

## Press release

Hearing-protecting headset with a velvety-soft headband made of THERMOLAST® K

Waldkraiburg, March 2020

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### Comfortable to wear and compact in size

**KRAIBURG TPE is supplying a skin-friendly thermoplastic elastomer for an innovative Protos® headset**

The Austria-based company Pfanner Schutzbekleidung GmbH is having the headband for its Protos® Headset Integral manufactured by injection molding of a thermoplastic elastomer (TPE) from KRAIBURG TPE. The material provides excellent processability and ensures high wearing comfort.

From forestry and agriculture, to industry and road construction, through to hunting and air rescue services – occupational health and safety involves more than just functional reliability. For people to actually wear the appropriate or obligatory personal protective equipment they need, it has to have a comfortable, lightweight and practical design. And the same also applies to hearing-protection headsets, which need to be designed so as not to cause pressure marks and skin irritations or tug on the wearer's hair.

A high-performance compound from KRAIBURG TPE's VS/AD/HM THERMOLAST® K series was therefore selected for the headband of the Protos® Headset Integral, developed by Westcam (Mils, Austria) and distributed by Pfanner Schutzbekleidung GmbH (Koblach, Austria). In addition to its velvety surface (VS), outstanding adhesion (AD) and high mechanical (HM) properties, this high-tech material also offers a wide range of design freedom and allows cost-effective processing.

"The main challenge was to mold the relatively large headband for the headset in a dimensionally accurate way and with high repeatability in the shortest possible cycle times, while ensuring a clean, homogeneous impression without sink marks," emphasizes Reto Huber, managing director of Huber Kunststoff AG. "The excellent flowability of the

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KRAIBURG TPE material perfectly matches these requirements and provides flawless surfaces directly from the mold.”

A steel spring wire that is incorporated into the headband ensures the required tension and serves to mount the clips on each side that accommodate the frames for the hearing protectors. The clips are made of an acrylonitrile-butadiene-styrene copolymer (ABS) with a thermoplastic elastomer (TPE) injection-molded on the inside for reliable insulation of the head from the steel wire. The TPE’s velvety and soft feel makes the headband and clips extremely pleasant, pressure-free and comfortable to wear.

The selected THERMOLAST® K compound combines a hardness of 60 Shore A with high tensile strength, tear strength and breaking strength. The wear-resistant surface also has long-term resistance to sebum, creams and common household detergents. In addition, the TPE meets the requirements of ISO 10993-10 for irritation-free tolerability of materials for applications that are in contact with skin.

“We already had very good experience with a thermoplastic elastomer from KRAIBURG TPE that was used for the visor of the Protos® Integral Safety Helmet,” adds Martin Greber, head of development at Westcam. “The TPE in that device serves as a cushioning and sealing lip on the inside of the visor. It’s combined with the edge of the visor, which is made of polyamide, using multicomponent injection molding. The adhesive strength of this hard/soft application has already been tried and tested many times in practical use, and that was why THERMOLAST® K was also shortlisted for the wire/TPE and ABS/TPE combinations in the headset from the start.”

The Protos® Headset Integral was specifically developed for capsule ear protection, with the advantages of a modular structure and compact size – with minimal protrusion when worn and a small packing size when folded.

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The hearing-protection cups are mounted in their own frames, which are fixed to the clips on each side of the headband and are also designed to accommodate the temple arms of the optional Protos® Protective Glasses, so that no sound bridges of any sort are created overall. Additional accessories include a Bluetooth communications solution with a USB charging bar, the technology for which is fully integrated into the hearing protectors.

All of the materials in the headset have been tailored to suit its function and design perfectly. The VS/AD/HM THERMOLAST® K compounds can be precisely colored and have excellent color and UV stability, even in the gray color of the Protos® headband. The materials are produced in accordance with identical quality standards at all KRAIBURG TPE sites and are available in the manufacturer's portfolio worldwide.

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An easily fusible compound from the VS/AD/HM THERMOLAST® K series from KRAIBURG TPE gives the gray headband of the Protos® Headset Integral from Pfanner Schutzbekleidung GmbH a pleasantly soft and velvety touch and nonirritant skin tolerance in accordance with ISO 10993-10. (image © Pfanner Schutzbekleidung)

### About KRAIBURG TPE

KRAIBURG TPE ([www.kraiburg-tpe.com](http://www.kraiburg-tpe.com)) is a global manufacturer of thermoplastic elastomers. From its beginning in 2001 as 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 US, and Malaysia the company offers a broad range of compounds for applications in the automotive, industrial, consumer, and for the 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 2019, KRAIBURG TPE, with over 645 worldwide employees, generated sales of 190 million euros.

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### About Pfanner Schutzbekleidung

Pfanner Schutzbekleidung GmbH, based in Koblach (Austria), has been specializing in the development and production of high-quality protective clothing, working and occupational clothes, and safety clothes for 30 years. The main area of application for the company's diversified product range include forestry and tree care, hunting and survey as well as occupational health and safety, and outdoor applications. With the patented Protos® Integral Safety Helmet, the company set new standards in head protection. For further information, please see [pfanner-austria.at](https://pfanner-austria.at) and [www.protos.at](https://www.protos.at).

This press release and relevant illustrations can be downloaded from [www.PressReleaseFinder.com](https://www.PressReleaseFinder.com).

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