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Ausgabe: Nr. 840, 09.03.2023

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## Automatic inline inspection maximises sustainability of silicone release liners

**Used silicone release papers from industrial manufacturing account for hundreds of tons of waste every day. To create a sustainable and resource-efficient alternative, Techlan recycles siliconized release papers and films from numerous industries so that they can be used once again. In doing so, the company relies on the ISRA VISION SMASH inline inspection system for its quality control – considerably increasing its production output and maximising the sustainability of Re-Liner, its 100% recycled release liner.**

Silicon release papers and films are used in electronics manufacturing, the automotive industry and numerous other sectors, for example as backing liners for self-adhesive components, composite manufacturing and as separation or insulation materials for lamination processes. Until now, however, they were never reused. This resulted in a great deal of waste, affecting resource consumption and being detrimental to the environment. Techlan wanted to change this and developed innovative recycling technology to recover used release liners for supply back into either the same, or a different industry sector. Techlan's 100% recycled silicone release liner is supplied under the trademark Re-Liner and it generates significant reduction in costs and environmental impact.

Working closely with their customer GTS Flexible Materials, Techlan developed an innovative system that allows the high-quality release liners to be reused up to 10 times in a circular system – instead of only once, as was previously the case. The SMASH system developed and supplied by ISRA VISION is a key part of this loop, helping to identify even minimal contamination and damage on the release papers reliably. Therefore increasing profitability and sustainability whilst also helping to lower costs and conserve resources.

Brought to market maturity during a research and development period spanning over four years, Techlan's patented method for recycling release liners multiple times has won numerous awards.

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The reusable silicon release liners are used by customers including GTS Flexible Materials, a world-leading manufacturer of flexible composite laminates. After using the release liners for the first time, GTS rewinds the waste rolls after use. Techlan collects the rolls and transports them back to their recycling centre in Swansea. Techlan then cleans the waste liner on both sides using their patented process. Quality checks are carried out then they are converted to size before being returned to GTS for reuse once again. To guarantee the best possible quality and ensure that only immaculate release liners reach the customer, Techlan places its trust in automatic surface inspection with the SMASH system from ISRA VISION. These powerful inline inspection solutions check the prepared materials for contamination with resin and other process materials, thereby providing feedback on the effectiveness of the cleaning processes. As a result, the parameters can be adjusted quickly and efficiently in order to achieve consistently high production quality, as well as maximum productivity and production speeds. The optical inspection systems with the high-resolution embedded technology from ISRA VISION also identify defects of different sizes – including even the smallest cut marks that are invisible or difficult to see with the naked eye – reliably and at an early stage. SMASH Vision systems thereby ensure that this defective material is not reused. Their fully automatic, 100% inspection allows the production speed of the system to be raised beyond the previous parameters, while monitoring quality at the same time. As a central quality assurance system, the SMASH inspection system from ISRA VISION has enabled Techlan to develop and expand its innovative cleaning procedure and increased the company's production output by more than 130%.

Mark Thompson, Managing Director of Techlan Ltd.: *“The ISRA system has enabled Techlan to develop its innovative recycling process from an initial development stage into a commercially viable, rapidly expanding manufacturing business which produces a high-quality recycled product, without compromising on quality. The manufacturer support during installation, integration and training has been exceptional.”*

**Reusing release Liners up to 10 times: Automatic surface inspection streamlines costs and enables the transformation to a circular economy.**

Techlans Re-Liner generates significant reduction in costs and environmental impact. It creates a minimum saving of 670kgs of Co2 tonne per 1,000kgs of liner consumed. In 2022 GTS reduced their carbon footprint by 113 tonnes of Co2, by using the Techlan circular service and its Re-Liner product.

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The system boosts sustainability, is resource-efficient and produces significantly less waste – in particular because silicon-coated materials are difficult to recycle. The collaboration between the two companies has created a unique circular economy system that brings considerable advantages for the environment combined with greater stability in the supply chain.

