Styrene Products, Inc.

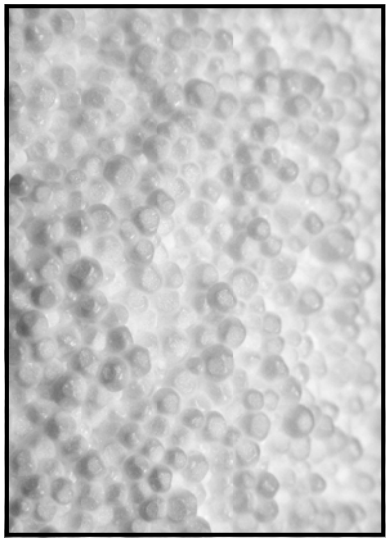
Solutions for the Construction Industry

Be Green ~ Think White

What is EPS?

Expanded polystyrene (EPS) is a rigid cellular plastic that is made from expandable resin beads. In its expanded state, EPS consists of approximately 98% air and 2% polystyrene. It is this unique property that gives EPS exceptional cushioning and insulating properties.

Benefits of EPS



Energy efficient

- No thermal drift

Moisture resistant

Vapor permeable

- Transfers vapor away from buildings

Resists temperature cycling

- Performs well in freeze-thaw conditions

Durable & versatile

Termite resistant

- Non-nutritive to any living organism

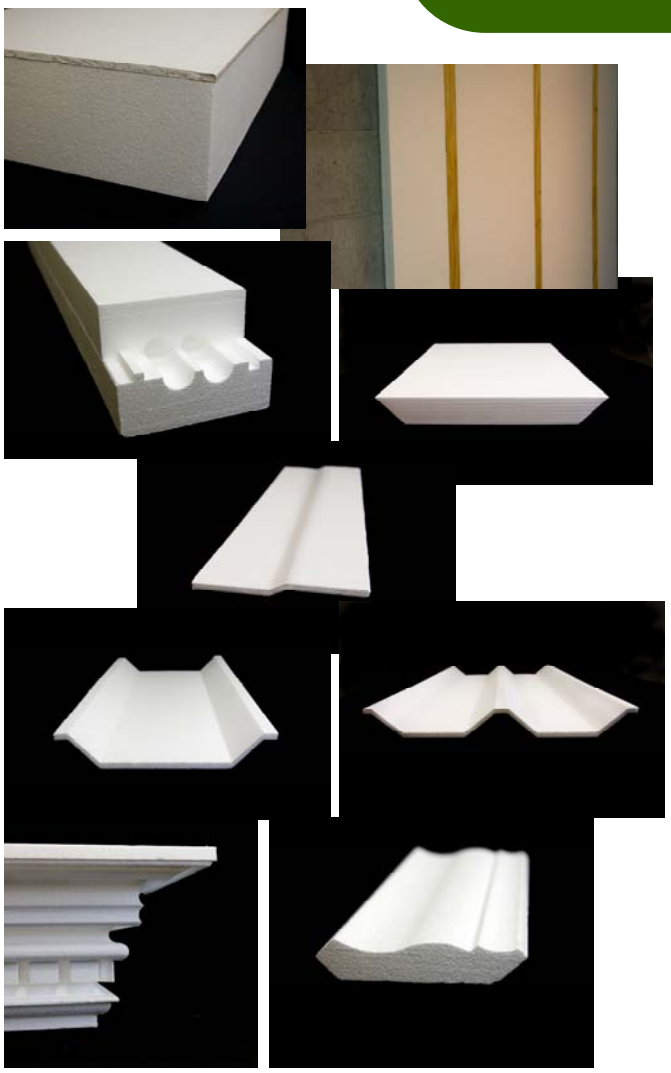
Environmental Concerns

EPS contains no ozone depleting agents or formaldehyde, and has never incorporated CFC, HCFC, or HFC's. It is 100% recyclable and chemically inert in both soil and water. EPS will not decompose, decay, or produce undesirable gases or leachates. EPS does not contribute to the growth of mold or mildew. It is safe for Waste-to-Energy (WTE) systems, since the resulting products when burned are primarily carbon dioxide and water.

Projects employing EPS have the opportunity to earn up to 8 LEED (Leadership in Energy and Environmental Design) credits.

5320 Fuller Street Schofield, WI 54476 (ph) 715-359-6600 (fax) 715-355-5472

Applications



- Sheet insulation
- Laminated EPS sheets
- Attic scuttles
- R-stud basement insulation systems
- Below ground pipe insulation
- Foundation insulation
- Flute fillers
- Siding backer
- Handy vents
- Tapered roof insulation
- Architectural designs
- R-pour block fill

20-Year Thermal Warranty

EPS offers a long-term "as manufactured" R-value warranty. The cellular structure of each bead of EPS contains dead air, which inhibits the conduction of heat transfer. In contrast, the R-values for XPS and polyisocyanurate (ISO) rigid insulation are affected by their residual blowing agents. Compare the R-value of rigid foam insulations.

EPS — 100% R-value for 20 years

XPS — 90% R-value for 15 years

ISO — 80% R-value for 10 years

5320 Fuller Street Schofield, WI 54476 (ph) 715-359-6600 (fax) 715-355-5472

Performance

Real World Application Testing

EPS was installed as below grade insulation around the perimeter of a new building in St. Paul, Minnesota in 1993. As part of a 15 year moisture absorption study, EPS was placed next to Extruded Polystyrene (XPS) insulation for comparison.

Many were astounded by the results of the independent study upon removal of the EPS and XPS samples in 2008. The samples were tested immediately after removal from the foundation wall, and then again after being conditioned for 28 days at 72F/50% RH. The results can be seen in the tables below.

Thermal Resistance			Moisture Content		
	R-value/in. Upon removal	Conditioned R-value/in.		Volume % Upon removal	Conditioned Volume %
EPS	3.4	3.7	EPS	4.8	0.7
XPS	2.6	2.8	XPS	18.9	15.7

The EPS insulation maintained 94% of it's stated R-value of 3.6 after the 15 year time lapse, and had a moisture content of 4.8%. The XPS insulation only retained 52% of its stated R-value of 5.0, and had an amazingly high moisture content of 18.9%.

It is apparent that EPS works to maintain an equilibrium condition with the surrounding soil and foundation system, whereas XPS traps moisture within its cell structure, causing a loss in R-value over time.

Source: Foam Control EPS Tech Bulletin—EPS No. 1016

Visit us on the web at www.styreneproducts.com

5320 Fuller Street Schofield, WI 54476 (ph) 715-359-6600 (fax) 715-355-5472