

WACKER

SILICONES

GENIOPERL®
TAKING OFF INTO
A NEW DIMENSION

CREATING TOMORROW'S SOLUTIONS



FULL POWER AHEAD ON
THE HOME STRETCH



MEGASCALE OPPORTUNITIES
WITH NANOSCALE SILICONE
PARTICLES

VENTURE INTO NEW TEMPERATURE ZONES

More powerful, more durable, more resistant to extreme temperatures: in the automotive industry, limits are challenged and redefined daily. How can materials be made even more rugged, thus putting the future on the road today? How can high-tech and mass-market demands be reconciled? Today, WACKER is showcasing an innovation that will set standards.



In GENIOPERL®*, WACKER has succeeded in manufacturing nanoscale particles that disperse completely homogeneously in epoxy resins and adhesives. This makes it possible to enhance the properties of adhesives and potting compounds by up to 100 %. Impact resistance and failure stress, in particular, can be hugely improved in this way – over a temperature range stretching from -40 °C to +260 °C.

In the automotive industry, the 100-nanometer particles have the potential to trigger and spur significant progress. Find out more!

* GENIOPERL® is a registered trademark of Wacker Chemie AG.

USE GRAVITY AS YOUR MOST CONVINCING ARGUMENT

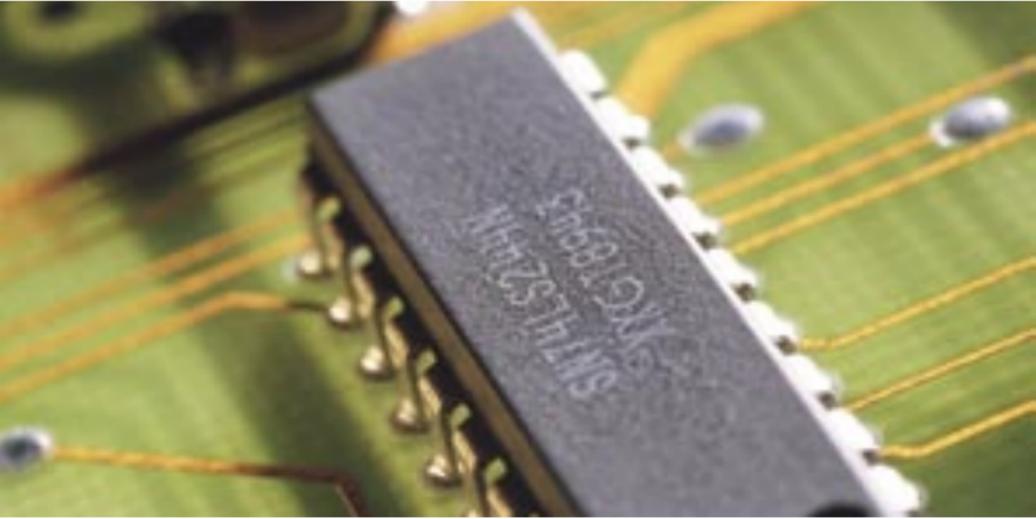
The lighter the better. Aircraft construction calls for materials with exceptional property profiles. Whether low-temperature resistance, high mechanical strength or low inherent weight, such properties are defined by factors that until now left little scope for further improvement. Here too, GENIOPERL® provides new opportunities.



GENIOPERL® is a core-shell particle. The silicone core is surrounded by a thin shell of acrylate or polystyrene, which is only 100 to 200 atoms thick. As a result, these particles disperse more homogeneously than others in the organic target systems and provide the flexibility typical of silicones – even at temperatures as low as -40 °C.

Very small amounts of GENIOPERL® produce fascinating results. An addition of just 3 % suffices to improve the properties of the target product by up to 100 %. In the aviation industry, lightweight composites containing GENIOPERL® will attain a completely new status. Find out more!

REDEFINE THE PURITY LAW FOR ELECTRONIC DEVICES



Ecological and economic: now that lead-free solders must be used for electronic devices, more rigorous demands are placed on the materials involved.

GENIOPERL® makes it possible to dispense with toxic lead during soldering and ensures that the devices are not impaired by the high temperatures. The nano-scale silicone particles are added to the potting compounds used for temperature-sensitive chips and circuitry, thus increasing the material's heat resistance to 260 °C.

GENIOPERL® procured in masterbatch form can even be incorporated without the need for additional equipment: the masterbatch is simply added to the formulation. Find out more!

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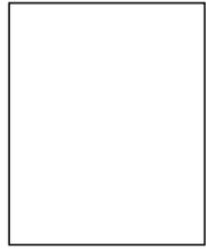
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For further information, visit www.wacker.com/genioperl

I am interested in the following GENIOPERL® application:

My interest focuses on the following industry:

Sender:

Last name/first name:

Company/position:

Street/town:

Telephone:

E-mail:

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