

Preview adhesion Issue 03.2024

COVER STORY

Realising fire protection for battery packs economically and sustainably
Saving lives and complying with global regulations - the increasing performance and range of modern electric vehicle batteries presents manufacturers with challenges when it comes to fire protection. The results vary greatly depending on the application technology. The focus should always be on safety.

INDUSTRY

30 years of "Bonding in Bremen"
The adhesive bonding technology training programme at the Fraunhofer IFAM is 30 years old. What emerged from small beginnings in 1994 is now a cross-industry personnel qualification system. Many companies use the product-neutral training programme for modern adhesive bonding technology. At the same time, the system has established itself in the relevant national, European and international standards for adhesive bonding technology quality assurance, which now also apply worldwide.

ADHESIVES AND SEALANTS

New sealing materials and adhesives for electrolysers
Automated production of an electrolyser stack with a 1-megawatt capacity is around six times faster than manual assembly. However, sealing the bipolar plates, the individual cells and the entire stack poses a major challenge. For complete or partial automation, the flat gaskets and O-rings that are often used must be replaced. Newly developed materials that can be applied as liquid seals and adhesives are suitable for this purpose.

APPLICATIONS

New developments in polyurethane structural adhesives
Structural adhesives play a key role in various industries when it comes to creating strong and reliable bonds between different substrates. This applies to industrial manufacturing, but also to the construction industry. These adhesives, which are chemically based on polyurethanes (PUR), have a very broad range of applications due to their exceptional performance properties.

Digital tools in product development
Various digital tools can be used in the development process to ensure high functionality and quality and to speed up the market launch of new products. The following article provides an overview of the calculation methods using the example of a 2-component packaging solution.

RESEARCH AND DEVELOPMENT

Mussel principle for prosthesis coatings
More and more people are getting an artificial hip joint. Unfortunately, conventional prostheses often do not adapt to the dynamic changes in the bone. They become loose and new operations follow. This problem could be solved by a biomimetic adhesive that supports ingrowth and enables permanent adhesion.

DATES

Advertising deadline: 08/08/2024

Copy deadline: 08/15/2024

Publication date: 09/06/2024

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