

PRESS RELEASE

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Calculate product carbon footprint automatically

The Product Carbon Footprint creates transparency about the climate impact of products. TEMI+, the WITTMANN Group's MES, makes CO₂ emissions transparent thanks to a new software feature.

By 2050, the EU wants to be climate-neutral. The resulting Green Deal will make it mandatory for manufacturing companies to gradually reduce their CO₂ emissions. The product carbon footprint (PCF) is therefore coming into focus. Information about the carbon footprint of individual products is a prerequisite for implementing effective measures to reduce greenhouse gas emissions.

The PCF includes emissions from the entire life cycle of a product – from raw material production to recycling. The calculation can be correspondingly complex. With a new software, the WITTMANN Group is simplifying this process for its customers. In the future, the software will be available as a new functionality of TEMI+, the WITTMANN Group's MES.

Including energy consumption and material data

Participants at the WITTMANN Competence Days 2024 in Vienna in June can already take a look at the extended dashboard of the TEMI+ solution. As soon as a production cell is clicked on, the processor receives a complete overview of the production progress. The relevant key figures are displayed for each individual cycle. The CO₂ emissions are now added there – each indicated in grams per cycle. When using a single-cavity mold, this value corresponds to the PCF. When using multi-cavity molds, this value is divided by the number of cavities to obtain the PCF.

The calculation of CO₂ emissions is based on two values. One is the energy consumption of the injection molding production cell and the other is the shot weight, in other words, the amount of raw material processed per cycle.

The energy consumption of the production cell is automatically measured cycle by cycle either directly by the MES or by using the iMAGOxt software. The CO₂ emissions resulting from the energy consumption depend on the production location.

For Germany, for example, with the current electricity mix, the factor is 0.354 g CO₂ per Wh. This value is stored in the MES or shared from the customer's ERP so that the system can automatically calculate the CO₂ footprint of the production cell.

The CO₂ footprint of the raw material is also a predefined value. It is provided by the material manufacturer and entered into the MES.



The TEMI+ dashboard shows the product carbon footprint at a glance and indicates the share of the injection molding process and the share of the material in the total emissions.

Photo: WITTMANN

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recycles and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate ten production plants in six countries, and the additional sales companies at their 36 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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