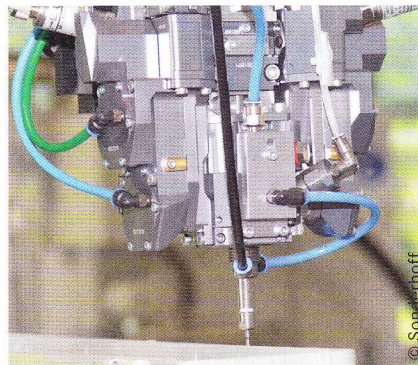


Two-component PUR adhesives for a wide range of applications

The current trend towards lightweight components has led to the increased use, in particular in the automotive industry, of thermoplastic and duroplastic materials (some of which are fibre reinforced) and of plastic parts with metal constituents. Two-component polyurethane adhesives are increasingly being used to bond parts of this kind, which include CFRP sandwich panels (for truck bodies, for example), electrocoated metal frames for glass sunroofs, PMMA or PC components with scratch-proof coatings, trim, spoilers and ABS- or PP-based tailgates. Sonderhoff has developed a range of two-component polyurethane adhesives for this purpose under the name Fermaglu, with different levels of hardness. They can be modified to meet customers' requirements for high standards of resistance to mechanical stresses and the effects of climate. The bonding process requires the adhesive components to be mixed and dispensed with a high level of precision in accordance with a carefully defined mixing ratio. This requires precision machinery with a systematic process monitoring function. In order to ensure that the polyurethane adhesives are correctly processed and dispensed



Precise application of a two-component polyurethane adhesive

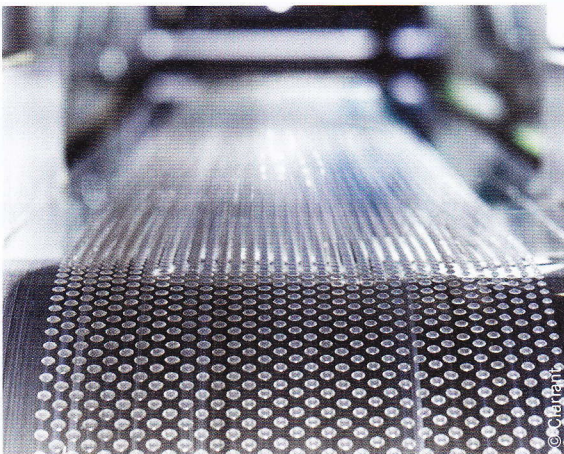
with a consistent level of accuracy, Sonderhoff recommends the use of its own range of mixing and dispensing machines, which are equipped with precision gear pumps and an automated system for monitoring the accuracy of the dispensing process. The two-component Fermaglu adhesive systems fulfil a wide range of strength and expansion requirements. Adhesives with a high tensile strength or greater elasticity are available, for example when substrates with different coefficients of expansion that will be subject to thermal expansion have to be bonded together. The adhesives have a broad spectrum of different viscosities, ranging from liquid to firm, which enables bonded joints

of varying sizes to be produced. The way in which the two-component PUR adhesives react to processing can also be adapted to meet different requirements. For example, the curing process can be accelerated by exposing the adhesives to heat in an oven or by using infrared radiation or heated tools. This allows for production cycle times of only a few minutes. ■

For further information, please visit: www.sonderhoff.com

Sustainable formulation of hot melts

Clariant has created a new toolbox that helps formulators to develop hot melts with superior performance for any need, using sustainable processing methods. The toolbox also includes metallocene-based additive systems called Licocene, as well as



Licocene waxes in hot melt adhesives provide a balance between adhesion and cohesion.

formulating guidelines. The Licocene solutions have low molecular weight with high mechanical strength. For hot melt adhesives, the manufacturer claims that these solutions provide a perfect balance between adhesion and cohesion. The optimised Licocene viscosity profile in particular achieves the desired properties even at low processing temperatures. Its thermal stability means less charring and no gelling, and enables higher productivity, generated by reduced cleaning downtime and increased mileage due to its low density. The further improved Licocene solutions offer possibilities for an improvement in adhesion properties to support the switch by formulators to using less tackifying resin in PE- and PP-based hot melt adhesives. Licocene was nominated as a finalist in the German Innovation Award 2015. The German business award is recognised as being the world's oldest innovation award. To meet the steady growth for Licocene Performance Polymers since their launch in 2006, Clariant is increasing production capacity by 50 % at its facility on the Frankfurt-Höchst Industrial Park in Germany. This additional capacity is scheduled to go on stream in the first quarter of 2016. ■

