THE MAGAZINE WITH INSIGHT
BUSINESSFOCUS

MEGA FORTRIS UK
A NEW SECURITY SEAL

MEGA FORTRIS
GROUP

SINCE WE LAST SPOKE WITH MEGA FORTRIS UK, THEY HAVE MADE INVESTMENTS IN SUSTAINABLE MATERIALS THAT ARE EXEMPLARY OF THE COMPANY'S APPROACH TO RESEARCH AND DEVELOPMENT.

A NEW SECURITY SEAL

PROJECT MANAGED BY:
DAVID TAVERNOR

It has been roughly a year and a half since we last spoke with Mega Fortris UK, the British arm of the Malaysian firm that is the market leader in the security seals sector for the logistics, food and beverage, chemical, pharmaceutical, and retail industries, amongst others, as well as load-securing equipment such as lashing systems. It is a full-service solutions provider offering a full range of products, and things have been going well for the company since we last looked in on them.

It has been an eventful 18 months since we last talked with the firm.

"I would say that the last year has been very good from a sales side. We hit a springboard coming out of COVID, quickly getting back to pre-covid levels, and sometimes even surpassing that. We are still looking at double-digit growth," says Keith Edgar, Managing Director of Mega Fortris UK. "On the flipside, container prices and carriage prices have been difficult to work with, but we have changed a lot of our processes compared to where we were two or three years ago. We are adapting and minimising our exposure to higher transport costs by changing the way we purchase."

Talking with Edgar, it is clear he is proud that Mega Fortris has both maintained its largest existing contracts and brought in some new ones. As well as growing, the company has also been adapting, which is essential in the face not only of rising material costs but also new legislation.

"All of our plastic seals, throughout our range, have 30% recycled material. Some have more than that," Edgar tells us. "That means we have faced zero exposure to the new plastic tax, and on top of that our plastic seals can be biodegradable."

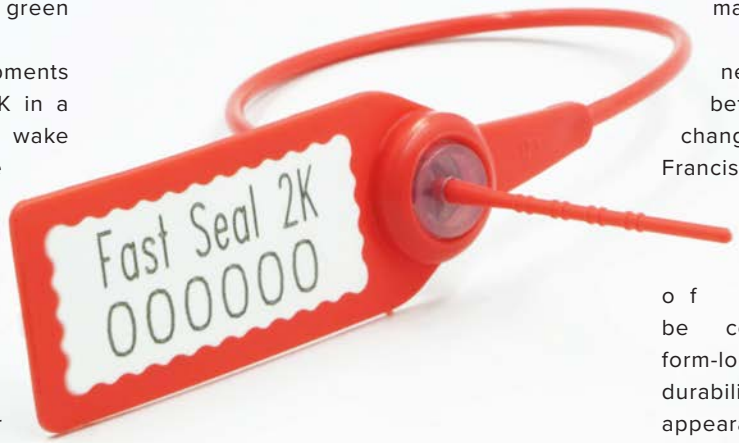
This has been made possible by Mega Fortris's ongoing investment in Research and Development.

"The Covid pandemic has not stopped or slowed down our Research and Development. If anything, we have done more," Edgar says. "We have ››

