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High performance plastics and composites by high additive integration

Plastics and composites with polymer matrices have occupied nearly all spheres of life due to their versatile processing techniques and diverse useful applications. By using functional additives, essential properties like thermal stability, thermal conductivity, fire behavior or antistatic properties are adjustable. By the development of new additive systems and highly filled masterbatches, significant improvement of functional integration in polymer based materials is intended.

Pades offers the production of functional fillers as well as their further surface functionalization according to customer requirements. Furthermore we have new innovative technologies to transfer such functional particle fillers or liquid additives to different polymer carriers.

In combination with our technological know-how, these new surface functionalized fillers allow significantly increased contents in the polymer carrier. Thus, extraordinary high application-specific functional integration is possible besides further beneficial processing- und application features.

By addition of surface modified particle fillers to polymer-ceramic composites (functionally filled polysiloxanes), their thermomechanical stability and thermal conductivity are increased. Thereby, applications in the field of housings of electrical or sensor components exposed to strong thermal stress (300 – 1000 °C) are accessible.



ZTA core shell granule, 10.000x

Our offer:

- Surface modified particle fillers and highly filled masterbatches designed for coloring and functionalization of polymers regarding fire protection, antistatic, UV-protection, thermal stability and much more
- Innovative technologies for the gentle integration of sensitive additives into polymers
- Versatile support based on our material- and processing expertise for your material development



pades | project partner

Alliance for polymer innovation

Whether polymers or polymer-ceramic composites equipped with new application-specific functions or surface modified particle fillers and their integration into multifunctional masterbatches and polymer-ceramic materials – all this is offered by the following competent partners:

Grafe Color Batch GmbH develops and manufactures color and additive masterbatches as well as a wide range of functional compounds. Furthermore, application-specific and customized product solutions are offered. For that, one of the largest research and development departments in masterbatch industry investigates new possibilities to equip plastics with new intelligent functions.

Glatt Ingenieurtechnik GmbH is a market leader in life science systems for the production, the refinement and processing of powders. Glatt core activities are the development of perfect technological processes for the manufacture of granules and pellets from powders and liquids.

Friedrich Schiller University Jena, Chair of Materials Science (FSU/CMS) research focus is on the development and the characterization of biomaterials, nanostructured materials and composites.

Fraunhofer Institute for Ceramic Technologies and Systems is a research and technology service provider developing ultramodern high-performance materials, industrially relevant manufacturing processes, prototype components and systems.



Learn about our services and secure a reliable supply source for materials exactly tailored to your application. Gain a competitive advantage through extraordinary functionality.

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