polytives

*b*FI

Perfect Synergy – Material, Machine & Additive at Peak Performance

Process Optimization Demonstrated Live at Fakuma

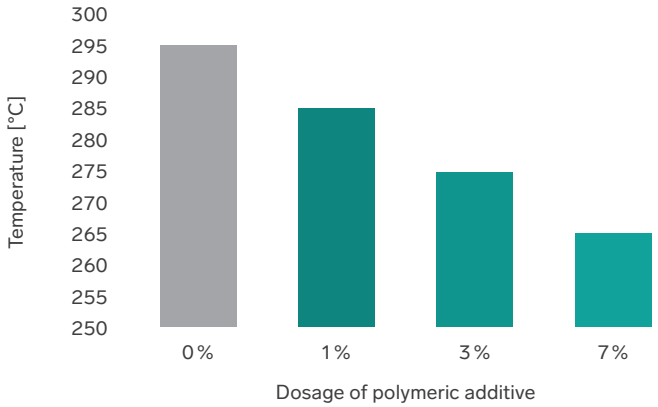
At Fakuma, one of the leading trade fairs for industrial plastics processing, a pioneering demonstration project was showcased in October 2024. The project's goal was to illustrate efficiency gains achieved through the targeted use of innovative additives.

Central to this demonstration was the process-optimizing additive *b*FI A 3745 from Polytives, which significantly improved the injection moulding process by reducing viscosity. The project was realized with support from the following industry partners:

- **TecPart e.V.**, Association of Technical Plastic Products
- **ENGEL**, specialists in advanced injection moulding machines and automation solutions
- **Neidhardt Rohstoff GmbH**, experts in high-quality plastics who provided the polycarbonate material
- **Öztuğ Otomotiv**, a renowned mould maker who supplied the high-precision injection moulding tool used for cup production

Together, these partners effectively demonstrated how modern additives can revolutionize plastics processing.

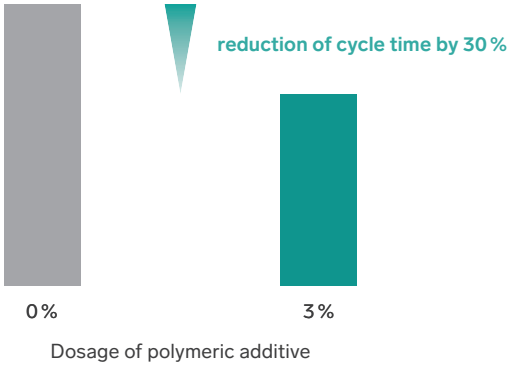
Figure 1: Required process temperatures for injection moulding of polycarbonate using the polymeric additive bFI A 3745.



Faster, More Efficient, More Sustainable – Thanks to *b*FI A 3745

In the live demonstration, a cup was produced using an ENGEL injection moulding machine. By incorporating *b*FI A 3745, the flow characteristics of the polycarbonate (food contact compliant Lexan 124R-111) were optimized, significantly enhancing flowability. This enabled reduced pressures and temperatures during production, with mould temperatures lowered to only 40 °C. **Overall, the cycle time was dramatically shortened.**

Figure 2: Possibility of almost halving the cycle time when using the polymeric additive *b*FI A 3745.



Major reduction in Cycle Time – Key Benefits at a Glance

The reduction of cycle times by approximately **one-third** provides considerable advantages for plastics processing:

- **Increased production efficiency** through shorter cycle times
- **Reduced energy consumption** due to lower processing temperatures
- **Extended mould lifespan** resulting from decreased stress
- **Enhanced sustainability** through optimized material usage
- **Lower overall costs** across the entire process

High Quality Maintained

Significant acceleration of the process was achieved while maintaining consistently high quality. The produced cup demonstrated excellent mechanical properties, was immediately ready for use, and naturally complied with food contact regulations. This project underscores how Polytives is setting new benchmarks in efficiency, sustainability, and economic viability in plastics processing through innovative additives such as *b*FI A 3745.

Interested? Let's discuss!

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