



## **RESOURCE SAVING SOLUTIONS BASED ON TREXEL FOAMING TECHNOLOGIES TO BE FEATURED AT K 2019**

***Trexel Inc. – Hall 13, Booth B46 at K 2019, Dusseldorf, October 16-23, 2019***

***Trexel MuCell Physical Foaming to be Featured in Live Injection Molding Demonstrations at BMB Spa (Hall 13, Booth A33); KraussMaffei (Hall 15, Booth C24-27); ENGEL (Hall 15, Booth B42-C58); and Nissei (Hall 13, Booth C93)***

**Wilmington, MA (October 15, 2019)** – Trexel Inc. will present many resource saving solutions based on foaming technology at K2019 in Hall 13-Booth B46. In addition to new Automotive blow-molding, TecoCell chemical foaming, and MuCell physical foaming application part samples, several injection molding machines are running at partner companies booths showing MuCell in live production. These displays and demonstrations show that in addition to molded part weight savings, Trexel foaming technology provides fully sustainable solutions for molders.

### **Resource saving ultra-light thinwall packaging with MuCell**

At the booth of BMB Spa (Italy), Hall 13 Booth A33, a new injection molding machine type "eKW 45 HP 22000 Hybrid" will produce lightweight MuCell foamed in-mold label (IML) containers in a 4 cavity mold at a cycle time of just 4,5 s. Additional weight savings comes from StackTeck "TRIM" part design with just 0,25 mm wall thickness, which represents today's edge of weight reduction in thin wall packaging which is about 20% less compared to usual solid parts. A Machines Pages IML robot will place Verstraete labels in the mold and remove and stack the ready-to-fill parts on the conveyor belt.

Trexel's new P-300 SCF system for thinwall packaging applications supplies nitrogen into the plastic melt on Trexel's new TDM (Tip Dosing Module) design MuCell screw. This allows high plasticizing capacity with good melt quality. The system uses a high pressure SCF injector which allows elimination of the traditional burst disc. The MuCell system is integrated into the machine controller via VNC (Virtual Network Computing) protocol which allows users to change input via the machine controller.



Beside material saving through weight reduction, the lower injection pressure with MuCell reduces core shift and makes such thin walled parts possible. Also the lower pressure reduces the needed clamping force by 15-20% so production could run on smaller machines reducing energy consumption.

### **Circular economy foamed automotive A-pillar from upcycled PP**

Automotive interior parts need best quality surface appearance at low weight. A perfect example of this is the DecoForm A-pillar which will be produced in a compact production cell at KraussMaffei's booth at K (Hall 15 – booth C24-C27). The pre-cut Alcantara decor is placed into the mold by a robot and has to be stretched or compressed in different areas to avoid folds on the complex 3 dimensional part surface. The inserted textile is back-injected with foamed PP from upcycled bucket material in which talc was added in a compounding process. MuCell saves several percent of weight and also reduces pressure and temperature load on the decor which maintains its high quality appearance; sink and warpage are also reduced. After molding, the decor is edge-folded around the part and cut within the mold. Afterwards a label is attached which contains the complete production history of all steps from molding the bucket to compounding, and final mold process parameters.

The fully electric MuCell machine PX 320-1400 is equipped with Trexel's/ KraussMaffei's new TDM plasticizing system using KraussMaffei standard plasticizing components. High plasticizing capacity with good melt quality is the result. The system uses a high pressure diaphragm injector which allows elimination of the traditional burst disc. The new Satellite system T-S00 is fully integrated into KraussMaffei's MC6 controller, providing easy operation and process control within the IMM controller for a 100% traceability. The satellite system is supplied by an upgraded T-Series MuCell system, enabling this to work as a satellite booster. This easy to upgrade solution is flexible and future-proof for customers as they can now order standard MuCell systems and upgrade to satellite use later when necessary. Satellite MuCell systems are ideal to supply multiple MuCell machine installations as they cut investment cost.

### **Green technology IMD foaming solution for high-quality surfaces**

ENGEL is demonstrating the amazing flexibility of a production-ready, roll-to-roll in-mold decorating (IMD) injection-molding process in Hall 15, Booth B42-C58. A Victory 1060/300 injection molding machine system produces complex, three-dimensional sample parts with different decor including thermoforming, back injection and in-mould-cutting in a roll-to-roll IMD one-step process.

With MuCell low pressure foaming technology it is possible to process structured films maintaining the surface structure. At the K show, ENGEL will be mixing recycled material with ABS/PC in the form of plant scrap shredded



together with the film. The machine is equipped with the new Engel physical foaming screw (PFS) providing robustness and higher output, and a standard T-200 MuCell SCF system with a low dose MDEK option, allowing a very small SCF content. The T-200 SCF system is fully integrated into the CC300 controller, providing easy operation and process control within the IMM controller.

### **Eco-friendly bio-based materials with a clear view**

In Hall 13, Booth C93, Nissei is producing champagne glass cups from bio-based PLA (Polylactic Acid) material. Plant-based eco-friendly materials like PLA are increasingly being used to replace traditional plastics made from oil. In standard PLA molding processes, it is common to have short shots in thin-wall parts since the fluidity of PLA is very poor. Nissei has developed a new technology to mix supercritical carbon dioxide (CO<sub>2</sub>) into molten PLA to improve the fluidity of the material. It makes injection molding of the world's thinnest level (0.65mm) thin-wall container possible while achieving super high transparency. Nissei is using Trexel's proven MuCell technology equipment with a traditional MuCell screw on this PLA application.. The T-200J SCF system for Japan meets all regulations and standards for use in Japan.

Photos:



Picture : 2019-10\_P-300 packaging system.jpg  
Enclosure: P-300 SCF dosing unit for thin-walled packaging



Picture: 2019-10\_Trexel\_TDM-Tip-Dosing-Module.jpg  
Enclosure: MuCell Tip Dosing Module on a standard screw in long barrel



Picture : 2019-10\_BMB\_IML container\_vaschetta .jpg  
Enclosure: Ultra-lightweight IML margarine container with TRIM® technology  
(Picture Source: BMB)



Picture : 2019-10\_KraussMaffei Muster A-Saeule mit Textil.jpg  
Enclosure: Sustainable premium quality surface for automotive interior A-pillar. (Picture Source: KraussMaffei)



Picture : 2019-10\_KraussMaffei PX 320 CellForm.jpg  
Enclosure: New PX320-1400 CellForm with tip dosing screw and Satellite MuCell system. (Picture Source: KraussMaffei)



Picture : 2019-10\_T-S00\_MuCell-Satellite ICON.png

Enclosure: MuCell Satellite system for easy and cost efficient multiple machine solutions.



Picture : 2019-10\_ENGEL at K 2019 automotive 1.jpg

Enclosure: Complex, three-dimensional sample parts with different decor.  
(Picture Source: Engel)



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**About Trexel**

Trexel is in the business of providing technology which places tiny cells of gas in plastic parts, and our passion is manifested in the broader benefits that these micro bubbles can deliver. Our microcellular foaming technology reduces production cost while increasing environmental sustainability. We make it possible for designers to break some of the rules of thermoplastic part design, resulting in design for function instead of design for manufacturability. Our technology enables lighter, more dimensionally stable products which can be produced faster on smaller, more energy efficient equipment. Since 1995 we have been applying our technology to thousands of applications in dozens of industries. We have developed unsurpassed know-how, continuously improved our technology and enhanced our services, growing into the global leader in microcellular foaming technology we are today. We deliver systems for physical foaming injection molding, chemical foaming agents and provide extensive technical advice up to complete handling of engineering projects. Mold trials, services and education or training activities complete our activities.