



The Dian Marsella work shoe, the product that featured in a successful pilot test of the new Inescop carbon footprint software tool.

CREDIT: DIAN

A software tool developed by Spanish footwear research organisation Inescop has won certification for its ability to help footwear firms calculate the carbon footprint of their shoes. One manufacturer, Alicante-based work and safety shoe producer Dian, has already tried the tool out successfully.

New carbon footprint tool works on shoes

Inescop, the Spanish footwear technology institute, has helped to develop a software tool for calculating the carbon footprint of footwear, taking into account the whole lifecycle of the shoe, from raw material to post-consumer-use disposal. It says the tool, which can generate carbon footprint data in the form of an Excel file, has been designed to help footwear companies improve their environmental performance and that it can also be used as a marketing tool, potentially boosting a shoe producer's credentials in the market by offering proof that it has built environmental responsibility into its designs.

Technology centres from Poland, Portugal and Italy, the

European Footwear Confederation (CEC) and Spanish footwear industry body FICE also contributed to the project, which was partially funded by the European Union. INESCOP used the standard ISO/TS 14067:2013 and the European Union's 'leather footwear' product category rule (PCR) as reference documents to develop the carbon footprint tool.

Hot spots

"The tool will allow footwear manufacturers to find out the volumes of CO₂-equivalent greenhouse gases that are emitted as a consequence of their shoe production,"

explains Inescop director, César Orgilés. "It will help companies identify where the hot-spots are in their set-up and see which materials and which production stages have the greatest environmental impact."

Successful pilot

Spanish standards body Aenor has already validated the tool, largely basing its assessment on the results of a pilot exercise that Inescop carried out with Alicante-based workwear and safety footwear manufacturer Dian. Specialising in shoes for people in the healthcare and catering industries, Dian prides itself on prioritising the foot health and wellbeing of workers. A typical product, the Pisa-Correa, is a clog-sandal mounted on straight-shape last with rounded toe with an upper in white, blue or black bovine leather. It has perforated padding on the instep to prevent chafing, leather lining and a wedge-shaped sole in polyurethane and TPU (a combination that Dian insists increases the "non-slip efficiency" of the clog).

For its part, the Marsella is a non-slip shoe with special grooves in the sole to make it especially effective in wet conditions. The company says this shoe is especially light and comfortable and, thanks to a microfibre upper, is machine washable at temperatures up to 40°C. It was the Marsella that featured in the pilot study, with Dian receiving formal certification from Aenor for the product, with the documentation stating the standards body certifies that the manufacturer has calculated effectively the carbon footprint of the shoes, in keeping with ISO standard 14067, which specifies the requirements for quantifying the carbon footprint of a product and communicating it to consumers.

Less complex

The obvious question that flows from this is: what is the carbon footprint of a pair of Marsella work shoes? Sadly, as this issue of *World Footwear* goes to press, Aenor has still not released a figure. Inescop has said it will publish the information as soon as it can and that it wants to raise as widely as possible awareness that the tool works and that other footwear manufacturers will be able to use it as effectively as Dian.

The announcement from Inescop comes a few months after membrane technology developer WL Gore said it had carried out a lifecycle analysis (LCA) study on a pair of hiking boots that a partner company had made (*World Footwear* November-December 2014). The carbon footprint of the boots was just one part of a complex calculation that examines a long list of contributing factors, but it did work out the CO₂ equivalent of the boots at 27.1 kilos over a lifespan of three-and-a-half years. Upstream processes (which is what Inescop, Aenor and Dian have concentrated on) contributed 77.2% of the total, which equates to 20.9 kilos of CO₂ equivalent and the materials used to make the boot account for 13.7 kilos of this.

No excuses

The hiking boots in question are substantially bigger than the Dian Marsella and, therefore, use more material, but it will be interesting to see if the figure Dian publishes for the carbon footprint of its product in the end is in keeping with what the WL Gore study found. If it is, footwear companies



Inescop's Miguel Ángel Martínez (left) receives certification for the carbon footprint tool from Gonzalo Piédrola, operations director of standards body Aenor.

ALL OTHER CREDITS: INESCOP



Inescop environment technician Alberto Zapatero (right) with Aenor auditors.



Inescop director, César Orgilés (left), with the chief executive of footwear brand Dian, Joaquín Mataix.

will know that they can work out the carbon footprint of their shoes without undergoing a complex LCA study. It will mean the Inescop tool will do the work for them. This will give them scant excuse for not sharing product carbon footprint information with consumers. 🌱