ENVIRONMENTAL PRODUCT DECLARATION

VERIFIED by SCS GLOBAL SERVICES ENVIRONMENTAL PRODUCT DECLARATION BASED ON LCA

CONCRETE REINFORCING STEEL & WIRE ROD

Production and Fabrication
Jacksonville, Florida

CMC is a global metals company with a commitment to protecting our environment that is as strong as our steel.

CMC Commercial Metals

COMMITMENT YOU CAN COUNT ON

Commercial Metals Company is a global, low-cost metals recycling, manufacturing, fabricating and trading enterprise. We are committed to minimizing our impact on the environment and protecting our natural resources. CMC is one of the world's largest metal recyclers, and our micro- and mini-mill steelmaking processes consume significantly less natural resources and release fewer emissions than blast furnace steelmaking. With corporate headquarters in Irving, Texas, CMC operates locations in the United States and in strategic international markets.

EPD IMPACT SUMMARY

Company Name	Commercial Metals Company (CMC)
Product Type	Construction steel
Product Name	Fabricated concrete reinforcing steel & wire rod
Product Definition	Carbon steel used as reinforcement in concrete.
Product Category Rule (PCR)	North American Product Category Rule for Designated Steel Construction Products
Certification Period	January 12, 2016 – End Date: January 11, 2021
Declared Unit	1 metric ton
SCS Declaration Number	SCS-EPD-05354
Version Date	04/17/2019

LIFECYCLE IMPACT CATEGORIES

CATEGORY INDICATOR	PER METRIC TON		
	FABRICATED REBAR A1-A3	WIRE ROD A1-A3	UNIT
Global warming potential	1.09×10^{0}	9.27×10^{-1}	metric ton CO_2 eq
Ozone depletion potential	7.50×10^{-10}	6.02×10^{-10}	metric ton CFC-11 eq
Acidification potential	3.76×10^{-3}	2.93×10^{-3}	metric ton SO_2 eq
Eutrophication potential	2.05×10^{-4}	1.69×10^{-4}	metric ton N eq
Photochemical ozone creation potential	4.94×10^{-2}	3.55×10^{-2}	metric ton O_3 eq
Abiotic depletion potential, non-fossil resources	-1.43×10^{-5}	-1.48×10^{-5}	metric ton Sb eq
Abiotic depletion potential, fossil resources	1.28×10^{4}	1.08×10^{4}	MJ, net calorific value

This document is a Type III environmental product declaration by Commercial Metals Company (CMC) that is certified by SCS Global Services (SCS) as conforming to the requirements of ISO 14025. SCS has assessed that the Life Cycle Assessment (LCA) information fulfills the requirements of ISO 14040 in accordance with the instructions listed in the product category rules cited below. The intent of this document is to further the development of environmentally compatible and sustainable construction methods by providing comprehensive environmental information related to potential impacts in accordance with international standards.

EPD INFORMATION			
Program Operator		SCS Global Services 2000 Powell St, Suite 600, Emeryville CA 94608 +1.510.452.8000 www.SCSglobalServices.com	
Declaration Holder		Commercial Metals Company 6565 North MacArthur Blvd., Suite 800 Irving, TX 75039 214.689.4300 www.cmc.com	
Product group Construction steel	**Date of Issue** January 12, 2016	**Period of Validity** 5 years	**Declaration Number** SCS-EPD-05354
Declaration Type A "cradle-to-gate" EPD for steel reinforcement bars, including modules A1-A3.			
Applicable Countries United States			
This EPD was independently verified by SCS in accordance with ISO 14025: ☐ Internal ☑ External		Jeremie Hakian • jhakian@scsglobalservices.com 2000 Powell Street, Emeryville, CA 94608 • www.scsglobalservices.com	
This EPD was critically reviewed in accordance with ISO 14044 and the reference PCR:		Jeremie Hakian • jhakian@scsglobalservices.com 2000 Powell Street, Emeryville, CA 94608 • www.scsglobalservices.com	

LCA INFORMATION	
Basis LCA	Cradle-to-Gate Life Cycle Assessment of Rebar and Wire Products November 2016
LCA Preparer	Environmental Resources Management One Beacon Street, 5th Floor, Boston, MA 02108 • www.erm.com
This life cycle assessment was critically reviewed in accordance with ISO 14044 by:	Jeremie Hakian • jhakian@scsglobalservices.com 2000 Powell Street, Emeryville, CA 64608 • www.scsglobalservices.com

