



Plastics manufacturers learn about the 'insulation 'tank' that could'

FEATURE

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Shannon Global Energy Solutions, which bills itself as *engineering reusable solutions for a sustainable planet*, has designed a new, removable and reusable thermal insulation blanket (Model MT455C-SSi) recommended for plastics manufacturers because of its safety features, including a thermal barrier protecting employees from high-temperature equipment like extruder heads, dies and barrels. According to Shannon, workers can easily install and uninstall the product in minutes. The MT455C-SSi protects employees from hazardous temperatures and keeps heat loss to a minimum.

Mike Makofsky, Northeast Regional manager of Shannon, has answered questions about the new MT455C-SSi blanket, safety in different facilities, and Shannon's approach to the plastics industry.

Q: Why are plastics manufacturers a good candidate for removable thermal insulation?

A: Number one: safety. Removable thermal insulation prevents burns. Think about plastic extrusion, injection molding or blow molding; that equipment typically uses many kilowatts of electricity to heat the equipment that makes the product. There are a lot of hot surfaces, starting as high as 204 Celsius, located within inches of the operators. Number two: it reduces the ambient temperature between the equipment and worker. Heat in the area typically requires air conditioning the space to be acceptable to work in, which can add extra HVAC cost. Third: removable thermal blankets also help regulate and control the temperature inside the equipment, which helps ensure a more uniform product. How? Our insulation includes 11-pound fiberglass needled mat inside each blanket, providing 50- to 70-percent energy savings and reduces ambient room temperature around the equipment by up to -4 C. Many people call it a "tank" because it's a

very well-constructed, resilient design proven to last 15 or more years without diminishing performance rated to 454.4 C.

Q: What do you say to plastics manufacturers about removable/reusable blankets when you meet them?

A: We provide the best way to help them reduce the ambient room temperature and create a safer environment allowing their workers to work more efficiently. Plastics manufacturers probably are not aware of how a removable insulation blanket system aids the manufacturing process. We help them create a more uniform product. Since the extrusion process starts when plastic pellets drop from the hopper and travels through the barrel, getting hotter and hotter, that controlled heat, combined with the velocity of the plastic, in part, delivers a more consistent product through the die(s). They also may not be aware of Health and Safety Executive regulations the blankets address. In the United States, HSE's counterpart is OSHA, and OSHA says that if anything is 15.6 C or higher and within 2.13 meters of the operator, then it needs to be protected. Other countries where plastics equipment is in use may not have the equivalent of HSE or OSHA regulations, but you shouldn't need a regulation to protect your most valuable asset: your worker.

Q: Is there energy saved by plant managers who use an MT455C-SSi or other type of thermal blanket?

A: Yes, the SSi cloth that is made from silicone and silica is a great energy-saver when coupled with the fiberglass needled mat inside the blanket; machine operators get tremendous heat protection from the blanket. You can put your hand on the Shannon thermal blanket and the blanket surface is just warm to the touch even though the surface temperature of the equipment is 204 C. A facility owner can rest assured the blanket is protecting the operator. Think about that: 204 C would cause a third-degree burn. The best thing about our blankets is that

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they're still providing surface temperature reduction throughout the blanket's lifespan. With this type of insulation, you are guaranteed consistent, long-lasting performance; like a tank, it is built to last.

That resilient little tank of a blanket will continue to provide 50- to 75-percent energy reduction, year after year. In North America utility companies will often provide rebates as incentives for kilowatt-hour reduction.

Q: What goes into making a custom-fitted blanket?

A: Attention to detail. Typically, there are many cut-outs required for a blanket to properly cover a plastics-making component, so we want to know where they are positioned. If, for example, the diameter of the auxiliary pieces coming off an extruder head measure a couple centimeters, we strike a balance between making the cut-out large enough to easily put on the blanket, and too over-sized, which would let energy escape. We're making an asset that the customer is going to use for at least 15 years. We talk to them because we're not the ones that have to take it off and put it back on, so it's important to get their opinion. A good example is on a gate or globe valve where there's a body and a bonnet; we'll make two blankets. One covers the body, and one covers the bonnet. Typically, the bonnet will require maintenance. While working on the bonnet, workers can carry out maintenance more safely, confidently and efficiently because the valve body is still covered. It's important to communicate with the customer, find out what they want as well as how they want to use the blanket. You could have two customers, and they probably would want it designed differently. Its features include a double-sewn stitch that helps lock in air and prevent excessive heat loss. With Shannon Global Energy Solutions computer aided design, or CAD, every blanket is unique to the customer and can accommodate most any equipment geometries. Each blanket comes with an ID plate that

identifies the size, description and equipment location according to a tag number sequence.

Q: How has the design and construction of removable blankets changed, improved over the years?

A: As architect Louis Sullivan said, "form ever follows function," and we have 20 to 30 products of all types and sizes to accommodate different temperatures, ranging from 4 to nearly 1,100 C. When we see a need for something, we'll create a solution. Our approach is not product driven, rather we design new products to alleviate a customer's pain point; when we learn why something doesn't cut the muster, we redesign and still maintain the benefits of truly reusable blankets. Frank Kovacs, president and CEO of Shannon, says: "All insulation is removable, but not all insulation is truly reusable." Shannon blankets are truly reusable; it's important to the industry that people understand that. When removing and replacing a blanket becomes even slightly challenging, human nature takes over and an improperly designed blanket once removed never goes back to the components it's meant for. Now that €330 investment is not doing anything except gathering dust on the floor. It's our obligation that when we design something, it can be used repeatedly for years. We have developed different fasteners like SST wire-twist fasteners with Velcro seams; SST D-rings and straps, polypropylene side release buckles, and springs with hooks, to name a few. The need for reliable, cost-effective and easy to use solutions is one thing that's remained constant at Shannon.

About Shannon Global Energy Solutions

Since 1988, Shannon has engineered and manufactured insulation solutions for energy conservation, thermal efficiency, noise reduction and safety. With its CAD-CNC-ERP approach to design and manufacturing, Shannon is the world leader for reusable and removable insulation. Visit www.shannonglobalenergy.com.