

Physical Properties of Insulfoam EPS

The physical properties provided in this manual are average values determined by Insulfoam, Insulfoam raw material suppliers and independent testing agencies. Testing results were obtained under controlled laboratory conditions and do not represent minimum standards. Insulfoam is not obligated to manufacture its products per a designer's specifications or physical standards unless agreed to in advance by Insulfoam. It is the purchaser's obligation to ensure any purchased Insulfoam materials meet a specification's physical properties.

Certification

Insulfoam must be notified at the time materials are ordered if product must be certified to meet an ASTM or other specification and/or must bear an Underwriters Laboratories, Inc (UL) or Factory Mutual (FM) label or marking. Insulfoam will perform the required tests and certify that materials meet specifications, with or without exception, upon acceptance of the order.

Typical Physical Properties of Insulfoam*							
Property	Type I	Type VIII	Type II	Type IX	Type XIV	Type XV	Test Method
Nominal Density (pcf)	1.0	1.25	1.5	2.0	2.50	3.0	ASTM C303
C-Value (Conductance) BTU/(hr·ft ² ·°F)							ASTM C518 or ASTM C177
(per inch) @ 25° F	.230	.220	.210	.200	0.198	0.196	
@ 40° F	.240	.235	.220	.210	0.206	0.198	
@ 75° F	.260	.255	.240	.230	0.222	0.217	
R-Value (Thermal Resistance) (hr·ft ² ·°F)/BTU							ASTM C518 or ASTM C177
(per inch) @ 25° F	4.35	4.55	4.76	5.00	5.05	5.10	
@ 40° F	4.17	4.25	4.55	4.76	4.85	5.05	
@ 75° F	3.85	3.92	4.17	4.35	4.50	4.60	
Compressive Strength (psi, 10% deformation)	10 - 14	13 - 18	15 - 21	25 - 33	40	60	ASTM D1621
Flexural Strength (min. psi)	25	30	35	50	60	75	ASTM C203
Dimensional Stability (maximum %)	2%	2%	2%	2%	2.0	2.0	ASTM D2126
Water Vapor Permeance (max. perm., 1 inch)	5.0	3.5	3.5	2.0	2.5	2.5	ASTM E96
Water Absorption (max. % vol.)	4.0	3.0	3.0	2.0	2.0	2.0	ASTM C272
Capillarity	none	none	none	none	none	none	-
Flame Spread	< 20	< 20	< 20	< 20	< 20	< 20	ASTM E84
Smoke Developed	150 - 300	150 - 300	150 - 300	150 - 300	150-300	150-300	ASTM E84
Typical Physical Properties of R-Tech*							
Property	Type I	Type VIII	Type II	Type IX	Test Method		
Compressive Strength (psi, 10% deformation)	13	16	20	28	ASTM D1621		
Flexural Strength (psi)	33	40	50	70	ASTM C203		
Water Vapor Transmission (perms)	< 1.0	< 1.0	< 1.0	< 1.0	ASTM E96		
Absorption (% vol.)	< 1.0	< 1.0	< 1.0	< 1.0	ASTM C272		

*Properties are based on data provided by resin manufacturers, independent test agencies and Insulfoam.

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Manufacturing in:

Alaska - Arizona - California - Colorado - Florida - Nebraska - Utah - Washington