

PRESS RELEASE

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K-Fair: New methods for reliable lifetime estimation of plastic recyclates

Recyclates make products sustainable and competitive. Safety and reliable function must be guaranteed in the process. Researchers from the Fraunhofer Institute for Structural Durability and System Reliability will be demonstrating how the quality of products made from recycled plastics can be reliably tested in the early development process, before series production, at the Fraunhofer booth, Hall 7, SC01, at the "K-Messe" in Düsseldorf from October 19 to 26.

So-called recyclates made from recycled plastics can be found in more and more products of our daily use. Scientists from the Fraunhofer Institute for Structural Durability and System Reliability LBF are investigating how these can also be used for highly stressed components.

Reliable sustainable plastic components made from recycled plastics

At the Fraunhofer LBF, property-optimized technical product solutions are created that function reliably, sustainably and can be manufactured efficiently and affordably. The expertise lies in the complete material development of recyclates, from regrind to additivation and interfacial consideration, analytics and material characterization, to service life estimation and component release. Using appropriate methods of testing and analysis, the researchers have derived the necessary parameters for reliable assurance of the service life of plastic recyclates.

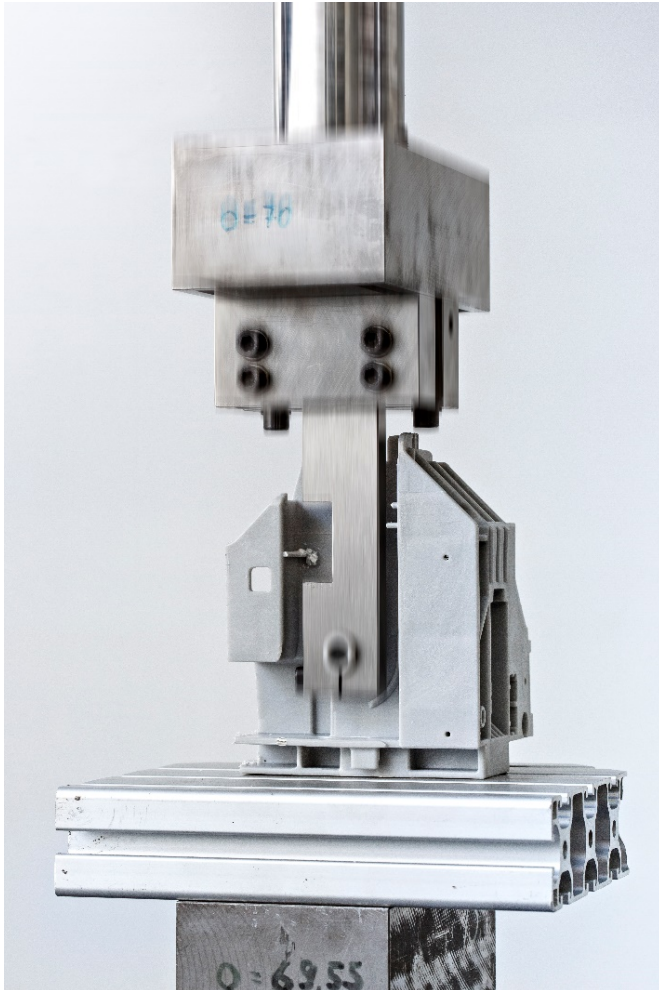
New method for validating the service life of plastic recyclates

Thanks to a new material formulation, the substitution of virgin material for recyclate could be used on a complex component of white goods. In this way, approximately 1.5 kilograms of CO₂ are saved for every kilogram of recycled polypropylene used. The central idea of efficient and environmentally friendly use of resources while avoiding greenhouse gases has thus been realized and is available for industrial application.

More information: <https://www.lbf.fraunhofer.de/en/projects/recyclates-material-characterization-long-term-properties.html>

Redaktion

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Test setup for testing a component made of recycled plastics.
Foto: Fraunhofer LBF

Based in Darmstadt, the **Fraunhofer Institute for Structural Durability and System Reliability LBF** has been synonymous with the safety and reliability of lightweight structures since 1938. Today, with its expertise in structural durability, system reliability, vibration technology and polymer engineering, the institute provides solutions for three important cross-cutting topics of the future: lightweight design, functional integration and cyber-physical mechanical engineering systems. Here, the focus is on solutions that address social challenges such as resource efficiency and emissions reduction, as well as topics from the field of future mobility, such as e-mobility and autonomous, networked driving. Customers come from the automotive industry, aviation, machine and plant construction, power engineering, electrical engineering, medical engineering and the chemical industry, for example. They benefit from the proven expertise of some 400 employees and cutting-edge technology accommodated in more than 17,900 square meters of laboratory and testing space. www.lbf.fraunhofer.de

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