



Insulation helps complete the circular economy

Many of us may have fond memories of rocking our kids to sleep listening to the soundtrack from the movie “The Lion King.” If you’re unfamiliar with the film, “The Lion King” tells the story of Simba, a young lion who is to succeed his father, Mufasa, as king of the Pride Lands. However, after Simba’s paternal uncle, Scar, murders Mufasa to seize the throne, Simba is manipulated into thinking he was responsible and flees into exile. Simba eventually returns to challenge Scar and takes his place in the “circle of life” as the rightful king.

While we can’t expect mechanical insulation to give the same thrilling experience as hearing Sir Elton John soulfully sing “Circle of Life,” insulation does play a part in the circular economy — a concept that is very similar to the circle of life. The circle of life, as a philosophical concept, means that we begin at the end and end at the beginning. Very similarly, the circular economy is a model of production and consumption that effectively creates a closed-loop system.

Many of us have grown up under the old industrial linear model, described as “cradle to grave.” This can be best described as “take, make, use, dispose and pollute,” and it uses up finite resources to create products with a finite lifespan — meaning the products end up in landfills. The circular approach, by contrast, takes insights from living systems (or even Disney movies) in that inputs are fed back into the cycle. For too long, the world has used a linear model of production and discarded products at the end of their use.

Transitioning to the circular economy also reduces carbon emissions. For example, eliminating the need to extract virgin raw materials reduces the greenhouse gas emissions associated with mining and processing those materials. Mechanical insulation is especially beneficial to those entities that desire to reduce their carbon emissions and use recycled materials. To illustrate these benefits, let’s look at a common mechanical insulation product that is widely used throughout North America and has documented recycled claims: fiberglass pipe insulation.

Fiberglass pipe manufacturers can document that the recycled glass content of their product is anywhere between 41 percent to 53 percent. For those of you who have been following my past columns in BIC Magazine, you may remember that adding 2 inches of fiberglass pipe insulation to a mere 8 feet of 4-inch bare pipe running at 350 degrees Fahrenheit can offset 18,000 pounds of CO₂ in a year, which is equal to driving a 2.7-liter truck 20,000 miles. This proves that mechanical insulation is a heavy lifter when it comes to reducing carbon emissions.

In my previous BIC Magazine column (March/April 2022, pg. 66), I discussed the use of an environmental product declaration (EPD). An EPD is a document that quantifies the amount of potential environmental impacts a manufacturer’s product creates during its entire lifecycle. To illustrate how using an EPD can help with the circular economy, let’s look back at the same 4-inch pipe with 2 inches of fiberglass insulation. Reflect for a moment that the typical 12-ounce beer bottle weighs 190 grams. If we do the math, and we use 50-percent re-

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cycled glass to make this size of fiberglass pipe, then 4 beer bottles would be recycled to make that 3-foot section of pipe insulation. Now that is something to roar about!

As our mechanical insulation industry evolves, we must ensure that materials used in our products and packaging remain in the economy indefinitely. Our mechanical insulation industry’s goal is to ensure that materials are not discarded into landfills. Our member companies are seeking innovative technologies and business models for their products and materials to be reused and repurposed indefinitely. Building a circular economy requires a tremendous amount of collaboration across not only our insulation industry, but all of construction as well.

For more information about how insulation reduces carbon emissions, visit www.insulation.org/about-insulation/carbon-reductions. ●

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