

TPE for More Sustainability

Thermoplastic elastomers (TPE) perform significantly better than other materials such as PVC when it comes to environmental impact and sustainability. In addition, they are completely recyclable.

Sustainability, conserving resources, avoiding environmentally harmful waste, reducing emissions, optimizing processes, and saving time and money are important concerns at the chemical company Actega DS. This understanding of sustainability as a triad made up of economy, ecology, and social responsibility is also evident in the fact that the Altana Group – to which Actega DS belongs – has once again been allocated gold status in the renowned EcoVadis sustainability rating. With a score of 90 percent and the rating 'outstanding', this puts Altana in the five percent of companies assessed by EcoVadis to actually achieve gold status.

A major focus is on thermoplastic elastomers (TPE) in the formulations for both PROVAMED-TPE and the SOFT.EST portfolio. During their processing, there is no need for the time-consuming, temperature-intensive vulcanization process, thus saving energy and reducing the CO₂ balance. Even manufacturing granulate requires less energy than with soft PVC. Granulate material is cleaner in use and produces less waste. Furthermore, there are no viscosity problems. Because no liquid plasticizer is required for the flexibility/elasticity of PVC, the potential for the

migration of undesirable substances is minimized with TPE granulate. The material is 100 percent recyclable. Chlorinated compounds, by contrast, are harmful to the environment during manufacture and disposal.

As well as being phthalate-free, TPE are also guaranteed to be free from latex and silicone. In the production of PROVAMED granules, the raw materials used meet the requirements of the European Pharmacopoeia or have been examined to assess their biocompatibility. Moreover, all TPE conform to the requirements for food contact materials in Germany and the EU as well as the US Food and Drug Administration, FDA. This confirms that the raw materials are toxicologically harmless.

Completely recyclable

TPE perform well compared to other materials, and not only for environmental and sustainability reasons. Their complete recyclability is one of the most important aspects here. Neither PVC nor thermosetting rubbers or latex can be easily or completely recycled and silicone is hard to break down. Latex and thermosetting rubbers can only be processed with a high input of en-

ergy and time, and the production of silicone is very complex. Furthermore, latex and silicone can provoke allergic reactions. There are additional doubts with regard to possible extractables and leachables, and in many cases an unpleasant smell is also detected. PVC and thermosetting rubbers already produce large quantities of waste in their manufacture and processing. Plasticizers can leach out of PVC and – at high temperatures, for example – pollutants can leach out of silicone.

All this speaks in favor of TPE as an alternative material. Furthermore, these PVC-free compounds correspond to the gold level of the EPEA rating cradle to cradle. This is a concept which strives to develop eco-effective products that are part of a sustainable cycle in which there are no problems with refuse or wastage.

The formulation is the key

TPE exhibit tremendous flexibility and are resistant to a very wide variety of media. They possess a wide range of mechanical properties. For this reason, individual customization is possible and the range of potential applications is enormous. The key is to compose the formulation correctly. Actega DS uses exclusively biocompatible, food-safe raw materials when composing the formulations for its TPE portfolio. These formulations often involve mixing together and homogenizing ten or more components. The choice of components allows the completed material to be precisely formulated for the intended application. By combining the ingredients in the TPE compound in specific ways, it is possible to define the hardness, Young's modulus, tensile strength, surface properties, and appearance. The same goes for the properties required of materials destined for direct contact with blood and medications. Further improvements, for example in the chemical or mechanical properties, can be achieved by modifying the formulation, for example by using additives.



Thermoplastic elastomers offer significant advantages with regard to sustainability and recyclability.

Further information: www.actega.com

Construction Chemicals Business of BASF is now MBCC Group

MBCC Group was spun off from BASF Group over the past 18 months and has been established as a standalone organization. The new Chief Executive Officer is Dr. Jochen Fabritius.



The global R&D center in Trostberg (Germany) is the heart of the innovation chain for admixture systems, underground construction, and resins.

As a globally active supplier of construction chemicals, MBCC Group offers innovative and sustainable products and solutions for different sectors of the construction industry, such as buildings, infrastructure, underground construction, new construction, and renovation.

MBCC Group emerged from the former BASF Construction Chemicals business after its acquisition by Lone Star Funds and started operations from October 1, 2020. It consists of approximately 70 legal entities worldwide and is home to around 7,500 construction experts in over 60 countries. The global and European headquarters are in Mannheim, Germany, with regional headquarters for North, South, and Central America in Beachwood, Ohio, USA. For the Middle East, Russia, Africa region, MBCC Group has its regional headquarters in Dubai, while the regional headquarters for the Asia Pacific region are located in Singapore.