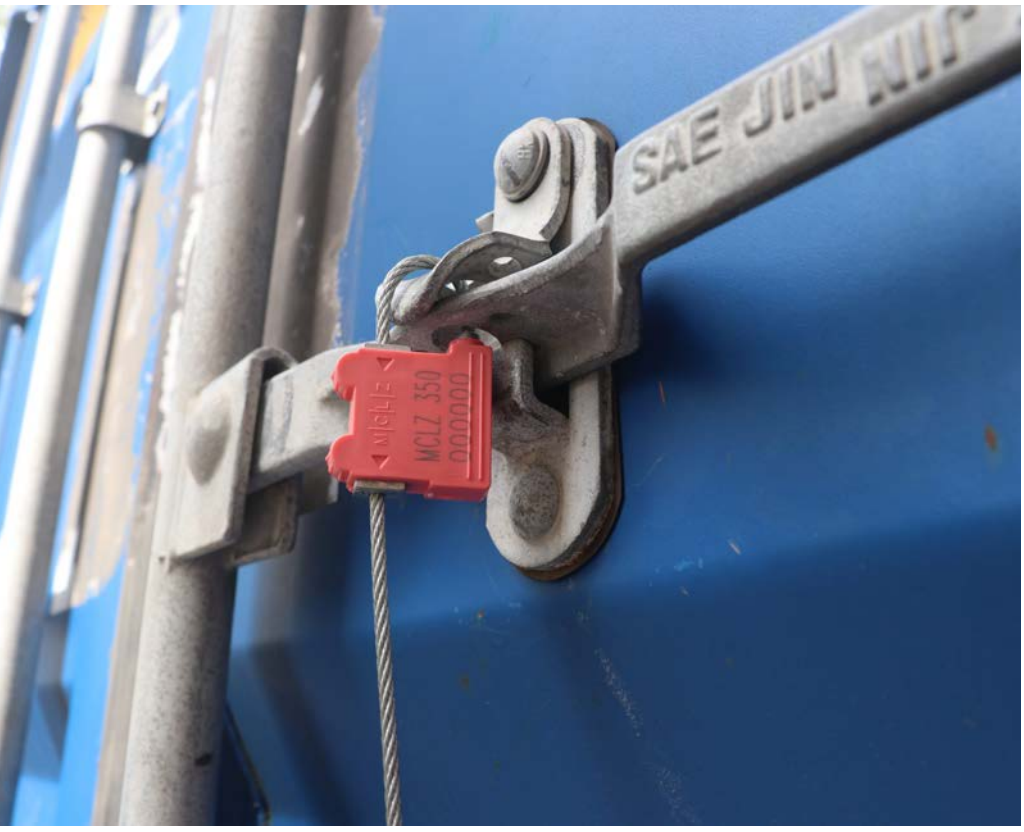
used a two-pronged approach, allowing us to conform to the new packaging legislation so we didn't have to pay the packaging tax while continuing to enhance our green credentials."

While these developments will put Mega Fortris UK in a strong position in the wake of the new taxes, the company has been working on them since long before this new legislation was announced.

"We have always emphasised our Research and Development," Edgar says. "We want Mega Fortris to be market leaders, and we are continuing our processes of optimisation to maintain our lead."



"THE COVID PANDEMIC HAS NOT STOPPED OR SLOWED DOWN OUR RESEARCH AND DEVELOPMENT. IF ANYTHING, WE HAVE DONE MORE."



