New Thinking. ▶ New Materials.

The gecko (in this case *Phelsuma nigristiata*) as an archetype for biomimetic adhesives structures.

GECOMER®-TECHNOLOGY

NEW ADHESION SYSTEMS FOR COLLABORATIVE ROBOTS

INM`s Gecomer®-Technology is inspired by the impressive adhesion abilities of geckos. The patented surface structure of our biomimetic adhesion system enables high adhesion on different materials. Depending on the requirements, the adhesive properties can be selectively adapted by changing the material, the geometry, and the size of the structures. Different fabrication processes allow for a high degree of flexibility for a diversity of applications.

Unique selling points of the Gecomer®-Technology:

- ▶ handling of sensitive components
- ▶ vacuum suitability
- ▶ scalability

Advantages of the Gecomer®-Technology:

- ▶ precision: positioning accuracy better than 1 µm
- ▶ speed for transfer cycles: <100 ms
- ▶ efficiency: saving of resources, energy and materials
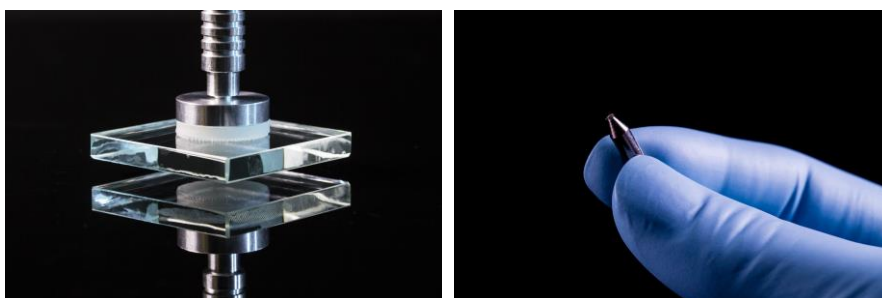
Sensitive handling of objects from the macro to the micro range.

The validation for industrial purposes was demonstrated by adapting the adhesive structures on top of a commercial 6-axis robot arm as well as on a collaborative robot arm for different pick-&-place objectives. Long-term investigations show that the functionality is maintained even after more than 1,000,000 switching cycles.

KONTAKT

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