PCR INFORMATION	
Program Operator	SCS Global Services
Reference PCR	North American Product Category Rule for Designated Steel Construction Products
Date of Issue	May 2015
PCR review was conducted by:	Dr. Thomas Gloria, Ph.D. (Chairperson) • t.gloria@industrial-ecology.com Industrial Ecology Consultants

PRODUCT DEFINITION

Concrete reinforcing steel (rebar and wire rod) refers to carbon steel used as reinforcement in concrete. This Environmental Product Declaration is for 1 metric ton of fabricated carbon steel rebar and wire rod produced by CMC in Jacksonville, Florida. Carbon steel rebar and wire rod are manufactured from steel scrap, melted in an Electric Arc Furnace (EAF) followed by hot rolling, and by transport to CMC fabrication shops and fabrication.

TABLE 1: TECHNICAL CHARACTERISTICS

NAME	REBAR	WIRE ROD	UNIT
Density	7,843	7,843	kg/m^3
Specific gravity	7.8	7.8	N/A
Boiling point	3,000	3,000	˚C
Melting point	1,535	1,535	˚C

MATERIAL CONTENT

The approximate material content of carbon steel rebar and wire rod will vary slightly from batch to batch. In general, the steel will contain > 97% recycled iron, < 2% Manganese, <1.5% Copper, <0.9% Carbon, and a total of 1.5% or less of Nickel, Silicon, Sulfur, Tin, Phosphorus, and Vanadium. Steel products used inside the building envelope (e.g., used in load-bearing applications present inside wall structures) do not include materials or substances which have any potential route of exposure to humans or flora/fauna in the environment.

MANUFACTURING

Scrap steel is melted in an electric arc furnace (EAF) which uses a combination of electrical energy and chemical energy in the form of carbon and oxygen injections into the steel. When the scrap has melted and reached approximately 3,000°F, the molten steel is poured (tapped) into a vessel called a ladle. During tapping, the majority of the alloys and fluxes are added to the steel to serve as deoxidizers and strengthening agents. The ladle is transported to the ladle metallurgical station, where the steel chemistry is refined to meet the chemical specifications. The ladle is then transported to a continuous caster where the steel is solidified into a solid, basic shape called a billet. Billets are then reheated and transferred into the rolling mill for processing. Billets are rolled into the final shape and emerge onto a cooling bed. The mill markings for source mill, material grade, and specification are rolled into the rebar products on the final finishing stand.

The minimill technology is the cleanest and most energy efficient steelmaking process available today.

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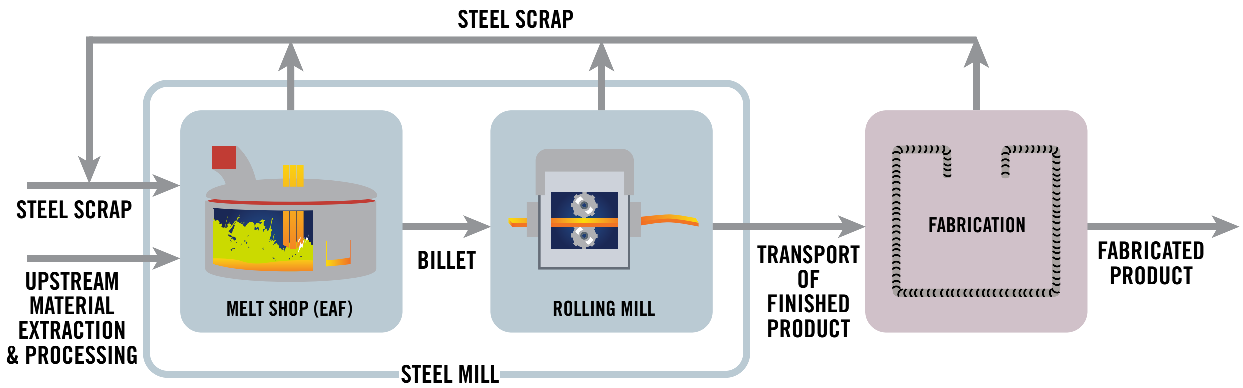
FIGURE 1: PRODUCTION FLOW DIAGRAM



After cooling, finished steel products are placed in storage bays before being transported to their final destination. Most of CMC's shape products are transported to third-party fabricators, distribution centers, and job sites. Similarly, the majority of rebar and wire rod produced in CMC mills is consumed in CMC-owned fabrication facilities but a portion of the rebar production is transported to third-party rebar fabricators.

