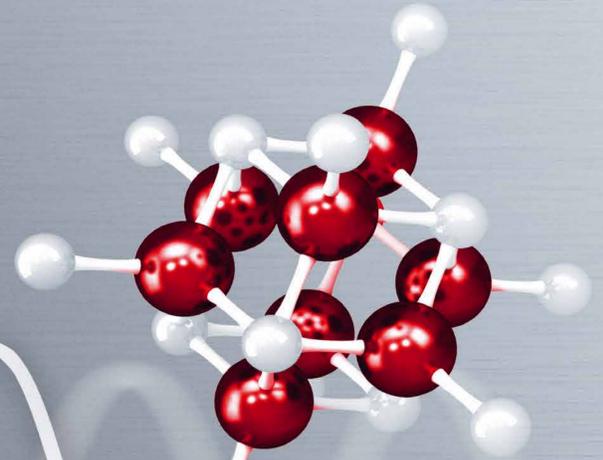


APPtec®



3.2

3.4

3.6

3.8

4.0

A NEW GENERATION OF SPRAY PYROLYSIS FOR ADVANCED POWDER MATERIALS

Rising demands on functionality and durability of components and devices lead to new challenges in the development of materials. Utilizing high performance powders, produced with Glatt APPtec, enhance the applications' functionality and increases performance to its maximum.

The new **Advanced Pulse Powder Technology APPtec** is a unique, continuous process to generate and modify powders. In the specially designed combustion chamber, the heart of the synthesis reactor, a **pulsating stream of hot gas** is created. In this particles are generated, treated and modified. The pulsating stream of hot gas can be adjusted in **frequency, amplitude, temperature and flow-velocity**. The reactor is constructed in a way that the gas stream pulsates within strictly controlled parameters.

Due to the pulsation of the gas stream, the **heat transfer** from gas to particle is **increased by a factor of five to ten**, compared to continuous gas streams. Because of this the generation of particles and phase-transitions are much faster and **unique structures** can be created.

Because of large turbulences pulsating gas streams exhibit **no gradients in temperature or flow-velocity**, as they are typical for continuous gas streams. Because of this all particles experience an identical treatment regarding temperature and retention time as basis for homogeneous powders.



APPtec pilot and production plant

Advanced Pulse Powder Technology to design YOUR materials

Benefit from the advantages of this new Glatt technology for targeted design of particles with desired properties!

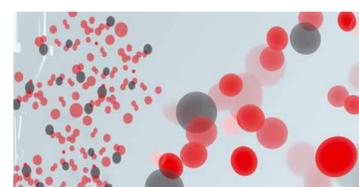
Develop new technological solutions with Glatt and create innovative and significantly improved ceramic materials with increased performance!



Simple oxides, doped materials, complex mixed oxides

Chemical Composition

- » nearly freely adjustable chemical composition
- » (un)doped and very complex oxides



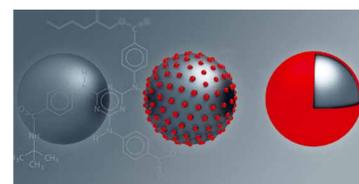
Adjustable particle size and narrow size-distribution

Phase Composition

- » adjustable through process parameters
- » mixed oxides like Spinell or Mullite possible

Particlesize & Surface

- » from nano to micro
- » very narrow particle size distribution
- » adjustable surface properties



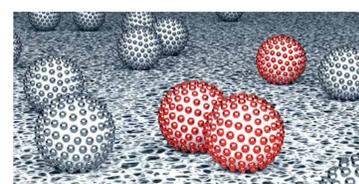
Functionalization of powder particles

Coating & Core-Shell

- » unique core-shell particles
- » defined layer thickness, porosity and activity

ADVANCED MATERIALS

- » catalytic materials with exceptionally high activities
- » ceramic high-performance powders with application-specific doping



Very high activity for catalytic materials

OUR Service

- » from idea to factory
- » contract manufacturing
- » delivery/Construction of your manufacturing plant



Contract manufacturing or own production plant