The new owner has confirmed Dr. Jochen Fabritius as the new Chief Executive Officer

of MBCC Group. Fabritius is a civil engineer, having spent almost his entire career in the construction sector, and is a highly experienced expert of the construction industry. In recent years, he has been working for Xella, which he joined in 2014, first in the capacity of Chief Operating Officer and then, from 2017 onwards, as CEO. Prior to that, he worked for 15 years at the consulting firm McKinsey & Company.

Fabritius: "I am very happy to join the MBCC Group and I am working closely together with a strong global management team to realize MBCC Group's full potential."

Innovative and sustainable solutions

Innovation is one of the key drivers of the new group of companies and is strongly positioned through a network of global and regional R&D centers. At the global R&D center in Trostberg (Germany), experts work on basic research and new technologies, as well as developing new products

and processes for construction chemicals and related system solutions. This center is the heart of the innovation chain for admixture systems, underground construction, and resins, and manages MBCC Group's entire patent portfolio as well as its global technology projects. MBCC Group operates regional development centers in North America, Europe, Asia Pacific, and the Middle East-Russia-Africa region.

"Delivering sustainable solutions is a key pillar of MBCC Group's portfolio. Today, more than 35 % of all products offered by the group of companies are already sustainably advanced. Increasing economic benefits while at the same time contributing to the reduction of global warming is one of the ways in which we meet customer needs and demonstrate and promote our approach," said Dr. Sven Asmus, Chief Technology Officer of MBCC Group.

For further information: www.mbcc-group.com

'The best of flexo' at the EFIA Awards

Recognition for Lohmann customers – at the EFIA Awards 2020, the customers of adhesive tape manufacturer Lohmann were presented with six gold, eight silver, and five bronze awards.

Customers of the international manufacturer of adhesive tapes, Lohmann, from Neuwied have been recognized by the 'European Flexographic Industry Association' (EFIA) at the EFIA Awards 2020. Every year, EFIA presents prizes for 'the best of flexo' at a gala dinner. With these awards, EFIA recognizes excellence in flexographic printing across a number of disciplines and techniques. Judging is carried out in January each year by an independent jury consisting of printers, suppliers, brand owners, and retailers.

Two awards in the 'highly commended' category

Due to the coronavirus pandemic, the award presentations on September 17, 2020 took place in a virtual ceremony. Lohmann's customers gained six gold,

eight silver, and five bronze awards. In addition, all of the winners in the 'wide web' and 'inline narrow web' categories were regular Lohmann customers. Michael Marshall, Coveris Operations Director, Labels & Board, was extremely pleased to win one gold, one silver, and three bronze awards. A special highlight, however, was the two awards in the 'highly commended' category – printed using Lohmann Duplo Flex plate mounting tape. "We have been using Lohmann's Duplo Flex tape for a number of years now and have always achieved very good results with it. The performance and consistency have been instrumental in Coveris winning numerous awards in recent years," said Marshall.

Again this year, Lohmann was a proud silver sponsor of this event. However, Lohmann's involvement goes far beyond mere



Lohmann congratulates the winners.

sponsoring. National Sales Manager Robert Drew from the UK is a member of the EFIA Board. In his position as a Non-Executive Director, he promotes projects and topics concerning the flexographic industry, not only furthering the future of flexo, but also encouraging other Lohmann customers to submit entries to future awards. //

Further information: www.lohmann-tapes.com

New General Manager for the German Adhesives Industry Association

Dr. Vera Haye was appointed General Manager of the German Adhesives Industry Association (IVK) on January 1, 2021.



Dr. Vera Haye is the new General Manager of the IVK.

She succeeds Ansgar van Halteren, who retired at the end of 2020 after almost 38 years of association work.

Vera Haye, who holds a doctorate in microbiology, was born in Mettmann in 1979. After studying biology in Düsseldorf, she moved to the Technical University of Hamburg, where she completed her doctorate at the Institute for Technical Microbiology before working for three years as a postdoctoral researcher. In 2013, Dr. Haye returned to Düsseldorf and worked as a scientific officer in the networking department of the Cluster Industrial Biotechnology (CLIB). Since 2018, she has been working at IVK, where she was responsible for the areas of communication and sustainability as managing director since July 2020.

