

International Powder Metallurgy Directory 2010 - 2011

14th Edition

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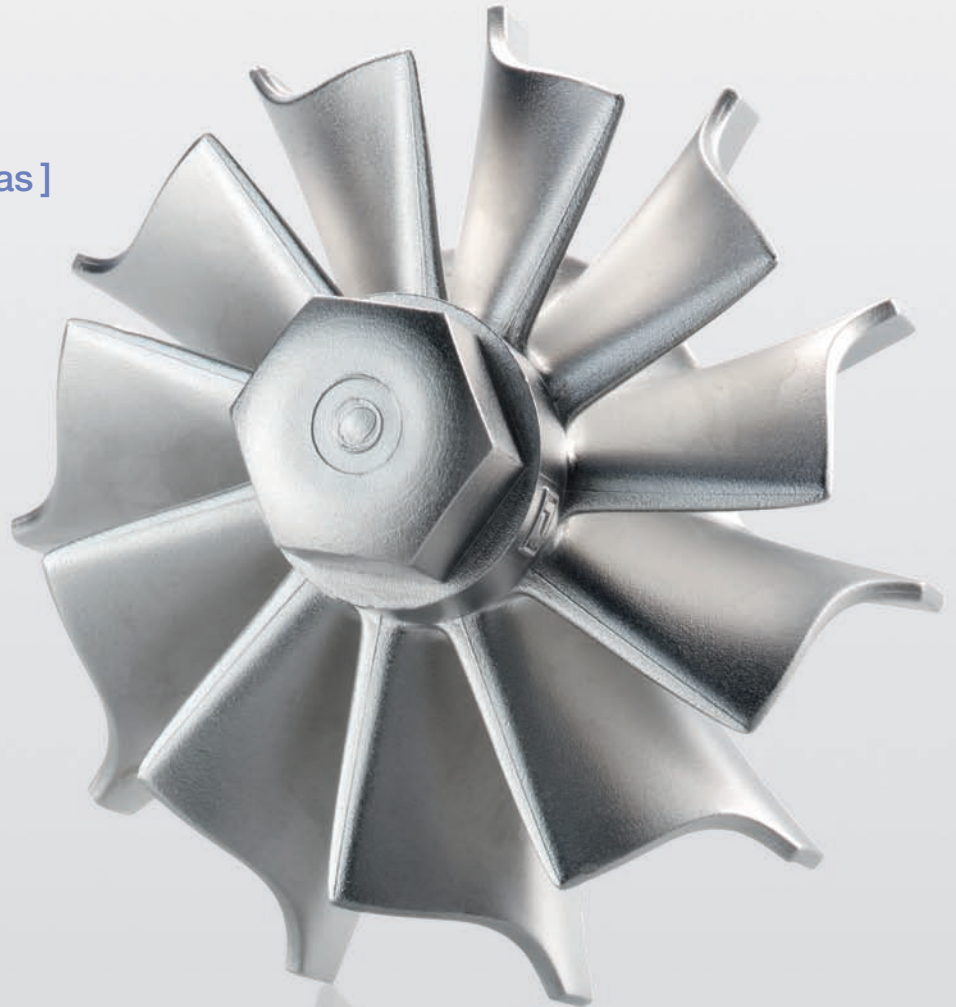
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Catamold®

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Discover the amazing possibilities of metal and ceramic components manufacturing using Powder Injection Molding with Catamold® and BASF.

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 **BASF**

The Chemical Company

Catamold® - Powder Injection Moulding Made By BASF

BASF has an unique background in plastics technology, metal powder production and new materials research. Thanks to this experience, BASF has become a solution provider for powder injection moulding (PIM), making substantial contributions to this innovative manufacturing technology.

Powder injection moulding (PIM) allows moulding metals with same ease and design freedom as for plastics. It has found application across many industry sectors including the automotive field for turbocharger, valve train, gearbox, seat-adjustment, fuel injection and sensor systems parts.

BASF's revolutionary catalytic debinding technology can be implemented as a fully continuous process. This provides the link between the highly automated moulding machines as used for plastic and the large throughput continuous sintering furnaces as known in powder metallurgy. For this reason BASF PIM technology is naturally suited to the mass production requirements of automotive applications.

BASF aims to be the preferred partner for the automotive industry when it comes to investigate and implement applications of PIM for the manufacturing of car parts.

