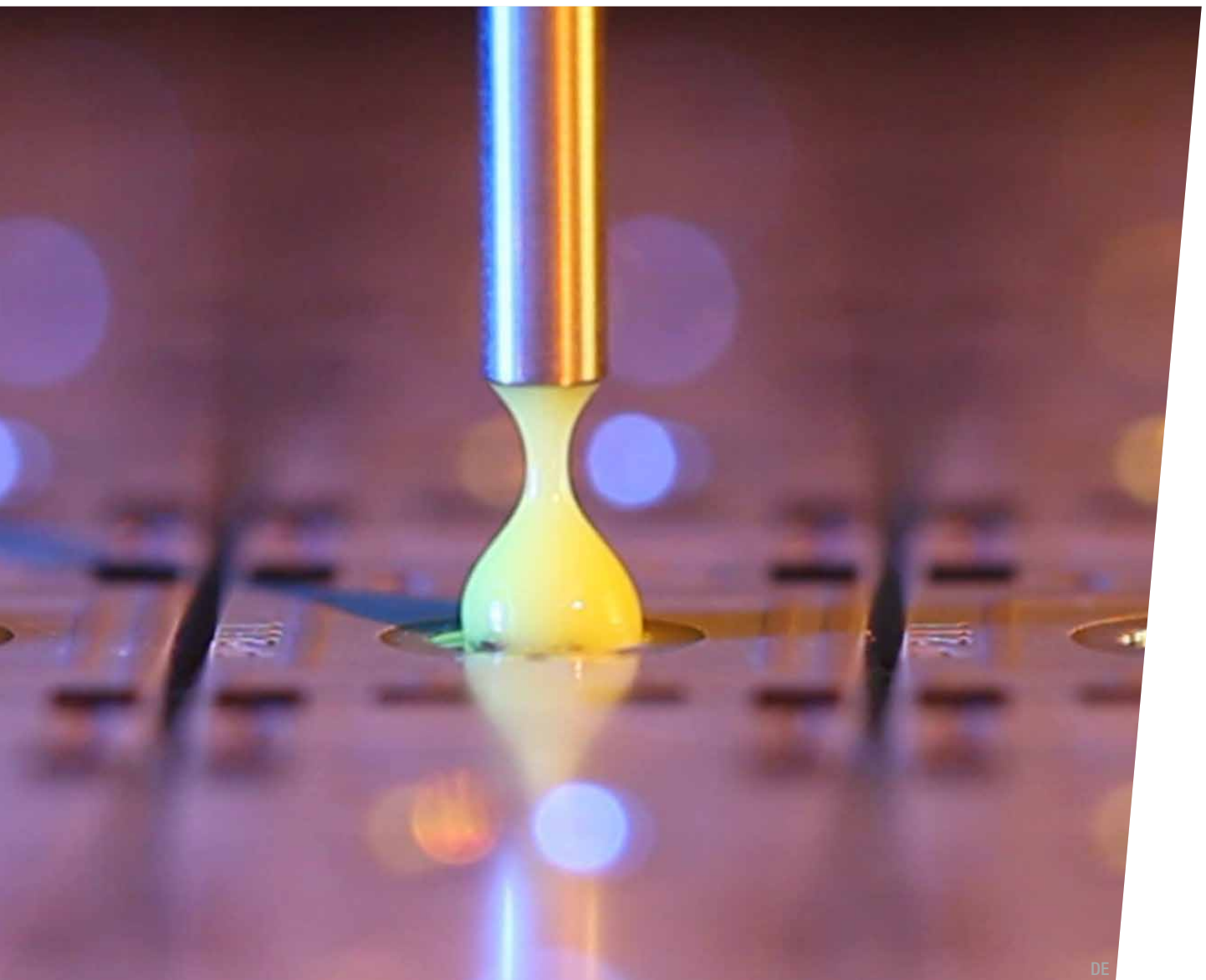


Supresil™

Novel technology to increase the pot life of Silicones
specially developed for LED components



Most LED components use addition cured PDMS as matrix for the color conversion phosphors, or as the favorite material for primary optical lenses attached to the LED package. In LED production, two component systems of such elastomers are preferred. Upon mixing the two components the curing process starts almost immediately, and the mixture usually has a pot life limited to a maximum of few hours at room temperature. This poses significant practical and technological limitations for its use, especially in LED production, where color conversion phosphors are added to the mixture.

The formulation of Silicone elastomers, developed by JOANNEUM RESEARCH MATERIALS, greatly reduces the production costs of LED components.

