Soft, resilient, dust-tight and water-proof

**KRAIBURG TPE and NEXTIS partner on flexible USB socket protection cover molded in THERMOLAST® for respiratory devices**

**In close collaboration with KRAIBURG TPE, medical components specialist NEXTIS (France) has developed an articulated cover designed to protect the USB port on respiratory devices against dust and splash water entry. The part is molded in a proven THERMOLAST® compound that delivers a perfect balance of high mechanical properties and aesthetics, ease of injection molding, and reliable resistance against professional cleaners.**

As a system supplier of medical components and assemblies, NEXTIS is molding several parts for an advanced respirator from Air Liquide Medical Systems (ALMS), including a flexible protective cover for the device’s USP port. The cover is clipped to the device housing and has a hinged closure that ensures the sealing of the USB socket, when not in use, against the entry of dust particles, splash water, and foreign objects.

“For this application, we needed a soft but resilient material that will reliably withstand the repeated opening and closing of the protective cover over the lifetime of the respiratory device, without deformation and loss of its sealing function,” explains Mr Benoit Lafin, R&D Manager of NEXTIS. “Based on our long-standing collaboration in other projects using thermoplastic elastomers from KRAIBURG TPE, we decided to partner with them again in taking this demanding part design into reality. Their material expertise and support helped us to speed up the development process and maintain overall cost-efficiency. Beyond medical devices, the solution can also be used for similar covers in industrial equipment, as well as in consumer and automotive electronics.”

The TPE compound selected for the articulated cover has proven to be a fit in many other soft-touch aesthetic and functional components. It offers excellent mechanical properties, such as high elongation at break and high tear resistance, as well as long-term dimensional stability, thanks to its low compression set.

Further key requirements to be met included high flowability for short cycle times in injection molding and finished-as-molded surface quality. In addition, the USB socket cover must provide and maintain good resistance against the attack of cleaners used in professional and medical environments, without causing embrittling or discoloration. The THERMOLAST® compound is supplied in opaque color and blended on site with a black masterbatch when injected. If required, the material can also be supplied in specific customized colors.

“The USB port cover from NEXTIS is an outstanding example of a smooth collaboration between material and component suppliers within the medical engineering field,” adds Laurence Cassarino, Sales Representative at KRAIBURG TPE France. “We are pleased to be part of this success, in particular as the respirators on which the protective cover is used meet an urgent need in addressing the persisting coronavirus pandemic. Other current applications in healthcare utilizing our thermoplastic elastomers span from face masks and ventilator tubes, through to valves, connecting pieces, buttons and elastic straps.”

The THERMOLAST® range is available globally and can be easily recycled to meet the demands of enhanced sustainability in a circular plastics economy.



Soft and resilient: USB socket protection on Osiris respiratory device from Air Liquide Medical Systems (ALMS). Developed in close collaboration with KRAIBURG TPE, the articulated component is molded by NEXTIS in a proven THERMOLAST® compound, which delivers a perfect balance of durable mechanical properties and aesthetics, ease of injection molding and reliable resistance against professional cleaners.

(Image: Air Liquide Medical Systems (ALMS))

**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.

**About NEXTIS**

NEXTIS SAS ([www.nextis.fr](http://www.nextis.fr)), headquartered at Demigny (France) along the axis of Paris–Lyon–Marseille, specializes in the design, injection molding, extrusion, extrusion blow molding and assembly of thermoplastic components. The company is a pan-European market leader in the production of tubes and technical profiles made of polyurethane. NEXTIS is part of the Allizé Plastic Burgundy network for research, know-how, green design and training. Its operations are certified to ISO 9001:2008 (QM) and ISO 13485 (Medical).

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