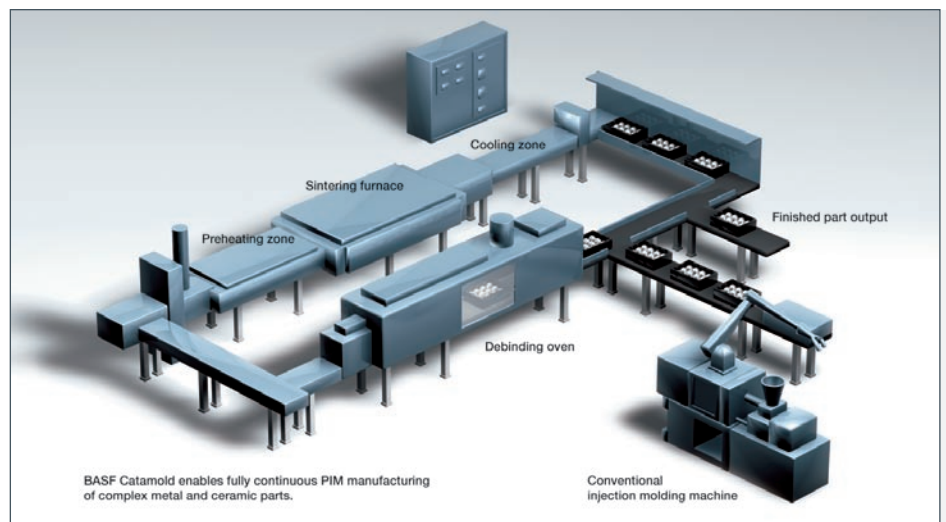
Product and services:

BASF offers a comprehensive product line for powder injection moulding, marketed under the trade name of Catamold®. These products are sold to many customers worldwide, all operating according to the same technology.

BASF's customers mould Catamold® ready-to-use feedstock - a selected blend of fine metal or ceramic powders and a polyacetal-based plastic binder - in conventional injection moulding machines. The further processing consists of the removal of the plastic binder, according to the revolutionary principles of catalytic debinding and the sintering of the powder compact to achieve very high densities.

The catalytic process allows debinding times up to 10 times faster than conventional technology, combining also high accuracy, excellent composition and dimensional control after sintering.

Catamold® is available in numerous



grades ranging from low-alloy steels to stainless steels, from soft magnetic alloys to tool steels, from Ni-superalloys to titanium, from tungsten to ceramics.

Catamold® is however much more than a feedstock: it is an all-round technical package. BASF offers its customers and end-users support in material selection, consulting for part and mould design, feasibility studies, simulation of the moulding process, pilot runs, assistance during start-up and regular production and training.

Research and development:

BASF's extensive know-how in plastics, powder technology and materials allows tackling the challenges of the market, which constantly requests the development of new alloys for new emerging applications.

BASF puts its expertise at the service of its customers and end-users in its best-in-class moulding, debinding, sintering and analytical facilities of the Catamold® Application Technology Department, located next to the feedstock production plant in Ludwigshafen. In these premises BASF leads multiple projects related to new materials,

feedstock development and mould design in close cooperation with its customers.

Quality standards:

Every single production lot of BASF Catamold® is subjected to a severe validation process, consisting of moulding, debinding and sintering of test parts according to the same process that BASF's customers run. This ensures long-term consistency and the conformance to product specifications (e.g. flowability, final density and dimensional tolerance after sintering).

BASF Catamold® development, production, quality control and marketing are certified according to DIN EN ISO9001, ISO TS16949, ISO 14001.



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14th Edition 2010-2011

The IPMD 14th Edition includes the following 'Technology Features'. All are available for download as PDF's from www.ipmd.net

- Powder Metallurgy - A Global Market Review
- Trends and Innovations in Powder Compaction Presses and Die Sets
- Sintering Equipment and Atmospheres used in Powder Metallurgy
- The Impact of Sintering on Microstructure and Hardness
- Developments in the Production of Structural PM Components
- High Density, High Performance Powder Metallurgy Components
- Metal Injection Moulding (MIM): Materials, Processes and Applications
- Developments in Tungsten Carbide-Cobalt Cemented Carbides
- Production and Applications of PM Diamond Tools
- PM High Alloy Steels and PM Superalloys
- An Introduction to Powder Metallurgy Soft Magnets
- Powder Metallurgy Permanent Magnets and their Applications
- PM Self-Lubricating Bearings Continue to Make Advances
- Trends in Ferrous Powders for use in Powder Metallurgy
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- Trends in Nano Powder Production and Applications



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