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DirectSkinning technology for products with customizable look and feel

DirectSkinning technology, now available in North America, is a one-step molding process that enables manufacturers to more efficiently produce parts with customizable color, texture and softness.

Developed jointly by **Bayer MaterialScience LLC, Proper Group International** and **KraussMaffei, DirectSkinning** technology combines conventional thermoplastic injection molding with reaction-injection molding in a single tool – delivering a hard polycarbonate blend substrate with a soft, ultraviolet-stabilized, scratch- and chemical-resistant aliphatic polyurethane self-skinning foam or polyurethane coating.

By integrating polyurethanes processing into the injection molding machine, increased production efficiency and outstanding part properties are achieved. The low volatile organic compound process also eliminates the need for painting and the associated overspray common to traditional in-mold painting. DirectSkinning technology is ideal for manufacturers in diverse consumer and industrial markets – for example, high-end cases for electronic devices, arm rests for seating, etc. – that are seeking a cost-effective, high-end product.

Previously, multiple steps were required to mold a hard substrate, such as polycarbonate, with a finish that felt soft. Conventionally, manufacturers would first mold the hard substrate and then load it into another piece of equipment where a soft finish was applied. DirectSkinning technology was developed to shorten this process.

“We’re bringing this technology to market as a turnkey solution,” said **Ignacio Osio,** demand creation manager, Bayer MaterialScience LLC, who points out this technology has already been proven in Europe. “Because we are offering a complete solution – materials, molds, molding equipment and expertise – OEMs in North America can feel confident integrating this process into their manufacturing operations.”

DirectSkinning offers a system solution for premium quality surfaces from a single source. The overall manufacturing cell consists of components of the KraussMaffei product line, a **CX 200-750 Hybrid** injection molding machine with **LRX 150** linear robot, and a **RimStar Hybrid 1.2/0.9** polyurethane mixing and metering station with a high-pressure mixing head **MK 5/8 ULKP-2 KKV-F** installed on the injection mold and a reworking station for separating the gate points. These multi-component machines provide manufacturers with higher production efficiency.

Joe Grippe, Vice President, Proper Group International, said: “The DirectSkinning process offers a competitive advantage to manufacturers, as it produces a more complete product out of the same mold. Furthermore, by taking the traditional two-step process and simplifying it into a one-step process through DirectSkinning, the overall processing time is reduced, which translates into greater efficiencies and cost savings for manufacturers.”

In response to an expanding North American market, KraussMaffei, the largest manufacturer of plastic processing equipment worldwide, recently announced a move to a 50,000-square-foot facility adjacent to Proper Group International’s Warren, MI, USA, headquarters.

“Our strategic relationships with Bayer MaterialScience LLC and Proper Group International in North America provide a strong platform for rolling out the DirectSkinning technology, also known as **SkinForm,** to this market,” said **Paul Caprio,** President, KraussMaffei Corp.

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