



Shaping the Circular Economy
with mass balance certified solutions



Mass balance: the game-changing approach to reduce the carbon footprint

Renewable raw materials are a reliable alternative

In today's world, the call for sustainability is growing louder and more urgent. Industries across the spectrum are being pressured to reduce their carbon footprint and shift away from fossil-based products.

The mass-balance approach is one of the answers to this challenge and can also be applied effectively to cast polyurethane elastomers. Covestro has begun the journey and now offers a solution to reduce the carbon footprint in the production of cast elastomers.

Mass-balance focuses on using renewable feedstocks and responsibly sourced raw



materials to balance the carbon content of the final product. This effectively decreases the reliance on fossil-based materials and reduces the environmental impact.

Benefits of using mass-balanced products

The mass-balanced approach is a game-changer in the manufacturing of cast PU elastomers. This innovative solution does not only answer the concerns surrounding conventional production methods, it offers several additional benefits.

Improved carbon footprint

The primary advantage of the mass-balance approach is achieving a lower carbon footprint. By responsibly incorporating renewable raw materials into the manufacturing process, the fossil-based carbon content of the final product is significantly reduced. It helps to lower greenhouse gas emissions and aligns with sustainability goals.

Increased visibility with certification

Products bearing the mass balance certification showcase the manufacturer's commitment to sustainability and environmental responsibility. This increased visibility can attract environmentally-conscious consumers and businesses, thereby creating a market advantage.

Plug and Play solution

Implementing the mass-balance approach requires no new infrastructure or changes to existing processes. Manufacturers can seamlessly use mass-balanced products without any modifications. Process conditions and properties of the finished product are identical to those of their conventional counterparts, thus ensuring product consistency.

Pioneer behavior

Embracing the mass-balance approach signifies a pioneering role within the industry. It positions companies as pioneers in sustainability, enabling them to tap into the growing demand for eco-friendly products. As sustainability gains priority, users enjoy benefits.

Implementing mass balance and measuring its impact

Life-Cycle Assessment: an effective methodology for assessing the environmental impact

Life-Cycle assessment (LCA) is a method that assesses environmental impacts associated with all the stages of the life-cycle of a product, process, or service. In the case of a cast polyurethane part, environmental impacts are assessed from raw material extraction and processing, through the part's manufacture, distribution and use, to the

recycling or final disposal. The method involves an inventory of the energy and materials required across the supply and value chain and calculates the corresponding carbon emissions. Its aim is to document the overall environmental profile of the product and allow to accurately compare carbon footprints.

Certified approach to guarantee sustainable content

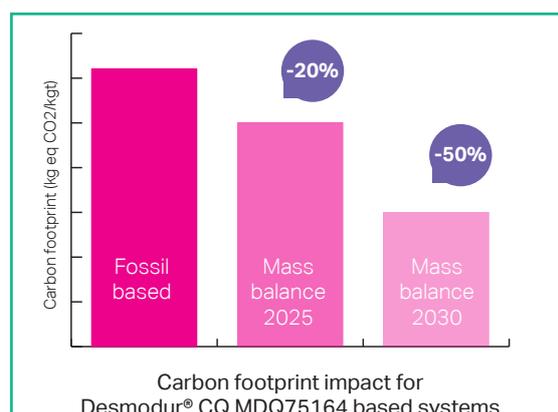
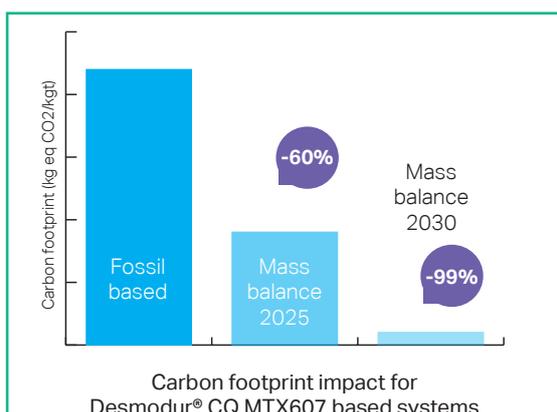
Due to the blending of raw materials sourced from both fossil-based and renewable feedstock, ensuring material traceability and data verification across sites and the value chain is imperative. To truly appreciate this approach, it is then essential to guarantee and monitor the bio-alternative content. To this effect, Covestro has decided to place its trust

in the internationally recognized system for sustainability certification ISCC ("International Sustainability & Carbon Certification") to establish the bio-alternative content of our products. Ultimately, our aim is to provide an easy drop-in solution, whereby the resulting products comply with the same technical requirements as conventional products.

Positive impact on carbon footprint

With our mass-balanced products, we are helping to reduce the carbon footprint and are offering a drop-in solution that can be instantly implemented in existing production processes without the

need for technical modifications or standard requalifications. The examples below show how a LCA of our Desmodur® products demonstrates a significant positive impact on the environment.





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¹) Please see the «Guidance on Use of Covestro Products in a Medical Application» document.