

Polyiso insulation: The industry's choice for energy conservation

Polyisocyanurate insulation, one of the nation's most frequently specified and installed insulation products, is used in more than 50 percent of all new commercial roofing insulation applications and in 40 percent of all residential sheathing applications, according to industry statistics. The polyisocyanurate insulation industry produces more than 2 billion board feet of the product each year to meet this growing demand.

The reasons for polyisocyanurate insulation's immense popularity are many, and include performance as well as economic factors. For example:

- *Polyisocyanurate insulation is one of the most effective forms of insulation available today. With an average R-value of 7.2 per inch at a 75 F mean temperature, gas-impermeable faced polyiso board stock has nearly twice the R-value per inch of expanded polystyrene with its average R-value of 3.9 per inch. And it is 100 percent more effective per inch than the average 3.6 R-value of fiberglass blankets or batts (see Figure 1).*
- *This insulation has one of the lowest installation costs of any product available. Several factors contribute to this: it is lighter to ship and handle; no special tools are required for installation; it is the easiest form of insulation to trim; and it is resistant to damage. Additionally, a required R-value can be*

achieved with fewer inches of insulation, which means that shorter fasteners can be used to secure the insulation to the deck (see Figure 2). Shorter fasteners are less expensive and cut labor costs because they are faster to install.

long-term performance. In commercial roofing, more than 60 percent of the applications involve hot bitumen. While polyisocyanurate insulation is compatible with hot bitumen, other products may melt at the equiviscous temperature of the

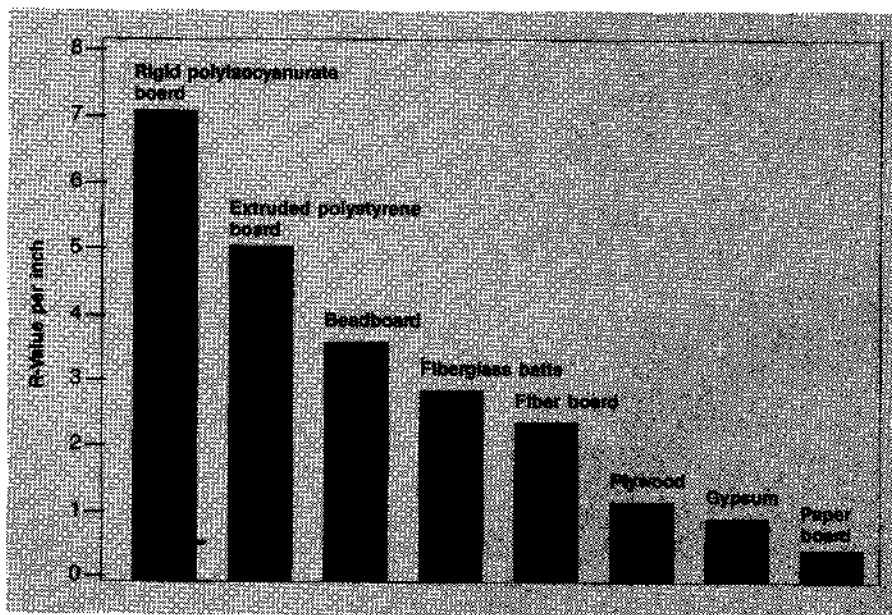


Figure 1: Polyiso insulation is one of the most effective forms of insulation available today. At a 75 F mean temperature, gas-impermeable faced polyiso board stock has a greater R-value per inch than any other insulation product.

- *Polyisocyanurate insulation has among the lowest construction costs of any insulation product. Its light weight reduces load-bearing requirements, and its thin dimensions allow for more interior design space and a lower roof profile.*
- *The product is compatible with various roofing systems and provides*

bitumen. In addition, fully adhered single-ply roof membranes use solvents that could degrade or decompose many types of insulations. When properly applied, polyisocyanurate insulation, however, withstands this process and is used exten-

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sively in this application. The insulation's durability and compatibility with many different roofing systems also reduces the chances of costly call backs.

