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Oh, Say Can You Soy?

By Deborah L. O'Mara

That snappy little legume known as the soybean is now a force in green building.

For decades, the soybean has been a staple of the agricultural economy. Now, soy-based products shine bright in a different spotlight. Soy-based emollients have been featured on shop-at-home cable television, soy roof coatings have been used in renovating the John G. Shedd Aquarium in Chicago, and soy elevator grease is doing its job in the Statue of Liberty in New York City.

Much of the current attention garnered on the bean is on construction materials, especially in projects for clients with chemical sensitivities or allergies or who just want better indoor air quality. Soybean-based products contain no urea/formaldehyde and, while they are processed with chemicals, they release no volatile chemicals or other toxic emissions. Some of the soy-based products now on the market include carpet backings; wood and concrete coatings and stains; adhesives; roofing; and structural membrane coatings. Its latest role is as an insulating material.

Foam Insulation

Resistant to mold and mildew, soy foam insulation is sprayed on; the product expands in the wall like similar products. According to the United Soybean Board (USB), soy insulation provides insulation characteristics that are as good as or better in four-inch walls as traditional batting insulations with six-inch stud construction. And unlike traditional batting, it's free of formaldehyde. Soy-based insulation may also reduce building costs by decreasing the amount of lumber used.

Rigid foam soy insulation is new on the market, as well. One manufacturer, Urethane Soy Systems Co. (Volga, S.D.) touts its "Soy Therm" as having a density of 1/2 pound per cubic foot of rigid foam insulation.

The USB has a cooperative initiative known as the national soybean checkoff. Under the program, an assessment of 0.5 (one-half) of 1 percent of the net market price of soybeans is collected, and all producers marketing soybeans must pay the assessment. The funds are used to promote and educate and conduct research on soybeans, and it seems to be working.

Safety First

Emega Technologies, Lancaster, Ohio, produces soy-based polyurethane foams, panels and a small-scale insulated concrete form manufacturing system. Owner Don Duffy says soy insulation is safer than other building products. Don says it's a natural for remodelers to offer soy-based insulation to customers, who increasingly request healthy homes. "It does not emit gases and chemicals, long or short term, like those present in many other different types of building materials. It's easy to form into shapes and lightweight."

Check these sources for more information on soy-based insulation:

- ▶ [United Soybean Board](#)
- ▶ [American Soybean Association](#),
- ▶ [BioBased Systems \(spray foam insulation\)](#)
- ▶ [Construction Polymers International \(spray foam insulation\)](#),
- ▶ [BioPolymers \(foam insulation\)](#)
- ▶ [Urethane Soy Systems \(SoyOyl® and rigid foam insulation\)](#)
- ▶ [Emega Technologies \(soy-based insulated concrete form manufacturing system\)](#)
- ▶ [Heartland Resource Technologies \(soy-protein adhesives for engineered wood\)](#)



Soy insulation is available as a spray-on foam, as well as in panels.