For further information, please visit: www.clariant.com

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adhesion

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SEALING

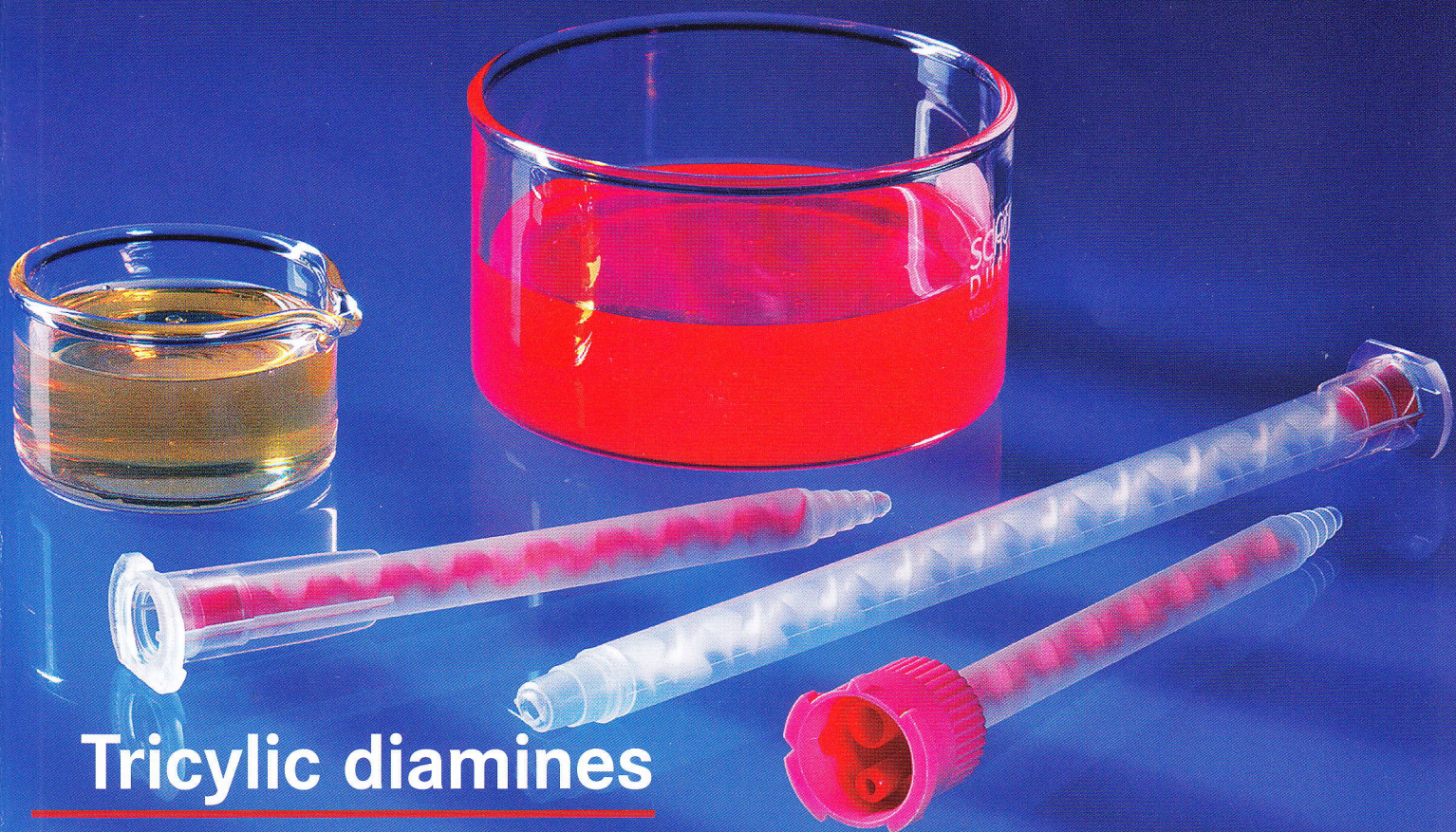
Foam gasket
application in the
electronics industry

CONDUCTIVE ADHESIVES

A smart solution
as alternative to
conventional solderings

SIMULATION

Analysis of hybrid
structures – easy
and efficient



Tricyclic diamines

More freedom in formulating