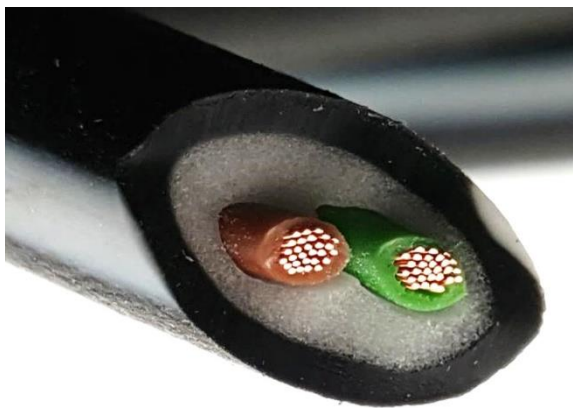


Promix Microcell Foaming Technology in Wire & Cable Applications

Winterthur, Switzerland, February, 2025 -Promix Microcell Technology is applicable to any extrusion process where material cost is sensitive, and performance requirements are non-negotiable. The Wire & Cable industry is a regulated field where electrical, mechanical and ageing performance is key for the successful introduction of reliable products.

While chemical foaming of coaxial telecom cables has been applied in the past, physical foaming of a much broader range of data (fiber optical, copper) and power cable applications leads to a more cost-attractive, more stable, more sustainable and better performing product. Promix Solutions is the leader in physical foam extrusion using environmentally friendly blowing fluids like CO₂ and nitrogen. The company will showcase its technology at Interwire USA from May 13 – 15, 2025 in Atlanta, GA at booth 539, Swiss Competence Cluster.

The world of wires and cables is diverse, offering various cable designs. While there are limitations for foaming in high voltage power land and submarine cables due to the high electrical



stresses, the many low voltage cables and data cable types show great potential to reduce material consumption in the range of 15% to 25% for jacketing and insulation, and even 30% to 60% for bedding and filling compounds. This goes hand in hand with increased cable flexibility, weight reduction and an improved carbon footprint.



Promix has proven its applicability in many extrusion processes, including sensor cables, fiber optic cables and low-voltage power cables. A further trend towards replacing the environmentally critical Azo compounds used in chemical foaming of coaxial cables by physical foaming technology results in lower long-term costs, higher process and product stability and end-of-life recyclability.

Cables require a super-smooth surface of their sheathing. If required, by applying a very thin skin layer extruded over the foamed jacket, cable manufacturers have additional design options to benefit from the material savings.

All relevant polymeric materials, by means of LDPE, HDPE, PBT, EVA, Polyolefin elastomers, including filled systems, and PVC have been used in combination with the Microcell Foaming Technology. Performance benefits on the electrical side, i.e. improved dielectric constant and reduced external electrical interference, were realized.

On the mechanical side, higher cable flexibility and a very stable foaming process resulting in narrow diameter tolerances are the outcome for the performance characteristics. The high-quality cell structure made with Microcell Foaming Technology permits a wide application range for wires & cables.

The picture showcases an example of a sensor data cable as used in automotive (upper section), where the bedding is foamed. On the lower part an A-B jacket with a thin skin-layer highlights the potential for jacketing applications in data and power cables.

Gas dosing stations for physical foaming function either on a mass-flow or pressure-controlled dosing regulation. Promix offers both types of systems, matching customer needs by applications.

Besides the actual cable, microducts (material savings of 10%-15%, mono and multi-layer) and cable protection tubes (material savings of 10%-25%, multi-layer) serving as cable infrastructure are more examples enabling physical foaming to save material cost and improve their sustainability footprint.

Promix Microcell Technology works for all types of extrusion processes including cables, packaging, films, sheets and boards, pipes and profiles, blown film and extrusion blow molding as well as thermoforming. The technology can be retrofitted to existing extrusion lines as well as installed in new lines. Promix is working with a number of machine builders to achieve a perfect match.

About Promix Solutions AG

Promix Solutions AG is the leading supplier of unique key components and solutions in the area of mixing, foaming and cooling in plastics processing and polymer production. Promix serves the industry with effective solutions for the reduction of the environmental footprint, cost savings and quality improvements in extrusion and injection molding. A motivated team with long standing experience and extensive process and application know-how ensures excellent consultancy and service. The product portfolio includes Foam Extrusion Systems, CO₂/N₂ Gas Dosing Stations, nucleation additives, Key Components for the production of Light Foams, Mixing Nozzles, Melt Blenders, Melt Coolers and Inline Viscometers. For more information: www.promix-solutions.com.

Note for editors (not for publication)

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