Average transportation distances from the steel mill to rebar and wire rod fabrication facilities are used for the EPD. Fabrication of rebar consists of bending, cutting, and assembling of specific pieces of rebar for installation in a concrete structure. The impacts associated with packaging are below the cut-off criteria and are omitted.

UNDERLYING LIFE CYCLE ASSESSMENT

Declared Unit

According to the applicable PCR, the declared unit of this study is one metric ton of fabricated carbon steel rebar or wire rod produced in a CMC facility up to the gate. In this EPD, the gate is the fabrication shop.

TABLE 2: DECLARED UNIT TABLE

NAME	QUANTITY	REQUIRED UNIT	OPTIONAL UNIT
Declared Unit	1	metric ton	short ton
Density	7,843 kg/m^3	kg/m^3	490 lb/ft^3

System Boundaries

The LCA was conducted for the product stage only, modules A1-A3. Construction, use, and end-of-life are excluded from the scope of the PCR and thus from the LCA. Module D, which is optional to include, was also excluded.

The following life cycle stages are included in the EPD:

- Raw materials: The primary raw material used for the manufacturing of rebar and wire rod is steel scrap, together with various alloys. The raw materials are included in the A1 product stage.

- Transport: Inbound transportation includes transportation of all materials from suppliers to the CMC facility, and is included in A1 product stage. The outbound transportation is only applicable for fabricated rebar and includes the transportation of the un-fabricated rebar to the fabrication shops, and is included in A2 product stage.

- Manufacturing of rebar and wire rod: Scrap metal and alloys are mixed in a vessel in the Melt Shop and an electric arc furnace heats up the raw materials by use of electrodes, causing them to melt. Successively the molten steel is cast into billets, which will be reheated in a reheat furnace. From there, billets enter the Rolling Mill where they are rolled into rebar or wire rod. The manufacturing of rebar and wire rod is included in the A1 product stage.

- Waste disposal: The manufacturing process generates waste either used for energy recovery, recycling or disposal as municipal solid waste. Additionally, wastewater is generated at the plant from showers and sinks. The waste disposal is included in the A1 product stage.

- Fabrication: The rebar is fabricated in CMC fabrication shops where it is cut and bent per customer request. The fabrication is included in the A3 product stage.[1]

The construction process stage, use stage, end-of-life stage and Module D of the product are excluded from the system boundaries of this study. Additional elements that are excluded from the study are:

- Production, transportation and disposal of the packaging used for raw materials

- Construction activities, capital equipment and infrastructure

- Maintenance and operation of support equipment

- Human labor, employee commute and business travel

- Chemicals for water treatment and purification

The deletion of these inputs or outputs is permitted since it is not expected to significantly change the overall conclusions of the study.

[1] This EPD has been prepared using data from 26 representative fabrication shops located throughout the US. For simplicity, the addresses have not been included here.

TABLE 3: SYSTEM BOUNDARIES

PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE					END-OF-LIFE STAGE				BENEFITS AND LOADS BEYOND SYSTEM BOUNDARY
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	De-construction	Transport	Waste processing	Disposal	Reuse, recovery, and recycling potential
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

MND = module not declared

Geographic Relevance
This EPD has been prepared using data from 26 representative CMC fabrication shops located throughout the US. For simplicity, the addresses have not been included here. This EPD includes rebar and wire rod produced in the CMC mill located in Jacksonville, Florida.

Temporal Relevance
Data was collected for the 2014 calendar year.

Technological Relevance
Rebar and wire rod is manufactured using an electric arc furnace (EAF).

