

Feeding the world with biofoam



ICEE Containers Pty Ltd is based in Melbourne, Australia. The company and its affiliates have 30 years' experience in manufacturing techniques, such as extrusion and air-pop® moulding. Recently the company has developed a revolutionary patented process that creates a strong and durable hinge in foam polymers during the moulding process. The result is a biofoam folding box with the potential to completely change the way that food is transported – from companies like Uber and Amazon, all the way to helping fight hunger in developing countries.

Traditionally, the unrivalled thermal performance of expanded foams made them superior for transporting perishables. But because of their bulky nature, they've failed to gain mainstream acceptance. They're simply too inconvenient and costly to transport through the supply chain.

But with ICEE's recent innovations, expanded foam boxes can now be produced, shipped and stored in a flat format. This saves time, space, money and makes them an incredible 60 per cent more efficient to move and store. The company has successfully moulded a durable hinge in BASF's ecovio® and in pure EPLA ZealaFoam® – both of which are plant derived and compostable. The boxes are 'hinged' during the moulding process with no additional production cost, allowing them to be packed flat for transport and storage.

"The ICEE biofoam box now offers companies with an environmental mandate an alternative to EPS, but with the same superior thermal and cushioning characteristics. This means there's a bright future for these biofoam boxes in cushioning delicate items such as electronics, white goods, furniture, major supermarkets and online food vendors. Because of their environmental credentials, they're a perfect fit for companies like IKEA looking to increase the use of 'green' packaging" said Gary Skinner, Managing Director ICEE.

But what's most exciting are the new markets that ICEE is exposing to insulated foam. The e-commerce sector is growing at an incredibly rapid rate, and is desperate for a last mile solution to keep food fresh. Whether online grocery stores, meal kits such as HelloFresh and Blue Apron, farm to fork, and any e-tailer offering online food deliveries, they all need to transport their product to customers in a way that's quick and cost-effective.

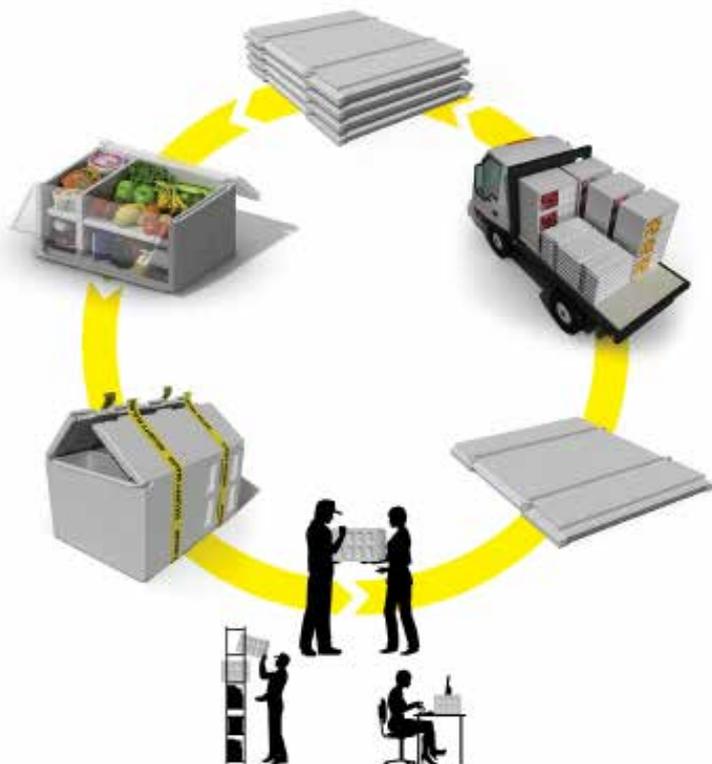
The package must also provide the essential ingredient for online deliveries and that is convenience. Because the package is thermal and security sealed, time-poor families achieve their freedom to continue their busy days confident the delivery stays chilled, fresh and secure until it is convenient to collect and unpack.

ICEE biofoam box solves this problem by providing insulated packaging that ensures food isn't spoiled along the supply chain – all without the need for refrigerated transport. This makes it easy for modern and disruptive delivery systems such as Uber, taxi apps, cycles, drones and droids to deliver food. The requirements of these services are the essential qualities of ICEE's product: thermal protection, cushioning, product security and folds flat for convenient storage until pick up on the next delivery cycle for reuse, recycling or composting.

This will benefit the customer by making it easier and more convenient to order food online. If they're not home to accept a delivery, their package can be left at home in a biodegradable, insulated, cushioned and security-sealed package. The ICEE biofoam box can also easily be delivered to a dedicated room at office buildings for employees' internet deliveries – something that's increasingly becoming the norm. Alternatively, as the biofoam box is insulated, it can be left at locker systems accessed with a pin code.

Once the order has been fulfilled, the biofoam box folds economically, making it convenient to return for reuse, recycling and ultimately composting. This is a vital part the product's life, as the ability to conveniently and





economically reuse or recycle is integral to any sophisticated supply chain, and a closed loop economy is becoming increasingly important to consumers.

The uses for ICEE's fold flat insulated packaging aren't limited to last mile solutions. With patented technology and low storage volume, it's also ideal for transporting food in developing countries. As a member of the UN initiative Save Food, ICEE is committed to reducing global food losses – which is estimated to be 30% of all food produced.

While some of these food losses are due to poor consumer choices, it's mostly due to food that spoils in the supply chain. The ability to provide developing countries access to biofoam insulated boxes can greatly reduce this number.

As the box can be stored outdoors in the field, it is immediately available when produce is harvested; it's impervious to the elements, providing superior thermal and cushioning protection. This means the boxes do not require warehousing and the produce doesn't bruise remaining fresh during the supply chain helping to reduce global food losses.

ICEE is also experimenting with PLA laminates to produce a super-tough version of the compostable box at a low additional cost, guaranteeing repeat use of the box and lowering the carbon footprint for manufacture. This will ensure that food can get where it needs to go safely, conveniently and in a way that's friendlier to the environment.

There was no ideal packaging for online food deliveries but ICEE's fold flat biofoam boxes create exciting solutions for the convenient delivery of perishable goods using low cost, energy efficient delivery systems. Post reuse and recycling, the ability to compost the biofoam package is a very attractive and satisfactory solution for end of life.

 www.iceefoldingbox.com

The "Cover-Girl" of this issue is Voula Skinner, Marketing Manager of ICEE Containers. She is also the author of this article.