Benefits

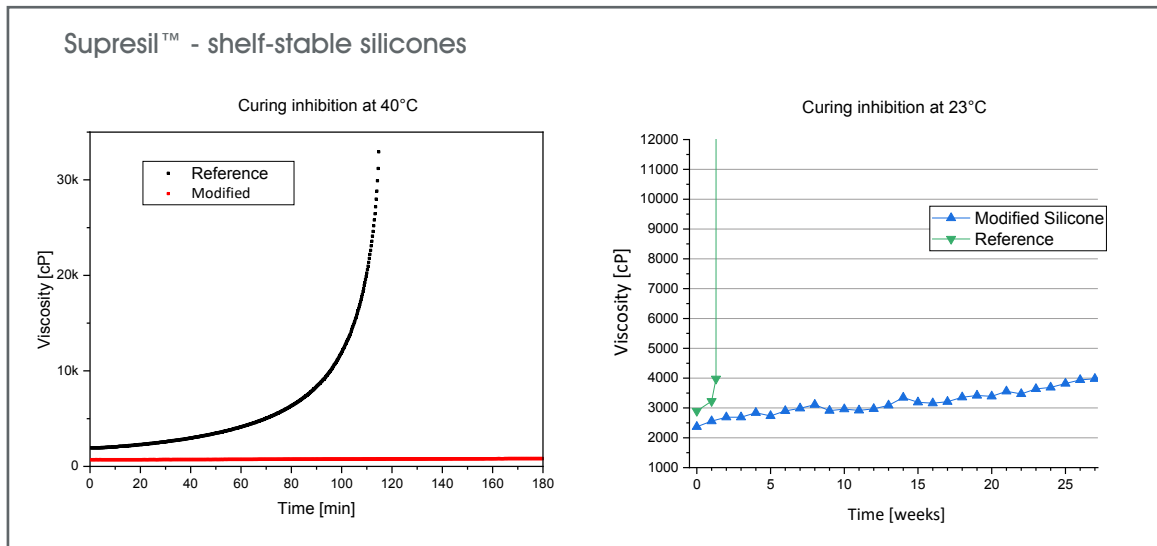
- The pot time of silicone mixtures (including color conversion phosphors) can be extended to several months and beyond.
- Supresil™ resins reduce the processing efforts and increase the yield of color conversion materials in LED-production.
- After deposition, normal curing occurs at temperatures even below 80 °C, leading to a fast and complete curing.
- No change of optical properties of the PDMS and the LED is observed.
- The modified silicones can be mixed with color conversion phosphors in large batches, increasing the accuracy and consistency of the color conversion composites.

Common problems with silicone-phosphor composites

- Short pot life = short processing time
- Manufacturing waste
- Reproducibility issues
- Inflexible manufacturing process

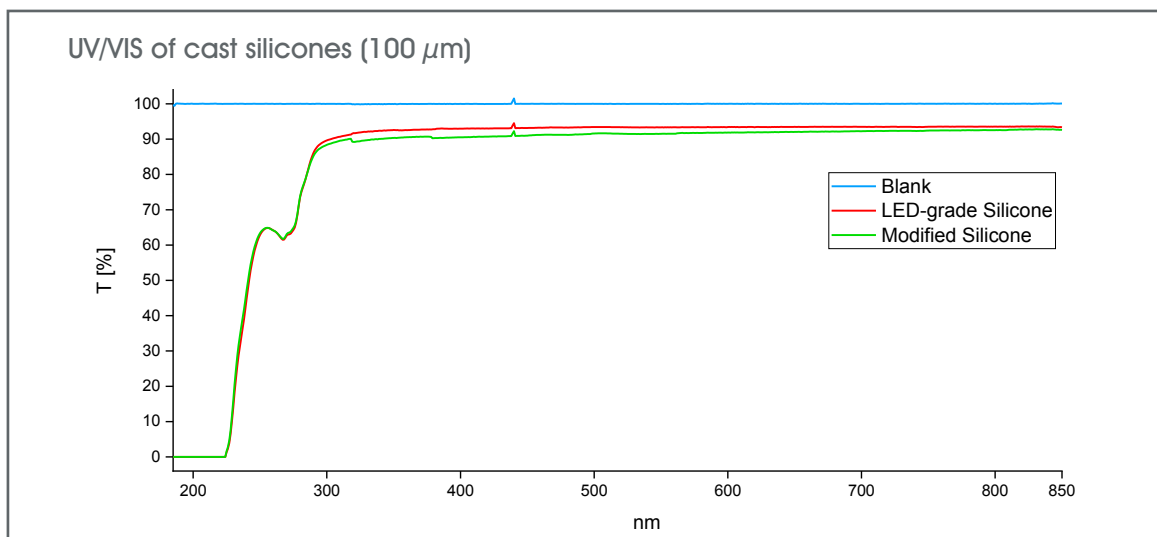
Supresil™ – novel shelf-stable silicones

- No curing at processing temperature
- Normal curing at curing temperature
- Improved wetting and distribution of the dispensed material
- Better dispersion of the phosphors



All physical and optical properties of the silicones stay unchanged

- Low shrinkage
- Unaltered storage modulus
- No change in UV/VIS transmission („yellowing“)



Cooperate with us! We can make your silicone shelf-stable with Supresil™

The novel technology is patent pending. We are looking for partners in the LED, phosphor and silicone market to exploit the potential of this technology.