Assumptions And Limitations
Since it is not feasible to collect primary data for each of the many processes and materials in an LCA, it is normal and necessary to use publicly available or secondary data for some processes. The necessary secondary data may not always be available to exactly represent the temporal, geographical, and technological profile of the supply chain for the specific system being studied, resulting in some factor of error (usually unquantifiable given the hundreds of processes linked together in a life cycle system).

Cutoff Criteria
According to the PCR, the sum of the excluded material flows does not exceed 5 percent of mass, energy, or environmental relevance.

Data Sources
All primary data for CMC's manufacturing processes was collected at the Jacksonville mill for the calendar year 2014. See TABLE 4 for a description of data sources used for the LCA.

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TABLE 4: DATA SOURCES USED FOR THE LCA

MODULE	SCOPE	TECHNOLOGY SOURCE	DATA SOURCE	REGION	YEAR
A1	Yes	GaBi 6	Primary data	US	2014
A2	Yes	GaBi 6	Primary data	US	2014
A3	Yes	GaBi 6	Primary data	US	2014
D	No	N/A	N/A	N/A	N/A
Other processes	Yes	GaBi 6	Thinkstep, eco-invent, USLCI or ELCD inventories	US or acceptable surrogate	2013

DATA QUALITY

Time-Related Coverage: All primary data were gathered for reference year 2014. Secondary data was sourced from GaBi 6 databases and is representative for 2013. The electricity inventory was updated to match the specific 2014 energy mixes at the facility more closely.

Geographical Coverage: All primary data is specific to the facility. The electricity inventory is updated to match the 2014 energy mixes at the facility. The remainders of the secondary inventories are either representative of the US or can be used as an acceptable surrogate for this geography.

Technology Coverage: All primary and secondary data were modeled to be specific to the technologies under study. Where technology-specific data were unavailable, suitable proxy data were used.

Precision: All relevant manufacturing data were primary and obtained from CMC's internal management systems. Most data were modeled based on primary information sources, and very limited assumptions were done to fill data gaps.

Completeness: All relevant process steps were considered and modeled, and the process chain is considered sufficiently complete to fulfill the goal and scope of this study, according to the cut-off rules.

Representativeness: The key foreground inventories used are the electricity inventory, which was chosen to be representative of the grid mix specific to the local electric company; and the alloy inventories, which were selected to match the materials used.

Consistency: To ensure consistency, all manufacturing data was gathered with the same level of detail, and allocation was conducted similarly for all data categories and life cycle stages. All background data was sourced from the GaBi 6 databases selecting the most appropriate geography; either Thinkstep, ecoinvent or USLCI inventories were used.

Reproducibility: Reproducibility is warranted as much as possible through the disclosure of input-output data, dataset choices from life cycle inventory databases, and modeling approaches in the LCA report. Based on this information, any third party should be able to reproduce the results using the same data and modeling methodology.

Sources of the data: All primary data was collected at the Jacksonville facility in 2015 by one key project contact. Data was reviewed for completeness and accuracy through mass balancing and benchmarking. Gaps, outliers, or other inconsistencies were resolved with the key data providers. The secondary data used were obtained from databases contained within the GaBi 6 software, which have been used worldwide in LCA models of many critically-reviewed studies in industrial and scientific applications.

Uncertainty of the information: Few assumptions were made about the client operations since primary data was available for all life cycle stages. Proxies were used for some of the alloys since appropriate datasets were missing in the GaBi databases. A sensitivity analysis was done to evaluate the significance of these proxies which showed the effect to be not significant.

ALLOCATION

The primary data available at the Jacksonville facility consists of varying levels of granularity, resulting in the need for allocation. Where necessary, mass allocation was deemed the most accurate and reproducible way of allocating impacts.

The production process generates co-products for which the avoided burden method is applied, in accordance with the PCR. Allocation rules are avoided by allocating all system inputs and outputs to the main product but credits are given to the production of co-products since their production replaces production of similar products. The CMC mill produces three valuable co-products; slag, baghouse dust and mill scale. In TABLE 5 the systems expansion assumptions for these co-products are shown.

