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Innovative dispersion adhesive enables significantly faster bonding of steering wheels

Murr, Germany. ZELU CHEMIE GmbH has developed its first water-based single-component dispersion adhesive for bonding steering wheels. It allows direct application onto the steering wheel blank. This means the bonding process is twice as fast. Furthermore, no organic solvent means fewer health risks for employees.

At present, most of the world's steering wheels produced by bonding are made using solvent-based adhesives. But this gluing process takes a long time, because the steering wheel blank is made of moulded foam, which has release agent from the foaming process on its surface. This release agent has to be removed using organic solvents or by mechanical sanding, so that the adhesive can stick to the integral foam.

But this will not remain the case anymore. One of the aims of automotive manufacturers is to reduce emissions inside vehicles in line with recommendation VDA 278 of the German Association of the Automotive Industry. To this end, they are moving towards manufacturing steering wheels without solvents.

Milestone: water-based single-component dispersion adhesive as a contact adhesive

Zelu can now offer a new, single-component dispersion adhesive to avoid the use of solvents. By usage of a special, also water-based release agent during the foaming process, the adhesive can be used straight away for bonding without the steering wheel blank requiring any further preparation. Once the adhesive has been applied, the contained water evaporates within a few minutes. The leather cuttings can then be bonded at room temperature using the contact method. Only in areas of high material tension is brief reactivation recommended, i.e. heating up to around 65 °C.

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The steering wheel blank no longer needs to be cleaned before bonding, so the processing time is reduced by more than half. And the new solution has another advantage: unlike two-component adhesives, it no longer requires any mixing with a cross-linking agent during production. The new Zelu adhesive is available in different viscosities and colours, depending on the type of application.

Years of expertise in the development of dispersion adhesives

Zelu has lots of experience in the development of water-based dispersion adhesives. Its first products were introduced onto the market under the name Curvalin back in 1992, and have been continuously improved since then. As well as bonding steering wheels, Zelu also has expertise in roof liner bonding. The basis for the recently introduced product was created in 2013 with the development of a two-component dispersion adhesive for steering wheel bonding. It was the first adhesive to succeed without organic solvents.

About Zelu

Zelu is a medium-sized, international chemicals company based in Germany. The company develops and manufactures tailor-made polyurethane foam systems and adhesives of the very highest quality. Its know-how is based on 130 years of experience in materials science and development. This enables us to find the perfect solution for every application – today and in the future.

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