MATERIALS
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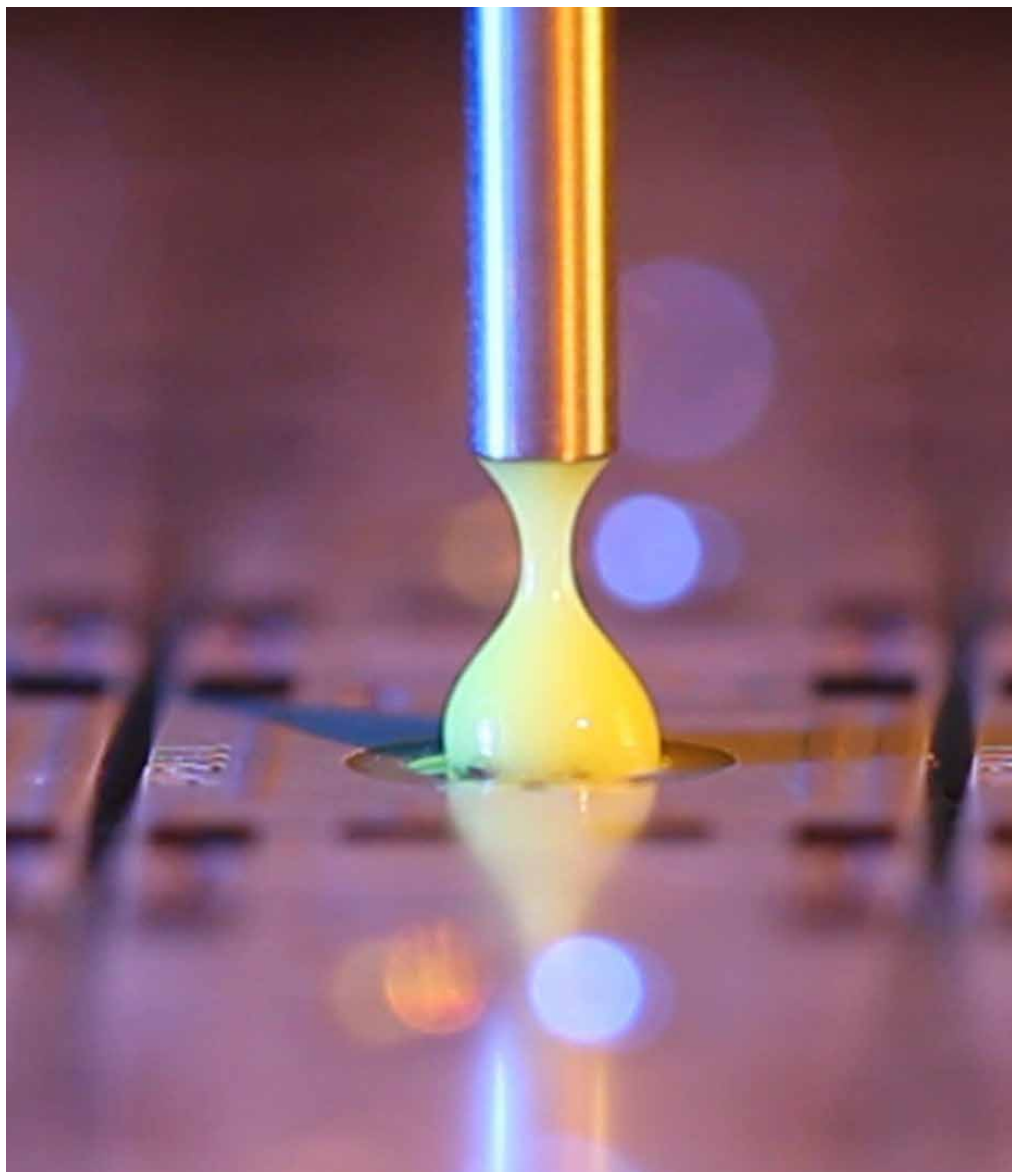


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