



Declaration of Conformity

Certificate number:
PRJN-543010

Verification for **Carbon Footprint** of products:

Phosphated (KGK) and unphosphate (TSF) high pressure drawn wire

For:

SEBIR S.A.

C/ Comunicacions, Pol. Ind. Agripina, 08755, Castellbisbal, Barcelona

Is content with:

UNE-EN ISO 14067:2019 "Greenhouse gases. Carbon footprint of products. Quantification requirements and guidelines (ISO 14067:2018)".

Verified data for reference period **2023**.

Introduction

SEBIR S.A. (SEBIR) has commissioned DNV Business Assurance Spain SLU (DNV) to carry out a limited review of the carbon footprint Inventory for the following declared unit "one ton of drawn wire", contained in the Report "240308_SEBIR_informe HCP.pdf" which is part of this declaration.

SEBIR was responsible for reporting its CO_{2,eq} product emissions in accordance with the reference standard UNE-EN ISO 14067:2019.

Verification Scope:

- Our limited review verified the 2023 CO_{2,eq} product emissions generated by SEBIR for all services offered as leading family-owned company in the manufacture of steel wire for cold stamping, as detailed in the verification report dated 2024-03-11 (PRJN-543010).
 - Emission sources that represent less than 1% of total GHG emissions have been excluded if the total of exclusions does not exceed 5% of total emissions.
 - Manufacturing processes considered in the Partial Carbon Footprint of this product considering cradle to gate system boundaries:
- 1. Receipt and supply of Raw Materials:** transportation of main raw material (steel) and process auxiliary materials and packaging materials to the facilities, distributed to the warehouses and then to the production lines by electric forklifts. In the upstream stage, only the consumption of the main material (steel) is considered.
 - 2. Product manufacturing:** Consumption of auxiliary and packaging materials is considered, as well as other process consumables (electricity, natural gas, diesel, etc.). The production process is divided into several sub-processes:
 - a. Rough pickling: The first step is to pickle the material to remove iron oxides, dirt, scales, oils and other contaminants from the steel surface, coming from the steelmaking process. SEBIR works with two pickling processes:
 - i. Mechanical pickling: during this process, the wire is deformed by means of rollers so that the calamine, which is not deformable, is removed from its surface.
 - ii. Chemical pickling: It removes the calamine by dissolving the iron oxides in acid or other corrosive chemicals that react with the unwanted layers on the surface of the steel.
 - b. Drawing (K): Once the wire is prepared, it is passed through the die matrix and pulled. Steel drawing is a process through which the diameter of the wire is reduced, being able to reach a reduction of 90% depending on the characteristics of the bars. This transformation brings benefits to its mechanical characteristics for its subsequent modification in the rest of the processes.
 - c. Globular annealing (G): Globular annealing is a wire heat treatment process that helps to obtain essential qualities such as ductility and plasticity in the steel wire, allowing optimum

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deformability in future cold stamping processes. At SEBIR, globular annealing is carried out using green hydrogen technology furnaces, ensuring uniform heat distribution and efficient globularization in the shortest possible time.

- d. Finish pickling (phosphating): It is carried out in an automatic bath line, which allows the combination of the phosphate coating with different lubrication coatings (reactive sodium stearate, polymer and carrier salts).
- e. Finish drawing or Skinpass (K): This type of drawing has the following main functions:
 - i. It straightens deformed wires after annealing, improving their productivity in the customer's machinery.
 - ii. It generates residual stresses that prevent the opening of cracks in stamping. For phosphate-free wires, high pressure lubricant is added during final drawing.

3. Product packaging: After manufacturing, products are packed in different types of packaging according to the characteristics of the final product. Mainly the coils of wire rod are secured with strapping (both plastic and steel) and some are placed on pallets with cardboard sheets for protection. However, most of them are placed in reusable metal baskets, which can be shrink-wrapped with stretch film.

Objective

The objective of the verification is to provide interested parties with a professional and independent judgment about the information and data contained in the mentioned GHG Report for the product Phosphated (KGK) and unphosphated (TSF) high pressure drawn wire.

Limitations and Assumptions

SEBIR report "240308_SEBIR_informe HCP.pdf", dated 11.03.2024 describes the limitations and assumptions of the study, which have been reviewed and accepted by the verification team.

Relative importance

Errors / omissions which represent, single or aggregated, 5% or more of total emissions were considered material.

Criteria

The reference requirements for the preparation of the GHG Inventory, which serves as the basis for the information and data reported in the GHG Declaration are:

- **UNE-EN ISO 14067:2019** "Greenhouse gases. Carbon footprint of products. Quantification requirements and guidelines (ISO 14067:2018)".
- Report developed by SEBIR for the declared unit of the product "Phosphated (KGK) and unphosphated (TSF) high pressure drawn wire".

As part of the verification process, DNV:

- Gained an understanding of the systems used to generate, consolidate and report selected greenhouse gas (CO_{2,eq}) data at the facility level and at the corporate level.
- conducted interviews with relevant people in the organization for the data collection and consolidation processes.
- had access to specific documents, data, and information that SEBIR made available.
- carried out consumption checks in a previous selection of facilities according to the criteria established in a preliminary risk analysis, to ensure the coverage of sources, activity data, data collection and the management and quality process of the same at the facilities and corporate level.

Being the total product carbon footprint emissions 2023 for SEBIR of **1.872,31 KgCO_{2,eq}/ton of KGK and 1.593,76 KgCO_{2,eq}/ton of TSF**. The following is a summary of CO_{2,eq} emissions reported by SEBIR for the product "Phosphated (KGK) and unphosphated (TSF) high pressure drawn wire" by life cycle stages considered:

GHG Emissions by life cycle stages according to UNE-EN ISO 14067:2019 (kgCO _{2eq} /T)			
Life Cycle Stages	Emission sources	Emissions (kg CO _{2,eq} /t KGK)	Emissions (kg CO _{2,eq} /t TSF)
Upstream		1476,67	1.469,63
	Transport and logistics (raw material, auxiliaries and packaging)	106,90	99,86
	Raw material reception (steel)	1.369,77	1.369,77
Core		395,64	124,13
	Mechanical descaling	244,01	7,62
	Rough drawing	11,22	11,56
	Annealing	85,98	85,98
	Phosphating	35,46	-
	Finished drawing	5,92	5,92
	Packaging and shipping	11,93	11,93
	Scrap	1,13	1,13
Total emissions for the product high pressure drawn wire		1.872,31	1.593,76

Opportunities for improvement

During the verification process, some areas for improvement were detected that were satisfactorily resolved and some recommendations to be added in future.

Conclusion

Based on the foregoing, in our opinion there is no evidence to make us suppose that the information on emissions reported in the SEBIR carbon footprint Report, corresponding to the year 2023, is not a faithful representation of the CO_{2,eq} emissions data.

Place and date:
Barcelona, March 14th, 2024

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