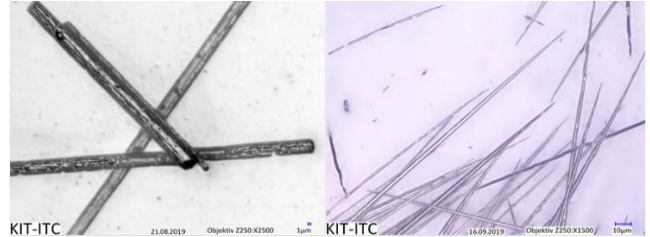


Field of activity

Thermal behavior of carbon fibers



Moderne Laboratorien für einen Umgang mit faserförmigen Materialien



Abbau verschiedener Carbonfasern bei thermischer Beanspruchung

Carbon fibers (CF) and carbon fiber reinforced plastics (CFRP) made from them are an essential component of modern lightweight construction applications. The properties of the carbon fibers can be specifically adjusted by varying the starting materials and the parameters of the successive manufacturing steps. This results in a large number of commercially available CFs, which can differ fundamentally from one another in their structure and, accordingly, in their behavior under thermal or mechanical stress.

Basic investigations of the thermal degradation behavior of various carbon fibers are carried out by varying reaction conditions (including atmosphere, temperature) and reactors (thermobalance, various furnaces, fixed-bed reactor). By means of various methods, an intensive characterization is carried out by imaging analysis ([light microscopy](#), [scanning electron microscopy](#)), as well as methods of structure elucidation.

The results, including mass and energy balances, as well as kinetic data, are an essential part of various research projects for the utilization of CF.

Modern laboratories for handling fibrous dusts, equipped with filter fume hoods, are available for this purpose.

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