

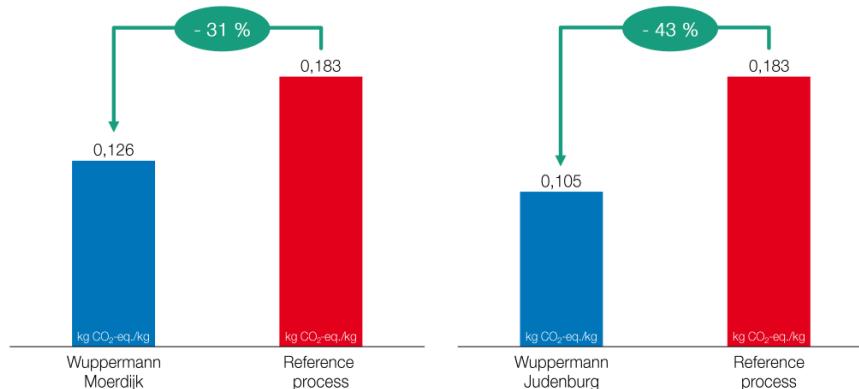
PRESS RELEASE

Wuppermann AG

Wuppermann's galvanising process saves 31 % CO₂

Leverkusen, Germany, 02.09.2020 – Wuppermann Group has commissioned the renowned Fraunhofer Institute for Environmental, Safety and Energy Technology (UMSICHT) to investigate the environmental impact of the Wuppermann Group's Heat-to-Coat strip galvanising process and to compare it with the conventional cold strip galvanising process.

The Fraunhofer Institute prepared a life cycle assessment according to DIN EN ISO 14040 and evaluated the environmental effects as climate impact in kg CO₂ equivalents per kg hot-dip galvanised steel strip (kg CO₂-eq./kg). The result: Where the areas of application for galvanised hot strip and galvanised cold strip overlap, i.e. where it is technically possible to use both cold-rolled and hot-rolled steel for an application, the CO₂ balance shows an advantage of the Wuppermann process.



The galvanising processes including after-treatment cause 0.126 kg CO₂ eq/kg at the Moerdijk (NL) site and 0.105 kg CO₂ eq/kg CO₂ emissions at the Judenburg (AT) site. The reference process causes CO₂ emissions of 0.183 kg CO₂-eq/kg. This results in a CO₂ saving of 31 % at the Moerdijk site and 43 % at the Judenburg site. Included in here are the emissions from the production of the zinc and electricity consumed. Not included in

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this so-called gate-to-gate consideration is the environmental impact of the input material hot strip.

With an annual galvanising volume of approximately 600,000 tons, this results in CO₂ savings of 34,200 tons at the Moerdijk site. In Judenburg, the savings amount to 4,680 tons with a galvanising output of approximately 60,000 tons.

"We are pleased with the verification that our special Heat-to-Coat process emits less carbon dioxide than conventional galvanising processes on the market. There are two main reasons for this: Firstly, in contrast to the standard process, we do not use fossil fuels but only electricity for heating. Secondly, we are able to avoid the energy intensive annealing, whereby our maximum temperature is about 450°C, instead of 750°C," says Karsten Pronk, Technical Managing Director of Wuppermann Staal Nederland B.V.

This means that every improvement in the energy mix towards renewables leads directly to a reduction in the CO₂ footprint of the Heat-to-Coat galvanising process. The main contributor of CO₂ emissions of the Wuppermann process - and thus the most important lever for further emission reductions - is the electrical energy required for pickling and galvanising. Additionally, and the production and origin zinc are a major contributor.

"For our customers, the ecological balance sheet of steel manufacturers is becoming even more increasingly important. The Fraunhofer Institute's proof of the CO₂ advantage of the Wuppermann galvanising process therefore helps not only Europe but also our customers to achieve their climate targets," adds Johannes Nonn, Spokesman of the Executive Board of Wuppermann AG.

For the third and newest strip galvanising line in the Wuppermann Group's network at the Győr site in Hungary, the life cycle assessment will be carried out as soon as sufficient and meaningful data are available.

About the Wuppermann Group

The Wuppermann Group is a medium-sized family business based in Leverkusen, Germany, which has been successfully involved in steel processing for over 145 years. Its product portfolio includes surface-finished flat products, tubes and tubular components made of steel for the mechanical engineering, furniture, food, packaging, automotive, construction and solar industries as well as water and wastewater technology sectors. The Wuppermann Group currently has five production sites and more than 800 employees. In 2019, the Wuppermann Group achieved a turnover of around 597 million euros. Further information can be found at <https://www.wuppermann.com/>

Methodology

The primary data of Wuppermann AG was collected on the basis of a process questionnaire by Fraunhofer UMSICHT. Secondary data for the representation of upstream and downstream processes are taken from the life cycle assessment databases GaBi SP 40 and ecoinvent 3.3. Data sets for the production of galvanized sheet by means of cold strip galvanising (coating weight: Ø 275 g/m²), for the production of cold-rolled steel strip, and for the production of hot strip serve as reference data sets. The balancing follows the methodical approach of the worldsteel organisation. In order to achieve the best possible and neutral comparability, the site-specific data from Wuppermann is adjusted to the data of the reference process. The zinc coating thickness is determined as a guiding parameter: Linear adjustment of the zinc quantity and the zinc slag WSN to Ø 275 g/m². Further information on the methodology can be found <https://www.wuppermann.com/profile/sustainability/sustainability>



Wuppermann Austria GmbH in Judenburg produces slit strip.



Steel strip produced by Wuppermann Staal Nederland B.V. in Moerdijk.



Production site of Wuppermann Austria GmbH.



Production site of Wuppermann Staal Nederland B.V.