BKG® HiCon™ K-SWE-HD/RS

From Downtime to Peak Performance: Case Study

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Huhtamaki's Elif division, a leading global supplier of sustainable flexible packaging, set out to increase the recycled content in its blown-film production while maintaining consistent product quality. However, as recycled materials were introduced into the process, Elif began to face growing challenges: frequent production interruptions, rising waste levels, and visible defects in the final film caused by inconsistent melt filtration.

To overcome these issues, Elif partnered with Nordson Polymer Processing Systems' BKG® brand to test and ultimately install a continuous melt filtration solution engineered for high-performance blown-film applications.

The Challenge: Downtime and Quality Issues with Recycled Content

Elif's blown-film line processes PP and PE at an extrusion output of 350 kg/h. As part of its sustainability strategy, the company increased the share of recycled materials in the feedstock. However, their existing discontinuous melt filtration system could not handle the variability in melt purity typically associated with recycled content.

Key Challenges included:

- *Frequent downtime* caused by discontinuous filtration interruptions
- *High gel content* in the final film, resulting in quality complaints
- *Reduced operational efficiency* and increased material waste
- *Limited flexibility* when processing varying iput material qualities

These issues negatively impacted productivity, commercial performance, and Elif's sustainability objectives.

The Solution: BKG® HiCon™ K-SWE-HD/RS Continuous Melt Filter

To address these challenges, Nordson supplied Elif with a *BKG® HiCon™ K-SWE-HD/RS* melt filter for on-line testing. The system was integrated into the blown film line downstream of a 90 mm extruder operating at inlet pressures up to 550 bar and a filtration fineness of 125–150 µm.

Why this Solution was the Perfect Fit:

- *True continuous filtration,* eliminating process interruptions
- *Stable melt pressure and temperature* for consistent film quality
- *Excellent handling of recycled materials, e*ven with varying purity
- *Reduced waste and improved overall line efficiency*
- *Proven performance in demanding blown film applications*

The BKG® HiCon™ K-SWE-HD/RS's robust backflush technology enables uninterrupted screen cleaning and ensures stable processing - even during contamination peaks commonly associated with recyclate.

The Outcome: Higher Revenue, Less Waste, Enhanced Product Quality

After only a short trial period, the impact was clear. The BKG® continuous melt filter delivered immediate and measurable production improvements, convincing Elif to purchase the system.

Measured Benefits reported by the Customer included:

- *No unplanned downtime* related to melt filtration
- *A significant increase in sellable product* due to uninterrupted operation
- *Lower waste rates,* improving material efficiency
- *Higher film quality* with dramatically fewer gels
- *Enhanced operator safety* through fully automated filter changes
- *Improved commercial output,* boosting overall line profitability
- *Increased flexibility to process a wider range of recycled materials*

> *"The introduction of the fully automated self cleaning filter greatly improved our operator safety. With the BKG® HiCon™ K SWE HD/RS, we were able to replace manual filter changes on a running machine—which previously posed high safety risks—with an automated, waste free process requiring no operator intervention," said Karim Saber, Global Senior Manager Extrusion & Recycling Operations.*

By stabilizing overall processing conditions and eliminating filter-related stoppages, Elif strengthened both its sustainability performance and operational profitability.

BKG® HiCon™ K-SWE-HD/RS screen changer.

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A Partnership Built on Performance

Elif's experience demonstrates how Nordson BKG® melt filtration technology enables manufacturers to increase recycled content without sacrificing productivity or product quality.

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OUTLOOK: PPWR COMPLIANCE
Meeting Future Packaging Requirements

With the EU Packaging and Packaging Waste Regulation (PPWR) now driving the transition toward a circular economy, packaging producers are under increasing pressure to incorporate higher levels of recycled content while maintaining product quality and process efficiency. The BKG® HiCon™ K-SWE-HD/RS is well positioned to support these objectives by enabling the processing of challenging recycled materials and helping manufacturers achieve consistent pellet quality for high-value packaging applications. As demand for recycled-content packaging continues to grow, advanced recycling and pelletizing technologies will play a key role in helping the industry comply with upcoming PPWR requirements and sustainability targets.

Discover how BKG® solutions can optimize your recycling process!
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