



## Cargo containers: Keeping it C°Safe!

The Ohio-based company CSafe Global was founded in 1989 by a father and son because, while they had been working in a third-world country, they witnessed the devastating effects of having life-saving vaccines and medicines spoiled by poor temperature management in transit. Over the past three decades, CSafe has grown to become a leading provider of high-performance air cargo technology and cold chain solutions, being the only manufacturer of both active and passive cold-chain packaging systems. Since 2016, they have been integrating Twaron®-based MACRO-Lite panels into the development of their new RAP temperature-controlled containers, enabling an even broader product portfolio.

### Keeping it cool – at all times

Over the past 30 years, CSafe has become one of the world's largest producers of active temperature-controlled air cargo containers globally. Across borders, across markets and across industry sectors, their high quality, innovative, and industry leading solutions are designed to maintain the integrity of the cold chain in extreme environmental conditions. In particular, CSafe's air cargo container solutions, with active temperature control technology, address the increasing needs of pharmaceutical and life-science companies for shipping temperature-sensitive, life-enhancing products to their patients around the world.

# Twaron®



To meet the highest-performance requirements of its diverse markets, CSafe actively investigates enabling material technologies that have the potential to add performance benefits to its different product lines, and actively searches for state-of-the-art materials and components.

#### **A special material for a special application**

“We first came across the technology of MACRO Industries, an Alabama-based company, at the ULD CARE Annual Conference in Beverley Hills, USA, in August 2016,” says Jonathan Neeld, Director of Certification & Regulatory Compliance, CSafe. “We were intrigued by the potential performance improvements enabled by MACRO-Lite, which are their Twaron®-based composite sheets. After some short discussions, it became clear that the high-performance properties of these container panels could really help take the CSafe RAP active container product development to the next level. For some time, we had looked at different ways to ensure the external durability of our new CSafe RAP container, and with MACRO-Lite, we could have both increased strength and higher impact- and puncture-resistant containers, with the added benefit of lower-weight containers. Our internal certification tests confirmed that this solution would meet our high-performance requirements. Since then, our CSafe RAP temperature-controlled active containers entered production in late 2017 and were released to the market in early 2018.”

#### **Meeting customer demands head on**

“The market we operate in is being driven by the need for higher performance products, more sustainable solutions, and technologies that meet higher safety and quality standards,” says Jonathan. “In many ways, MACRO-Lite enables improvements in the specific areas our customers would like to see progress and evolve. Thanks in part to Twaron®, our new CSafe RAP container offers high levels of strength, durability and impact-resistance, this in turn has the resultant benefit of increased container availability and lower repair costs.

#### **Together, the sky is the limit**

“Our collaboration with MACRO Industries and Teijin Aramid is still in the early stages,” says Jonathan. “We are very happy with our collaboration together so far, and the added value that we are delivering to our customers with our Twaron®-enabled RAP containers. Moving forward, I would like us to actively investigate the possibility of further collaboration and continue to assess how MACRO Industries’ technology and Teijin’s innovative materials could potentially help us in our drive as a market leader to offer best-in-class temperature-controlled air cargo solutions. There’s a good synergy between our activities, values and focus on quality – together with MACRO Industries and Teijin Aramid, the sky is the limit!”

**Twaron®**