"We are very pleased to have found an experienced networker in the person of Dr. Vera Haye as our new General Man-

ager," said Dr. Boris Tasche, President of the IVK. "Challenges of our industry require strategic vision, a profound understanding of adhesive technology and our industry, and strong communication. In recent months, the previous General Manager, Ansgar van Halteren, has created the ideal conditions for a successful handover of the job of General Manager, and the entire IVK management board would like to wish Dr. Haye all the best for a successful future."

"This is an exciting time and I am looking forward to my new tasks," said Vera Haye. "We will continue to work very closely with our members to achieve what is best for our association and to master the challenges of the coming decades." //

Further information: www.klebstoffe.com

Latest Study on the European Adhesives Market

Ceresana has now examined the European market for adhesives for the fourth time: In 2019, a total of around 3.51 million tonnes were utilized. The market researchers expect sales generated with adhesives across Europe to grow by 0.5 % per year until 2027.

Electric motor, hybrid, or fuel cell? It is still not clear which drive system will prevail. However, what is certain is that future mobility will depend on innovative joining technology. Even today, a new car contains around 18 kg of adhesives – from heat-dissipating protective layers for battery cells to lightweight chassis and crash-proof windows. The automotive industry is now increasingly using adhesives.

Combining established and innovative materials

This latest study not only examines the use of adhesives in the automotive industry, where aluminum and fiber-reinforced plastics have to be joined with steel in a strain-free manner. It also reveals that an astonishing amount of paper is still needed in spite of digitalization and an increasing number of plastics. The most significant sales market for adhesives in 2019 was the paper and packaging segment – with around 29 % of total European usage. The construction industry came in second by a slight margin. Other major application areas for adhesives, according to the study, are wood processing, shoes, and leather, as well as other consumer goods.

Plastics with special properties

The most important product type in 2019 was vinyl adhesives, which offer a particularly broad range of applications. Adhesives based on polyvinyl acetate (PVAC) are among the most important grades. Polyvinyl acetate is additionally used to produce polyvinyl alcohol (PVA), which is likewise used as an adhesive, for example for porous materials such as paper, cardboard, wood, cork, or leather. The primary consumers of vinyl adhesives are the paper, packaging, wood products, and construction industries, which use mainly water-based products and hotmelt adhesives.

Searching for alternatives to solvents

Physically setting adhesives in particular contain between 30 and 60 percent (by weight) of organic solvents, which evaporate from glued surfaces and from open tubes or bottles. Aromatic hydrocarbons are considered to be not only a fire hazard but also a health risk, as their vapors, such as those of xylene or toluene, can be addictive and are suspected of being carcinogenic and mutagenic. Alternatives that are less harmful to health and the environment are therefore increasingly being sought after. In Europe, water-based adhesives already accounted for over 50 % of total consumption in 2019. However, if an adhesive contains only water as a solvent, then preservatives must be added to it, which can in turn be problematic for people suffering from allergies. This study by Ceresana provides a breakdown of the adhesives market by technologies: water-based adhesives, hotmelt adhesives, solvent-based adhesives, reactive adhesives, and other products.



A current study on the European adhesives market is now available.

The study in brief

Chapter 1 provides an overview and analysis of the European market for adhesives – including forecasts up to 2027. The development of sales, demand per application, trade, and production is presented for each country. The eight largest countries are additionally analyzed with regard to adhesive technologies (water-based adhesives, hotmelt adhesives, solvent-based adhesives, reactive adhesives, other technologies) and adhesive types.

Chapter 2 analyzes the various applications of adhesives, including data and influential factors on their use in the segments of paper and packaging, construction, wood processing, transportation, shoes and leather, consumer goods, and other applications. Additionally, the chapter looks at the demand for individual adhesive types: vinyl, acrylic, polyurethane (PUR), elastomers, epoxy, and other adhesives.

Chapter 3 presents a useful manufacturer's directory with the 82 most important adhesive producers, clearly arranged according to contact information, sales, profit, product range, production sites, profile summary, and specific information on adhesives. //

Further information: www.ceresana.com

Retrofitting for Dosing Systems

For the sustainable renewal of dosing systems, the Austrian company Scharf Automation is applying state-of-the-art technology from the fields of industrial digitalization, robotics, and artificial intelligence. The aim is to make the use of older systems sustainable and efficient. The range of retrofitting services provided by Scharf includes conversion, servicing, and maintenance for older mixing and dosing systems for sealing foams as well as gluing and encapsulation

The main focus is on the digital renewal of control systems and control cabinets, which avoids unnecessary and expensive replacements or the purchasing of new equipment and therefore saves money. According to Scharf, this can extend the lifetime of plant and equipment by decades. A retrofit conversion is surprisingly 'green', the company says. Conversion of the control systems can bring the equipment up to the latest state of technology while still maintaining all of its functionality. Using the latest technology will improve efficiency and quality and, if required, the plant and equipment can also be easily integrated into digitalized Industry 4.0 processes.

