



The circular economy

The role of adhesives and sealants



The circular economy: the role of adhesives and sealants

The “European Green Deal”, which aims to shape the EU economy for a sustainable future, was launched in December 2019. It gives due consideration to climate, green energy and industry-supported circularity, with a particular focus on value chains in packaging, construction, mobility, electronics and textile.

Supporting the concept of the European Green Deal is a study from September 2019 by the Ellen MacArthur Foundation, which concludes that the circular economy can contribute to emissions reduction by transforming the way we make, use and dispose of products, leading to a more sustainable European economy.

The adhesive and sealant industry, represented by FEICA (The Association of the European Adhesive & Sealant Industry), supports the European Commission’s objectives within the European Green Deal for a comprehensive approach to “closing the loop” of product lifecycles, bringing benefits for the environment, the economy and society and helping to achieve a more sustainable future. The adhesive and sealant industry is contributing to solutions to meet this challenge.

Adhesives and sealants: a tradition of innovation for improved circularity

Adhesives and sealants have been creating more sustainable solutions for decades. Some of our industry’s recent innovations are described in the Good Practices on the FEICA website and on the EU Commission’s European Circular Economy Stakeholder Platform.

Examples from various sectors which are relevant for the European Green Deal are highlighted in the diagram below, covering the main areas of circularity and sustainable development, showing the value improvement that adhesives and sealants deliver to a broad range of applications along different value chains:

- **Energy saving:** Adhesives and sealants enable solutions that save energy in the use phase of buildings and vehicles, e.g. for the fixation of insulation panels, the production of lightweight cars, etc.;
- **Material efficiency:** Adhesives enable the optimised use of materials, e.g. composite materials for lightweight vehicles and for furniture components, supporting the use of renewable materials such as wood in construction;
- **Repairability:** Adhesives enable the repair of many products, e.g. shoes, conveyor belts, etc., thereby extending their utility, use phase and service life;
- **Durability:** Adhesives and sealants extend the life span of products and components, e.g. the conservation of food through re-closable packaging and joint sealing for buildings;
- **Recycling:** Adhesives which do not impede recycling, e.g. in paper recycling, the cleaning and reuse of returnable glass bottles and recycling of food packaging. These adhesives also help improve material efficiency because less material needs to be processed when the product is at its end-of-life.



FEICA recognises that a viable and sustainable future will depend on a more efficient, including circular, use of resources. This is acknowledged in its sustainability vision, which states:

“The adhesive and sealant industry is committed to enabling a growing population to live a better life and to use the planet’s resources responsibly and efficiently.”

Adhesives and sealants closing the loop



All Good Practices are available at <https://www.feica.eu/information-center/good-practices>

FEICA believes that the European Green Deal and circular economy thinking is a paradigm shift for industry and society. To fully address its challenges, all stakeholders will need to contribute because moving forwards to full circularity requires far more than what individual economic actors can achieve alone.

Approach of the adhesive and sealant industry to the circular economy

The adhesive and sealant industry is convinced that design for circularity across entire value chains is of key importance to exploit the full potential of a circular economy. The sustainability performance of any circular solution should be measured by Life Cycle Assessments along all value chains.

This includes extending the durability of products, repairability, reuse and recycling. Innovative adhesives, as well as new technologies to be developed can support circular approaches. For example, enabling or enhancing recyclability by ensuring it is never burdened by adhesives or sealants. Another area of innovation might be debonding-on-command type adhesives, enabling the easy separation of bonded components for repair or recycling.

Our industry is eager to co-operate with all actors within value chains in the design phase of products to optimise durability and their end-of-life solutions through options such as recycling and repair potential.

Circularity is a journey – FEICA’s way ahead

The move towards a circular economy is an innovation driver for the adhesive and sealant industry. FEICA is active in the following areas:

- Educating the industry and supporting adhesive and sealant producers in Europe on sustainable circular economy developments and good practices;
- Creating partnerships along value chains in all relevant sectors to support circularity by design;
- Understanding the use phase and end-of-life needs of customer products and contributing to innovation;
- Reaching out to the recycling industry to understand its challenges and innovate where needed for next generation design and reprocessing;
- Engaging with the chemical industry to develop novel end-of-life options, e.g. chemical recycling.
- Working closely with the relevant standardisation bodies and, together with FEICA’s National Associations, supporting efforts to achieve standards that support the circular economy.

The adhesive and sealant industry, committed to its sustainability vision, will be a key enabler of the European Green Deal and of a sustainable circular economy, collaborating across value chains in different sectors to support a societal shift to a more sustainable future.

Background on FEICA

FEICA, the Association of the European Adhesive & Sealant Industry, is a multinational association representing the European adhesive and sealant Industry. With the support of its national associations and several direct and affiliated members, FEICA coordinates, represents and advocates the common interests of our industry throughout Europe. In this regard FEICA aims to establish a constructive dialogue with legislators in order to act as a reliable partner to resolve issues affecting the European adhesive and sealant Industry.

Contact

This document was developed by FEICA’s Sustainable Development Committee.

FEICA - Association of the European Adhesive & Sealant Industry
Avenue Edmond van Nieuwenhuysse 2,
1160 Brussels, Belgium
Tel: +32 (0) 2 896 96 00
info@feica.eu | www.feica.eu

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