"While polyisocyanurate insulation leads the industry today, its manufacturers are not content to stand still," says Lorraine Aulisio, chairman of the Polyisocyanurate Insulation Manufacturers Association (PIMA). She adds, "We are striving to elevate the thermal and mechanical performance of the product even further.

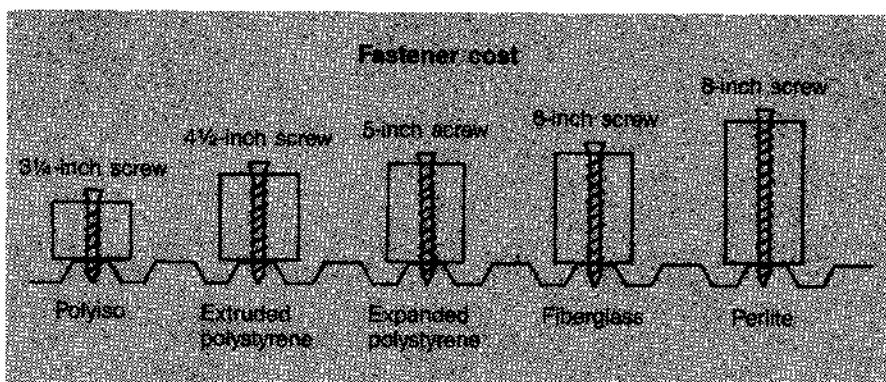


Figure 2: Polyiso insulation enables contractors to achieve a desired R-value with less insulation; therefore, shorter fasteners, which are less expensive and faster to install, can be used.

Energy efficiency trend emerges

Energy efficiency is emerging as a greater priority for the U.S. public. This trend, which is echoed in the construction industry, presents selling opportunities for roofing and insulation contractors as consumers demand more energy-efficient homes and buildings. Three recent studies document the recent push for energy conservation.

The first and most consumer-oriented of the studies shows that a wide majority of people in the United States favor a dramatic redirection of the nation's energy policies to stress energy efficiency and renewable sources of energy. The study, conducted by leading Republican and Democratic pollsters, was released by the Alliance to Save Energy and the Union of Concerned Scientists last year. The report's highlights state that:

- Ninety-one percent of respondents support a policy requiring new Federal Housing Administration and Veterans Administration financed homes to meet federal standards for energy efficiency.
- Eighty-six percent of poll respondents support a policy requiring utility regulatory reform that encourages utilities to invest in energy-efficiency improvements in their customers' homes and buildings.

- Eighty-four percent of respondents said conserving energy and developing renewable energy technologies should be emphasized *the most* in planning for future energy needs.

The other two studies polled specifiers and members of the construction industry about energy conservation issues.

A *Progressive Architecture* study of 250 architects, engineers, designers and draftsmen looked at how specifiers are designing with energy efficiency in mind. The study found that 83 percent of the respondents said they anticipate a need for improvements relating to energy efficiency in the building envelopes that will be designed over the next five years.

The Society of the Plastics Industry Inc. (SPI) conducted a study of nearly 600 architects, roofing and insulation contractors, home builders and environmental groups. The study looked at what these professionals consider in evaluating insulation needs, their awareness of conservation and industry perceptions of insulation products. Eighty percent of the 85 roofing contractors, 92 percent of the 129 architects and 82 percent of the 67 home builders indicated that they also expect to see an increased

emphasis on energy efficiency or conservation in the future.

In addition, the SPI study reaffirmed the popularity and performance of polyisocyanurate insulation. Sixty percent of architects and 85 percent of contractors reported that they specified or installed polyisocyanurate insulation on new or total tear-off commercial roofing projects.

When asked to cite the advantages of polyisocyanurate insulation, the most frequent response given by architects, contractors and home builders was its thermal value. The second most-frequently cited advantage given by architects and contractors was ease of handling. Home builders cited cost-per-R-value second most often.

"These findings are indicative of a trend that the industry has suspected for some time," explains Jared O. Blum, president of PIMA. "Consumers and the government are becoming increasingly concerned with energy efficiency for environmental and national energy security reasons. They, in turn, are challenging the construction industry, including insulation manufacturers, to provide products and buildings that are more energy efficient. PIMA will continue to respond willingly to this challenge." **PR**