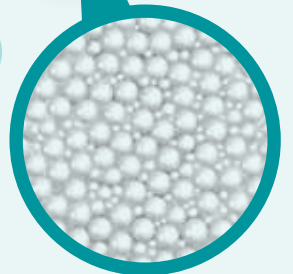




MUCELL EXTRUSION

Polymer reduction technology

Reduce polymer
Reduce weight
Reduce cost



The revolutionary microcellular material that performs like a solid plastic for lighter, greener, lower cost products

Patented technology from MuCell Extrusion LLC creates a lightweight centre in plastic extrusions by injecting pure atmospheric gas into the melt during manufacture. The result is a microcellular, or foamed, core within a solid skin – a single material that looks and performs like a solid plastic yet uses 15-20% less polymer.

Where can MuCell technology be applied?

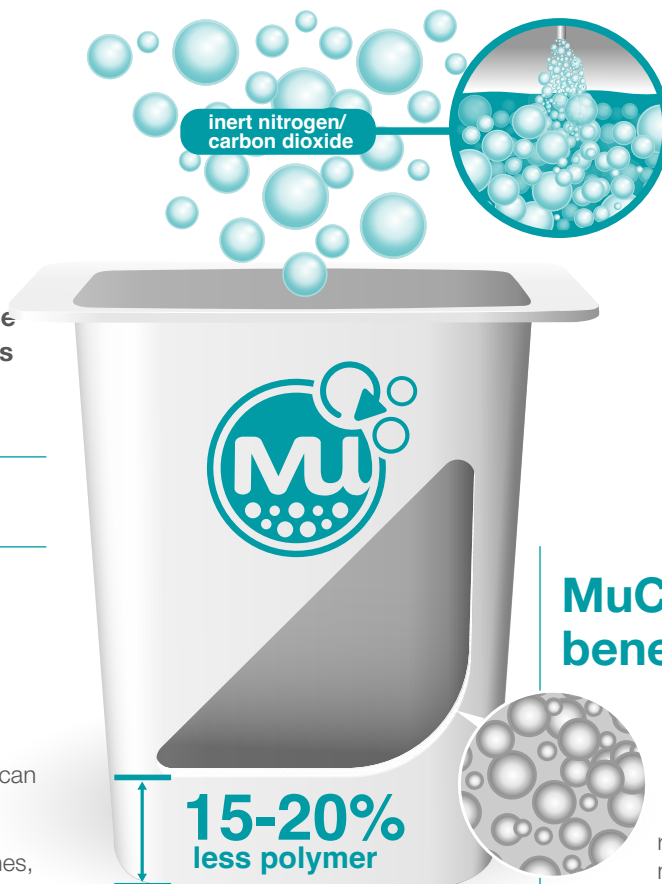
Reduce polymer
Reduce weight
Reduce cost

MuCell® polymer reduction technology can be applied in a wide range of extrusion applications. These materials are then used to make products, such as pouches, sachets, trays, pots and other containers frequently used in volume in consumer packaging, reducing the carbon footprint right through the supply chain. And, after use, the products can be recycled in standard post-consumer waste streams.

The possibilities are endless ...

Backed by significant know-how, MuCell Extrusion has successfully applied its polymer reduction technology to a wide range of polymers, including LDPE, LLDPE, HDPE, PS, PP, PA, PVDF, PET, PLA, PVC and TPE.

Produce lightweight alternatives to existing products. Design exciting new ones. Our technology is suitable for most polymers, and most extruded products can benefit from our lightweighting advantage. No wonder some of the biggest names in consumer packaging are using MuCell Extrusion polymer reduction technology to support their sustainability goals.



MuCell benefits

Lighter

MuCell Extrusion polymer reduction technology uses inert nitrogen or carbon dioxide to reduce plastic content. Films and sheets made this way typically contain 15% to 20% less polymer than products made using traditional extrusion technologies. Enhanced mechanical properties deliver the same performance as a solid product – yet with significant cost and weight savings and environmental benefits.

Greener

Only atmospheric gases are added to the foamed polymer, avoiding harmful emissions and creating pure materials that can be recycled easily and cost-effectively. By replacing composite packaging – laminated paper, plastic and metal – with mono-material packaging solutions, our technology makes 100% recycling a reality.

And we help reduce raw material usage, creating a lower carbon footprint through less use of fossil fuel-derived plastics at manufacture and lower transport costs through the supply chain.

Lower cost

The substantial weight savings achievable yield significant cost savings on every unit produced, enhancing profits and sharpening your competitive edge.



Which extrusion processes are suitable for conversion to MuCell technology?

No limits extrusion

Our technology fits seamlessly into sheet and film extrusion lines, making light work of saving costs and reducing environmental impact.



Sheet applications:

- Sheet for form-fill-seal (FFS) applications
- In-line thermoforming
- HDFT
- Sheets for signs and displays
- Sheets for construction
- Low-density sheets for gaskets and seals



Film applications:

- Lamination films
- Stand up pouches
- Collation shrink film
- Agriculture
- Pet food bags
- Surface protection

How does it work?

Three key components transform standard lines into microcellular extrusion lines.

Polymer reduction technology

The MuCell SCF unit and Interface kit pressurise, control and inject the gases in a Super Critical Fluid (SCF) state, and the MTM mixer combines polymers and gas in a single-phase solution.

MuCell also supplies proprietary sheet and film dies that are optimised for microcellular foaming, as well as true gauge control systems.



MuCell Extrusion – delivering the complete package

This extraordinary technology is available from MuCell Extrusion LLC for applications in sheet and film extrusion. Our technicians work closely with customers' new product development teams, using our development facilities in the USA and Europe to optimise material specifications and performance for each application.

The package price includes a one-off cost for intellectual property relating to your specific application, plus equipment and installation on a turnkey basis.

MuCell Extrusion LLC was established in 2008 to commercialise this remarkable technology, originating from Boston's Massachusetts Institute of Technology (MIT). Since 2011, MuCell Extrusion has been a wholly-owned subsidiary of Zotefoams plc (ZTF:LON), a global pioneer in cellular materials technology, with a century-long history of delivering optimal material solutions for the benefit of society. Our headquarters and development facilities are located close to Boston and we have recently established a second facility in Skanderborg, Denmark, to better serve the European market.



Circular Packaging mono-material barrier packaging

MuCell Extrusion polymer reduction technology is the foundation of ReZorce® Circular Packaging, an award-winning range of mono-material barrier packaging that simplifies recycling and offers significant environmental benefits over existing composite materials used for beverage cartons and pouches.

Find out more at rezorce.info



To discuss the benefits of integrating MuCell Extrusion's technology into your lines, contact us today: hello@mucell.com

MuCell Extrusion LLC
Mucell Extrusion LLC
212 West Cummings Park
Woburn MA 01801 USA
t +1 781 281 7976
toll free +1-855-268-2355
e hello@mucell.com

www.mucellextrusion.com



Our partners



MuCell Extrusion greatly values its relationships with global partners Dow Chemical, Kyoraku, Paccor, Trinseo and Unilever and their critical roles in advancing and proliferating MuCell Extrusion technology all over the world.