

## Press release

KRAIBURG TPE provides shrinkage values

Waldkraiburg, February 2024

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### **Introduction of an optical measuring device provides shrinkage values in accordance with DIN EN ISO 294-4**

During the industrial processing of plastics, details of their shrinkage values form part of the standard information that is essential as a specification for mold construction. To provide manufacturers with maximally precise data, KRAIBURG TPE has been using a contactless optical measuring device since August 2023, which enables distance measurements required to determine shrinkage values in accordance with DIN EN ISO 294-4.

Waldkraiburg, February 2, 2024 – The measurements “for determining the processing shrinkage and the post-shrinkage of thermoplastics” are based on test specimens 60 x 60 x 2 mm in size that are injection-molded in accordance with the DIN standard, for which the values are determined. During measurements, shrinkages are determined both along the direction of flow and transverse to it.

Combined with other parameters such as wall thicknesses and flow paths, these specifications enable mold makers and calculation engineers to carry out specific calculations for the most accurate dimensioning of their molds. This applies to the manufacture of new molds, but also to adjusting existing molds, e.g. for planned material changes. In all cases, the cavity must be designed in such a way that the material shrinkage, that persists for up to 48 hours after processing, is taken into account in relation to the finished plastic part.

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“We previously determined the shrinkage values by using tactile measuring devices,” summarizes Grit Müller of Team Application Engineering at KRAIBURG TPE. “The use of contactless measuring devices has proved to be advantageous, particularly for measuring the shrinkage of soft and very soft materials.” The reason for this, she adds, is that “When using mechanical devices, measurement distortions may occur due to minimal compressive loading, which in turn leads to minimal deviations from the dimensions required for the finished plastic after processing.” According to Grit Müller, the conditions required for using the new optical measuring device – i.e. expanding the in-house test plate production by integrating another insert into the new master die (including internal pressure sensors) – were already established last year.

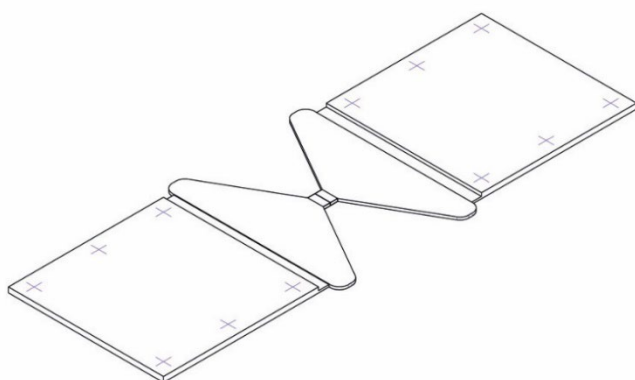
Since the introduction of the new contactless measuring device, KRAIBURG TPE has been able to determine shrinkage values for all established compounds in accordance with the DIN EN ISO 294-4 standard, irrespective of the Shore hardness of the tested materials. This enables both existing customers and also potential new customers to make decisions on the use of new or alternative materials based on even more precise information. This is of particular relevance for the production of single-component materials, since in these cases it is only the TPE source material that shrinks. But it also makes it possible to better assess the impact on shrinkage in two-component composites.

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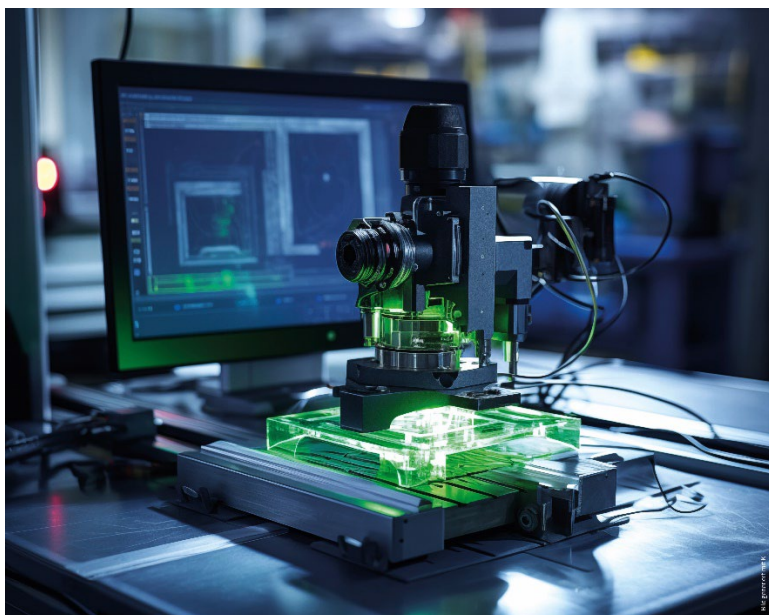
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**Image:** Test plate in accordance with DIN EN ISO 294-4

(Image: © KRAIBURG TPE)



**Image:** Since the introduction, KRAIBURG TPE has been able to determine shrinkage values for all established compounds in accordance with the DIN EN ISO 294-4 standard, irrespective of the Shore hardness of the tested materials. (Image: © KRAIBURG TPE)

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### Information for press representatives



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### About KRAIBURG TPE

KRAIBURG TPE ([www.kraiburg-tpe.com](http://www.kraiburg-tpe.com)) is a global manufacturer of custom thermoplastic elastomers. KRAIBURG TPE was founded in 2001 as an independent business unit of the KRAIBURG Group and is now the industry's competence leader in the field of TPE compounds. The company's goal is to provide safe, reliable and sustainable products for customer applications. With more than 660 employees worldwide and production sites in Germany, the USA and Malaysia, the company provides a large product portfolio for applications in the automotive, industrial and consumer goods industries, as well as for the strictly regulated medical sector. The established THERMOLAST®, COPEC®, HIPEX®, and For Tec E® product lines are processed by injection molding or extrusion and offer manufacturers numerous advantages not only in processing but also in product design. KRAIBURG TPE is characterized by its innovative strength, global customer orientation, customized product solutions and reliable service. The company is ISO 50001 certified at its headquarters in Germany and holds ISO 9001 and ISO 14001 certifications at all its sites worldwide.