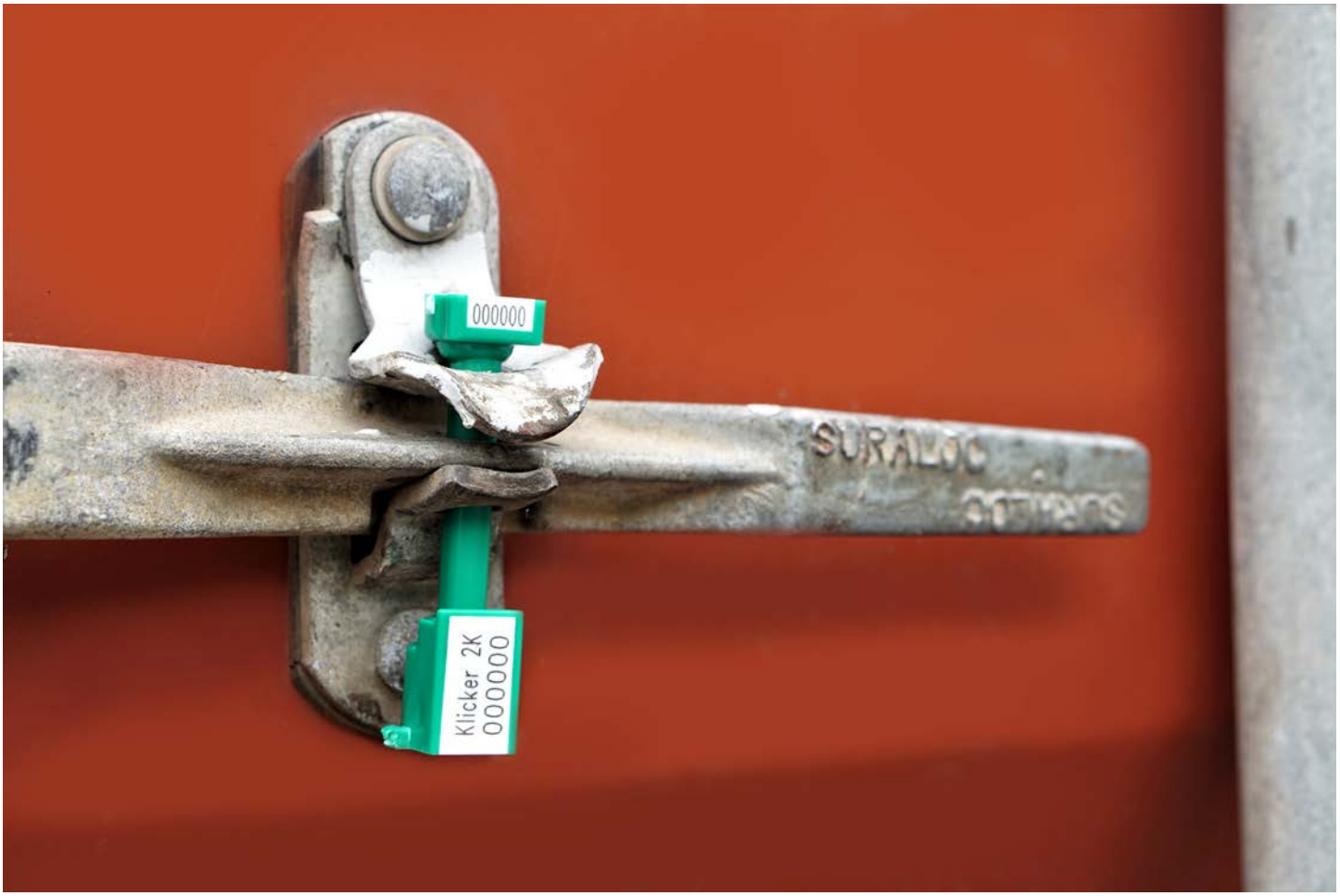
MATERIAL CONCERNS

That head start proved invaluable, as the technical challenges involved in developing such a product are many and varied.

"A number of factors needed to be considered before making the changes," explains Jason Francis, Mega Fortris Group Director of Production. "Critically, the functional integrity of the unit could not be compromised in any form-locking, laser marking, durability and general aesthetic appearance. In addition to this, we needed to consider the production processes themselves."

Mega Fortris UK's resin formulas comprise a number of inputs, all of which are aimed at specific achievements within the product itself. The challenge is that when using recycled products, the inputs used in the original manufacturing of those resins are not always known and can inadvertently affect other functional areas along the product production process. Changes in material input can lead to moulding issues, poor laser marking quality, or functional failure (tensile, pull back or otherwise).

"Within the production plant, plastic waste from the production process is easily controlled – we know the inputs and the ratio of the inputs within the by-product of the production," Francis says. "This makes it easier to reuse within our facility. However, when accessing external sources of recycled resins, very special care has to be taken as to the consistency of the supply. Contaminated resins pose a host of concerns ranging from product failure and poor product quality to mould and machine damage."



As Francis explains, fundamentally the challenge is consistency, and many recycled resin suppliers are unable to provide consistency of product over multiple deliveries.

"That's not to say the quality is poor," Francis emphasises. "But often different batches behaved differently in moulding or production conditions. In mass production where small changes in any number of variables can adversely affect the production, consistency is absolutely fundamental."

Fortunately, solving problems like this is a day of the office for Mega Fortris's Research and Development Team.

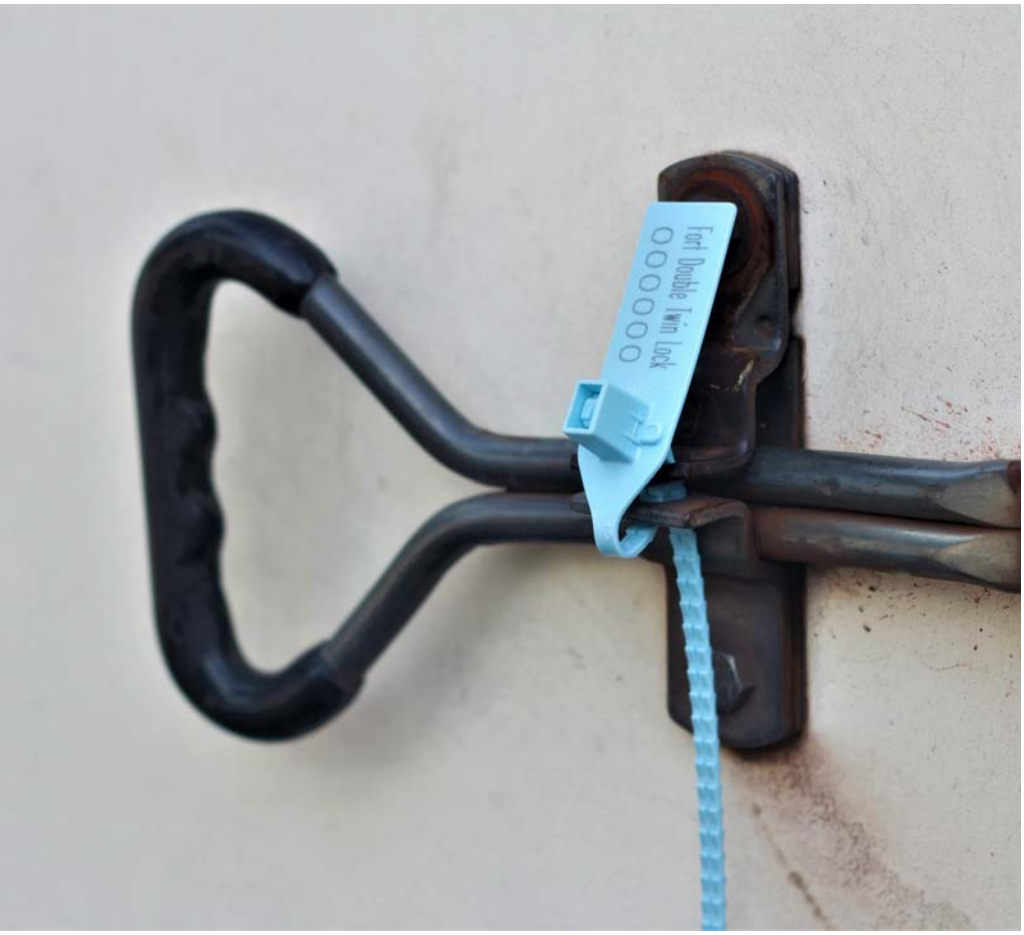
"WITHIN THE PRODUCTION PLANT, **PLASTIC WASTE FROM THE PRODUCTION PROCESS IS EASILY CONTROLLED** – WE KNOW THE INPUTS AND THE RATIO OF THE INPUTS WITHIN THE BY-PRODUCT OF THE PRODUCTION."