Contact: Martin Scharf, info@scharf-automation.at



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State-of-the-art control technology can upgrade even older plant and equipment for Industry 4.0 processes.

Jowat Operates its Own Coronavirus Testing Center

Jowat has already been consistently expanding its remote working capabilities since the onset of the coronavirus pandemic last year. However, not every employee has the possibility to work from home. Those working in R&D, in the lab,

in production, or in the logistics department have no alternative than to be present at the company.

To ensure optimum protection of employees on site, Jowat has been operating its own coronavirus testing center since the

start of this year. At the center, every employee is given a rapid test each week. All employees from the morning shift to the night shift are tested – three persons every 15 minutes, from 8.00 am until midnight. In addition, all contractors working on the premises also have to take the rapid test, which is offered free of charge. After the test, each participant is given a certificate, which, when negative, is also accepted by most retirement and care homes.

Own staff being qualified to carry out tests

Testing is currently being carried out by an external medical service provider. However, Jowat is already qualifying members of its own staff to be able to carry out tests independently in the future. Klaus Kullmann, Managing Director at Jowat SE, is pleased: “With this testing center, we want to meet our responsibility in the containment of the pandemic and provide the highest possible protection for our employees. We deeply appreciate the great commitment demonstrated by our employees in supporting this effort.”



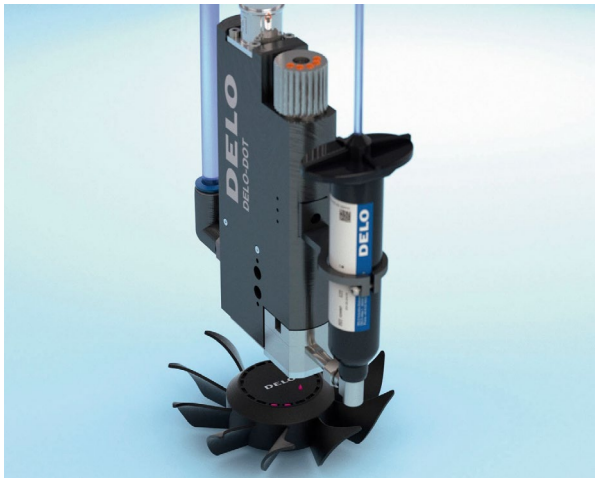
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The Jowat coronavirus testing center at the company's headquarters in Detmold (Germany)

For more information: www.jowat.com

Additive Adhesive-Based Balancing Process

The precision mechanical engineering company Bobertag (PMB) has presented a completely new process for the precise balancing of rotating parts. After highly accurate measuring of the unbalance, PMB uses an additive process to correct it.



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A new adhesive-based additive process ensures fast and high-precision balancing.

Balancing is required for most applications that involve rotating components, such as electric motors, fans, pumps, and turbines. Correcting unbalance enhances quality by reducing vibration and loads on the parts. It enables higher rotational speeds, reduces noise, and ensures a longer component lifetime.

The new additive balancing process from the precision mechanical engineering company Bobertag (PMB) for industrial series production processes can achieve residual unbalances of 1 mg·mm, as required in the optical industry for example, with minimum possible correction accuracies of 0.1 mg. According to PMB, its excellent process reliability also makes this additive approach interesting for medium unbalances of 50 to 100 mg·mm, for example for those in small fans.

Light-curing adhesives as the balancing compound

First of all, a measurement station in the balancing machine determines if there is an unbalance. The Delo-DOT D4 micro-dispensing valve quickly and precisely applies the additive balancing material in

one or two planes without contacting the workpiece. For the balancing compound, the process uses Delo light-curing adhesives, which have been specially modified and have a high density.

Irradiation with Delolux UV lamps cures the balancing material completely within a few seconds. A control measurement subsequently verifies the result. Balancing is usually completed after one correction step. Balancing can also be performed directly in the measurement station. If short cycle times are to be achieved for large-scale production, the process steps can be performed simultaneously on multi-station systems.

