

Press Release

THERMOLAST® K used in shock absorbing modular padding design

Waldkraiburg, November 2018

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Second Skin

Breathable body protectors with lightweight padding using a flexible thermoplastic elastomer compound from KRAIBURG TPE

French company Hexaflex has developed a patented padding technology based on hexagonal-pyramidal shapes molded with TPE. The thermoplastic elastomer compound from KRAIBURG TPE provides the flexibility, light weight and full articulation characteristics of the modular system that lends itself to a myriad of shock and vibration absorbing applications, from sportswear and personal protection equipment to healthcare and other demanding industries.

In a first application, the creative technology is used for a dorsal protection product covered with high-strength aromatic polyamide stretch fabric for bikers and motorcyclists. The lightweight material combination acts like a second skin, and the Hexaflex padding with its interlocking shapes in THERMOLAST® K is fully articulated to follow body motion while ensuring maximum shock absorption.

“Innovative concepts like our Hexaflex system need innovative materials to take them from idea to reality,” says Stephane Desnoyers, founder and CEO of Hexaflex company. “Although we knew it would have to be an elastomeric solution rather than foam, the success of this project was essentially driven by the expertise found in collaborating with KRAIBURG TPE. Besides helping us specify the most suitable thermoplastic elastomer, they supported us with comprehensive assistance from early on in the design phase through to series production.”

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The Hexaflex® shapes can be molded in various sizes, thicknesses and custom-colors. THERMOLAST® K delivers the long-term flexibility required for reliable articulation of the assembled padding throughout the life time of the protectors. The material has also been shown to minimize rebound when the padding is flexed, which results in superior shock absorption performance.

Further specifications have to be met included good mechanical strength and durability over a wide range of temperatures. Important for customers is the ease of recycling as well as the absence of substances of very high concern (SVHC) in the compound. In addition to these advantages, the padding is fully washable and waterproof but at the same time breathable thanks to integrated ventilation features in the design.

Following its successful use in dorsal protectors, Hexaflex is planning to extend the technology to other sportswear in the near future, including knee and elbow pads for activities such as skateboarding, snowboarding, skiing and horseback riding. The company also sees broad application possibilities in personal protection equipment, from helmet inserts to breathable harnesses, as well as in anti-vibration floor padding and various healthcare products.

“The Hexaflex padding system using our THERMOLAST® K material is an excellent example of product success through close professional collaboration,” underscores Michael Pollmann, Sales & Marketing Director of KRAIBURG TPE. “We are very pleased about having been able to make a real contribution to this significant innovation, which has enormous market potential and highlights the ideal fit of our TPE product in such demanding sports & leisure applications.”

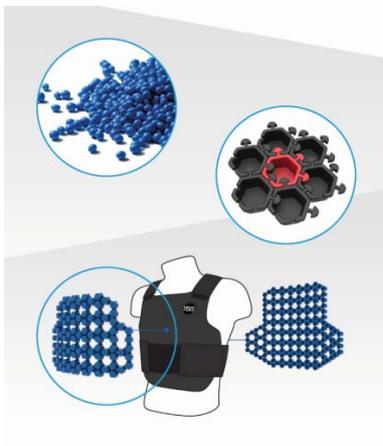
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The Hexaflex technology is patented in Europe, China and the U.S., and has been certified to EN 1621-2 Level 1 for back/spine protectors and EN 1621-1 Level 2 for all other body armor. In underfloor applications, Hexaflex can reduce structure-borne noise by 23 dB.



The flexible, interlocking and fully articulated Hexaflex shapes molded in THERMOLAST® K thermoplastic elastomer (TPE) result in a modular padding technology for virtually infinite applications in multiple industries, including sportswear, personal protection equipment, healthcare, building & construction as well as tires. (Images: © 2018 Hexaflex)

About Hexaflex

Hexaflex, based in Bernay (France), was founded in 2011 and is a dynamic company specializing in shock absorption, anti-vibration and comfort with a particular focus on applications in sportswear and personal protection equipment, such as body protectors, knee and elbow guards, and safety helmets. For its fully articulated Hexaflex shock absorbing technology, the company has obtained global patent protection (WO 2014 079 839). Visit www.hexaflex-technology.com for further information.

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About KRAIBURG TPE

KRAIBURG TPE (www.kraiburg-tpe.com) is a global manufacturer of thermoplastic elastomers. From its beginning in 2001 as a subsidiary of the historical KRAIBURG Group founded in 1947, KRAIBURG TPE has pioneered in TPE compounds, today being the competence leader in this industry. With production sites in Germany, the U.S., and Malaysia, the company offers a broad range of compounds for applications in the automotive, industrial, consumer, and strictly regulated medical sectors. The established THERMOLAST®, COPEC®, HIPEX®, and For Tec E® product lines are processed by injection molding or extrusion and provide numerous processing and product design advantages to manufacturers. KRAIBURG TPE features innovative capabilities as well as true global customer orientation, customized product solutions and reliable service. The company is certified to ISO 50001 at its headquarters in Germany and holds ISO 9001 and ISO 14001 certifications at all global sites. In 2017, KRAIBURG TPE, with 620 employees worldwide, generated sales of 178 million euros.

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