EVERY LINK IN THE SUPPLY CHAIN

"FMEA (Failure Modes and Effects Analysis) sessions were held with key department functions to identify potential pitfalls or areas that needed to be monitored closely," Francis tells us. "Once these were identified, success objectives were established for the project team to understand what we wanted to achieve with the potential changes. In this case, our objective was a minimum of 30% externally supplied, post-use, recycled resin inputs with no impact on quality of the product and with a limit of 5% or less effect in the output of the production facility."

It was not just a process of research and development, trial and error. It was also a question of careful procurement, communication and building relationships.

"Vetting potential vendors became the central focus of the design and procurement teams. Suppliers were identified and then subjected to vigorous checks," Francis explains. "Quality control systems, supply chain management and supplier ››



ISO certifications, all formed the basis of our evaluation of potential vendors. Once we shortlisted suppliers that met our selection criteria, sample batches were provided for the Design and Development and Technical teams to test."

Specific seal types were selected based on varying moulding conditions, marking requirements and functional expectations. Mega Fortris UK's production team drew on its extensive historical data to compare new test resins – and used this as the benchmark for evaluating possible recycled resin inputs.

Recycled resins were then used to produce the selected range of products– using various ratios of recycled resin to virgin mix, testing the products with the use of specific additives, and then subjecting the products to the full range of internal functional tests, as well as ISO17712:2013 Clause 6 tests.

"VETTING POTENTIAL VENDORS BECAME THE CENTRAL FOCUS OF THE DESIGN AND PROCUREMENT TEAMS. SUPPLIERS WERE IDENTIFIED AND THEN SUBJECTED TO VIGOROUS CHECKS."

"Only samples that met or exceeded existing standards were selected for full production testing," Francis says.

THE FINISHED PRODUCT

Moving to full production testing was a much bigger project and required a larger initial recycled resin order to be run in full production mode. "Full production mode" means uninterrupted production over a week-long production cycle.

"This allowed for the effects of possible external variations to be measured, such as changes in ambient temperature, production mixing methodologies and production consistency and quality," says Francis.

Even when the final sample resins were confirmed suitable for production, the process was not yet over. All the seals in Mega Fortris's plastic seal range were then tested before being approved by its Design and Development department. Only then, finally, did they take the final step of updating the SKU formulas and BOMs.

It is a long, in-depth, and sometimes difficult process, but it is also essential. This Research and Development cycle lays the foundation of Mega Fortris's business.

"Our core business is security seals," Edgar says. "We are one of the largest manufacturers of security seals in the world, with synergy in the load secure products sector. We sell devices which protect loads while monitoring them for shock, temperature, humidity, and light."

At a time when the supply chain is at the forefront of people's minds, it is a capability that is essential to businesses across the board.

Prevention
Protection
Peace of Mind

BIODEGRADABLE Plastic Seals

Mega Fortris UK is the global leader of security solutions providing an extensive range of seals and load securing products. We pride ourselves on supplying the largest range of ISO certified and UK customs accepted seals with a great and reliable service to match. As a business, we are at the forefront of the security market, being the world's first to develop a full range of biodegradable seals. This is part of our ongoing commitment to developing a sustainable future and helping the environment.