Techlan has received a significant level of support from the Welsh Government and WRAP Cymru. This support has enabled the company to grow from an initial concept through to a rapidly expanding, innovative company which makes large scale contribution to carbon saving. For more information please call 0044 (0)1792 366999, email [info@techlanltd.co.uk](mailto:info@techlanltd.co.uk) or visit [www.techlanltd.co.uk](http://www.techlanltd.co.uk).

**About ISRA VISION GmbH:**

ISRA VISION is a leading provider of technologies for industrial image processing (machine vision) with more than 1,200 employees at 25 locations worldwide. As part of the Machine Vision Solutions division of the Atlas Copco Group, a global leading provider of sustainable productivity solutions, we offer innovative and intelligent industrial solutions from surface inspection to software-controlled robot systems for smart factory automation. We have been driven by enthusiasm, commitment and diversity for over 35 years.

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**840-1.jpg**

Techlan's 100% recycled silicone release liner is supplied under the trademark Re-Liner and it generates a significant reduction in costs and environmental impact. Seen here is a Master Roll of the Re-Liner.

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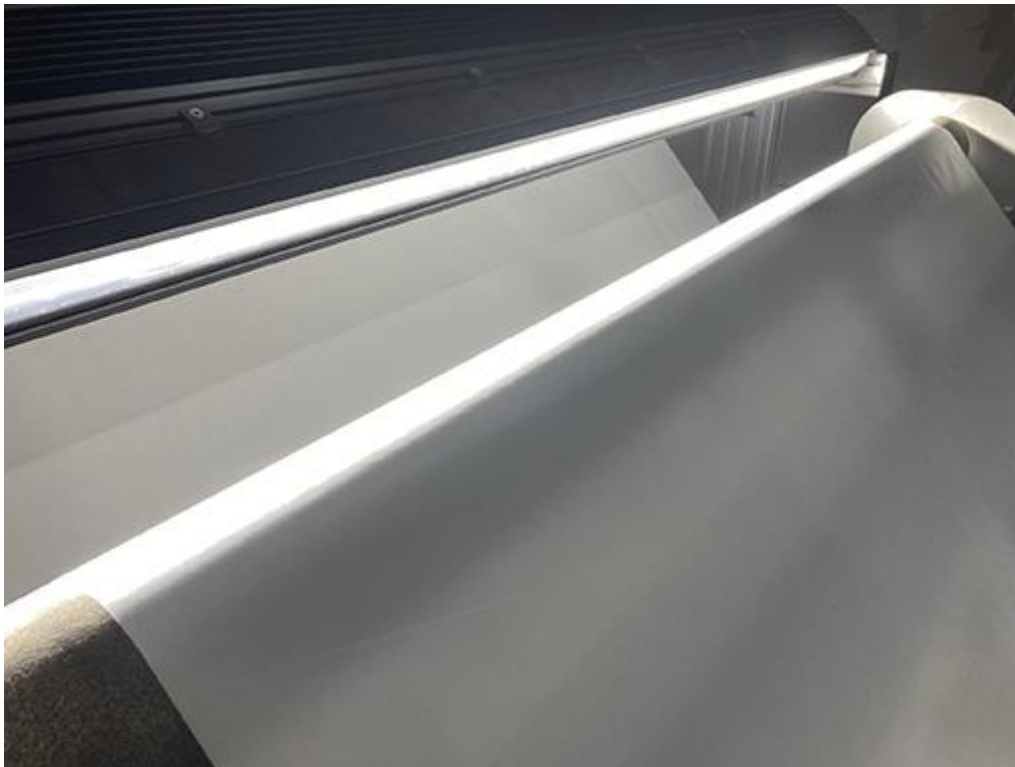
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**840-2.jpg**

Techlan cleans the waste liner on both sides using their patented process. Seen here is a close-up of the cleaning process.

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**840-3.jpg**

The reusable silicone release liners are used by customers including GTS Flexible Materials, a world-leading manufacturer of flexible composite laminates. After using the release liners for the first time, GTS rewinds the waste rolls after use. Seen here are the incoming waste rolls.

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840-4.jpg

Techlan relies on the ISRA VISION SMASH inline inspection system for its quality control – considerably increasing its production output and maximising the sustainability of Re-Liner, its 100% recycled release liner.

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