

Quality Standards

Specifications:

Bureau of Indian standard has developed standard specifications for expanded polystyrene for thermal insulation purposes according to IS 4671 (1984).

REQUIREMENTS FOR EXPANDED POLYSTYRENE

according to IS 4671 (1984)

Sr. No.	Characteristic	Requirements at various nominal apparent densities, kg/m ³					
		15	20	25	30	35	
1	Compressive Strength at 10 % Deformation, in kg/m ² , Min	0.7	0.9	1.1	1.4	1.7	
2	Cross - breaking Strength, in kg/m ² , Min	1.4	1.6	1.8	2.2	2.6	
3	Water vapour Permeance, in g/m ² .24h, Max	50	40	30	20	15	
4	Thermal stability, in %, Max	1	1	1	1	1	
5	Moisture absorption, in %	2	1	1	1	1	
6	Thermal Conductivity mW/cm °C	0°C	0.34	0.32	0.30	0.29	0.28
		10°C	0.37	0.35	0.33	0.32	0.31

note: to convert value from mW/cm °C to kcal/m h °C

$$\begin{array}{rcl} \text{mW/cm } ^\circ\text{C} & & \text{kcal/m h } ^\circ\text{C} \\ 1 & = & 11.6300 \\ 0.085985 & = & 1 \end{array}$$

Note: The thickness of the Expandable polystyrene is 50 mm in all the above characteristics