Mega Fortris UK Ltd
Unit 18 Cinder Road
Zone 3 Burntwood Business Park
Burntwood, Staffordshire, WS7 3FS, UK

T: +44 (0)1543 677 256
E: sales@megafortris.co.uk

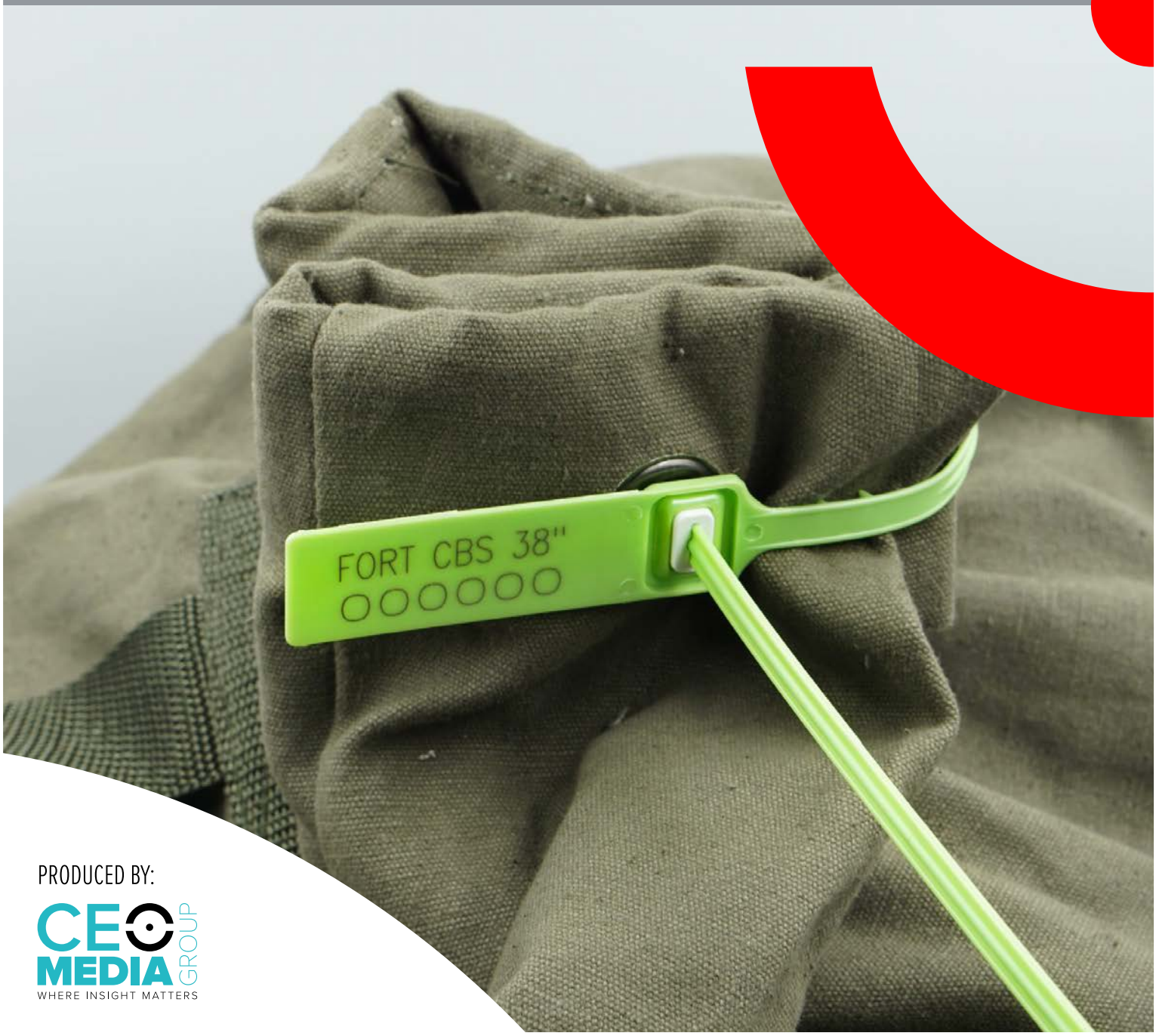
www.mfsecurityseals.uk

MEGA FORTRIS GROUP

MEGA FORTRIS
GROUP

MEGA FORTRIS UK

WWW.MFSECURITYSEALS.UK



PRODUCED BY:

CE MEDIA GROUP
WHERE INSIGHT MATTERS