Up to now, subtractive processes such as machining, and increasingly, lasering have been the dominant balancing processes. In contrast to additive processes, subtractive processes require components to be designed with additional 'sacrificial material' that can be partially removed. Additive balancing, on the other hand, is more material-efficient because the exact amount of material required is applied to the workpiece. //

Further information: www.delo.de



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Performance by design

SKZ and Innowep Have Founded the 'Institute for Surface and Product Analysis'

The new institute combines the expertise of SKZ (Süddeutsches Kunststoff-Zentrum – German Plastics Center) and Innowep offering a wide selection of surface tests under one roof.



The new testing institute provides numerous new opportunities for research and development – from left to right: Dr. Thomas Hochrein (SKZ), Prof. Wolfgang P. Weinhold (Innowep), Prof. Martin Bastian (SKZ)

The signing of a cooperation agreement between SKZ German Plastics Center and Innowep laid the foundation for the new 'Institute for Surface and Product Analysis' (ISPA). This combined the competences of both parties from June 1, 2020 at SKZ in Würzburg (Germany). SKZ above all provides its comprehensive expertise in material and surface characterization in the field of plastics and also makes premises available for ISPA. In return, Innowep supplies many years of experience and know-how in the field of surface testing, primarily on finished products from well-known customers in the aviation, automotive, and telecommunications sectors. Dr. Thomas Hochrein, Managing Director of Research and Development at SKZ: "The cooperation with Innowep GmbH has already

been extremely productive and innovative in recent years. The agreement that has now been signed and the foundation of ISPA further reinforce our joint efforts to produce even more high-quality plastic products than ever before."

Standardized testing of cleaning processes

According to SKZ, this lighthouse project creates numerous new opportunities for research and development. ISPA therefore also represents a significant benefit for the State of Bavaria. The fingerprint test and tests for the cleanability of surfaces in particular are just some of the interesting and innovative tests carried out by ISPA. Especially during the current coronavirus pandemic, cleaned and disinfected surfaces on

public transport and in public buildings are a basic prerequisite for limiting the spread of the disease. The fingerprint test and tests for the cleanability of surfaces open up the possibility for the standardized testing of cleaning processes. They can therefore play a significant role in combating the coronavirus pandemic.

Other areas of the broad range of surface tests include measurements of topography, haptics, and micro-friction, as well as comprehensive material characterization. The special feature of the newly founded ISPA is that it enables all of these tests on materials, individual components, and complete products to be carried out under one roof. //

Further information:
www.skz.de

Henkel Presents Supplier Awards 2020

With its Supplier Awards, Henkel recognizes the outstanding performance of its strategic partners across the value chain. This year, awards went to the companies Wanhua, Cabot, and Clariant.

Henkel Adhesive Technologies recognizes the performance of its strategic partners with its annual Supplier Awards. With these recognitions, the business unit honors the close and successful collaboration with its suppliers across its value chains. This year, the companies Cabot, Clariant, and Wanhua have been awarded in the three categories of Operational Excellence, Sustainability, and Innovation. Due to the current COVID-19 restrictions, the regular annual award ceremony usually held at the Henkel headquarters in Düsseldorf was conducted entirely digitally. For the first time, the event not only recognized raw materials suppliers, but also included Henkel's partners in the areas of logistics and packaging.

Innovation Award: Wanhua

The Innovation Award went to Wanhua, a global supplier of polyurethanes headquartered in Yantai, China. The collaboration based on open exchange and early access to innovations resulted in the largest pipeline of innovation projects in the

entire business unit of Henkel Adhesive Technologies. The innovative solutions from Wanhua enabled Henkel to launch several new products in the sports and fashion markets and for packaging applications. Wanhua was recognized for its creativity, agility, and customer focus. For example, the company carried out regular digital training sessions for Henkel.

Operational Excellence Award: Cabot

Henkel presented its Operational Excellence Award to Cabot Corporation, an American specialty chemicals and performance materials company headquartered in Boston, USA. Cabot received the award for its outstanding supply performance as well as the company's ongoing efforts to ensure competitiveness in an increasingly challenging market environment. In addition, the company demonstrated its strong commitment to partnership by excellent collaboration on material qualification for the automotive industry.

Sustainability Award: Clariant

The Sustainability Award went to Clariant, a specialty chemicals company headquartered in Muttenz, Switzerland. In 2020, the company demonstrated excellent support and showed the best contribution to Henkel's sustainability targets and ambitions. The recognition was also granted for Clariant's achievements in developing innovative solutions with health and safety benefits. The partnership between the two companies is characterized by an open exchange with a focus on sustainable innovations.



Henkel Adhesive Technologies presented its Supplier Awards 2020 to Wanhua, Cabot, and Clariant.

For further information:
www.henkel.de

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