K·m <sup>2</sup> /W)	3.4 (0.60)	4.2 (0.73)	4.3 (0.75)	4.6 (0.80)	4.8 (0.84)	4.8 (0.84)	4.9 (0.86)
K-value (Thermal Conductivity) at 75°F	Btu·in/°F·ft <sup>2</sup> ·h (W/°K·m)	0.31 (0.045)	0.26 (0.037)	0.26 (0.037)	0.24 (0.035)	0.23 (0.033)	0.23 (0.033)	0.22 (0.032)
K-value (Thermal Conductivity) at 40°F	Btu·in/°F·ft <sup>2</sup> ·h (W/°K·m)	0.29 (0.042)	0.24 (0.035)	0.24 (0.034)	0.22 (0.032)	0.21 (0.030)	0.21 (0.030)	0.21 (0.030)
Compressive Resistance @ 1% Deformation	psi (kPa)	2.2 (15)	3.6 (25)	5.8 (40)	7.3 (50)	10.9 (75)	15.0 (103)	18.6 (128)
Compressive Resistance @ 5% Deformation <sup>1</sup>	psi (kPa)	4.0 (28)	8.0 (55)	11.7 (81)	13.5 (93)	22.5 (155)	35.0 (241)	43.5 (300)
Compressive Resistance @ 10% Deformation <sup>1</sup>	psi (kPa)	5.0 (35)	10.0 (69)	13.0 (90)	15.0 (104)	25.0 (173)	40.0 (276)	60.0 (414)
Elastic Modulus	psi (kPa)	220 (1,500)	360 (2,500)	580 (4,000)	730 (5,000)	1,090 (7,500)	1,500 (10,300)	1,860 (12,800)
Tensile Strength <sup>1</sup>	psi (kPa)	10 (69)	20 (138)	25 (173)	30 (208)	40 (276)	50 (345)	60 (414)
Flexural Strength <sup>1</sup>	psi (kPa)	10 (69)	25 (173)	30 (208)	35 (242)	50 (345)	60 (414)	75 (517)
Shear Strength <sup>1</sup>	psi (kPa)	7 (48)	12 (83)	15.5 (107)	18 (124)	24 (166)	30 (208)	35 (242)
Water Vapor Permeance per inch	perm	5.0	5.0	3.5	3.5	2.5	2.5	2.5
Water Absorption <sup>2</sup>	volume %	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Maximum Use Temperature	°F °C	165 (74)	165 (74)	165 (74)	165 (74)	165 (74)	165 (74)	165 (74)
Coefficient of Thermal Expansion	x10 <sup>-6</sup> /°F x10 <sup>-6</sup> /°C	35 (63)	35 (63)	35 (63)	35 (63)	35 (63)	35 (63)	35 (63)

<sup>1</sup> A factor of safety of 3 is recommended for long term loads.

<sup>2</sup> ASTM C272 24 hour immersion followed by 24 hour storage in 75°F/50%RH air.

Atlas packaging products and OEM components have been designed to effectively cushion, insulate and protect your products. With facilities located nationwide, Atlas molded polystyrene products are manufactured under an industry leading quality control program, with design, customization, and testing services available to meet your needs.

## DESIGN OPTIONS

Our experienced and dedicated staff will work with you to select the most appropriate molded polystyrene solution to meet your needs. Our products are available in a variety of densities to provide the necessary structural integrity, thermal resistance and cost effectiveness.

## THERMAL & MOISTURE PERFORMANCE

The insulating cells of Atlas packaging products and OEM components simply contain air rather than blowing agents, providing a stable, long term R-value that does not degrade over time. Additionally, Atlas molded polystyrene products have minimal moisture retention.

## MOLD & MILDEW RESISTANCE

Atlas molded polystyrene products have been tested against 4 week exposure to various mold and fungi via ASTM G21, D3273, and C1338 with no growth of spores on the product or nutritive value for mold.

## SUSTAINABILITY

Atlas is committed to producing high-quality products through environmentally responsible manufacturing, which is why all of our molded polystyrene products do not contain CFCs, HFCs or formaldehyde, and have a low Global Warming Potential (GWP) and zero ozone depletion potential (ODP). Additionally, all of our packaging products and OEM Components are 100% recyclable at the end of their service life, which can be dropped off at any of our Atlas Molded Products locations for recycle.

FOR MORE INFORMATION AND PRODUCTS VISIT [ATLASMOLDEDPRODUCTS.COM](http://ATLASMOLDEDPRODUCTS.COM)

GREATER COVERAGE  
GREATER AVAILABILITY



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