TABLE 5: SYSTEM EXPANSION OF CO-PRODUCTS

CO-PRODUCT	CO-PRODUCT FUNCTION	AVOIDED PRODUCTION
EAF SLAG	9% Cement 91% Gravel	0.9 ton slag/ton cement Gravel production
Baghouse dust	Zinc production	Zinc production 0.25 ton zinc/ton dust
Mill scale	Metallurgical input to steelmaking	Iron ore production

LIFE CYCLE ASSESSMENT RESULTS

LCA results are reported according to the LCIA methodologies of the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI version 2.1) and CML-IA version 4.1. Net negative results can be seen for the abiotic depletion potential, non-fossil resources. This is a consequence of the avoided burden approach to end-of-life allocation and shall not be interpreted in a way that an increase in consumption of the products under study will lead to any 'reversal' of environmental burden elsewhere. It is specifically due to the credit given for the EAF dust in combination with the fact that the rebar and wire rod are made from 100% scrap and thus has no direct abiotic depletion potential associated with it.

TABLE 6: LCA RESULTS, PER 1 METRIC TON, FABRICATED REBAR

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- UNFABRICATED REBAR	A2 - TRANSPORTATION	A3 - FABRICATION		
Global warming potential	9.90×10^{-1}	5.70×10^{-2}	4.07×10^{-2}	1.09×10^{0}	metric ton CO_2 eq
Ozone depletion potential	7.45×10^{-10}	2.44×10^{-12}	2.17×10^{-12}	7.50×10^{-10}	metric ton CFC-11 eq
Acidification potential	3.32×10^{-3}	3.21×10^{-4}	1.23×10^{-4}	3.76×10^{-3}	metric ton SO_2 eq
Eutrophication potential	1.80×10^{-4}	1.80×10^{-5}	7.57×10^{-6}	2.05×10^{-4}	metric ton N eq
Photochemical ozone creation potential	3.98×10^{-2}	8.62×10^{-3}	1.03×10^{-3}	4.94×10^{-2}	metric ton O_3 eq
Abiotic depletion potential, non-fossil resources*	-1.43×10^{-5}	2.66×10^{-11}	3.39×10^{-9}	-1.43×10^{-5}	metric ton Sb eq
Abiotic depletion potential, fossil resources	1.15×10^{4}	8.08×10^{2}	4.54×10^{2}	1.28×10^{4}	MJ, net calorific value

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.[2]

TABLE 7: LCA RESULTS, PER 1 METRIC TON, WIRE ROD

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- WIRE ROD	A2 - TRANSPORTATION	A3 - FABRICATION		
Global warming potential	9.27×10^{-1}	0.0	0.0	9.27×10^{-1}	metric ton CO_2 eq
Ozone depletion potential	6.02×10^{-10}	0.0	0.0	6.02×10^{-10}	metric ton CFC-11 eq
Acidification potential	2.93×10^{-3}	0.0	0.0	2.93×10^{-3}	metric ton SO_2 eq
Eutrophication potential	1.69×10^{-4}	0.0	0.0	1.69×10^{-4}	metric ton N eq
Photochemical ozone creation potential	3.55×10^{-2}	0.0	0.0	3.55×10^{-2}	metric ton O_3 eq
Abiotic depletion potential, non-fossil resources*	-1.48×10^{-5}	0.0	0.0	-1.48×10^{-5}	metric ton Sb eq
Abiotic depletion potential, fossil resources	1.08×10^{4}	0.0	0.0	1.08×10^{4}	MJ, net calorific value

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.[2]

[2] Assessing resource depletion in LCA: a review of methods and methodological issues. Klinglmair, M., et al. International Journal of Life Cycle Assessment (2014). 19:580-592.

Primary energy resources, secondary material, and water consumption are presented below. Secondary material use accounts both for the material that ends up in the final rebar or wire rod product and that which gets recycled either internally or externally at the steel mill.

TABLE 8: ENERGY AND MATERIAL RESOURCE CONSUMPTION RESULTS, PER 1 METRIC TON, FABRICATED REBAR

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- UNFABRICATED REBAR	A2 - TRANSPORTATION	A3 - FABRICATION		
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	1.68×10^{2}	0.0	3.69×10^{0}	1.72×10^{2}	MJ, net calorific value
Use of renewable primary energy resources used as raw materials	0.0	0.0	0.0	0.0	MJ, net calorific value
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	1.68×10^{2}	0.0	3.69×10^{0}	1.72×10^{2}	MJ, net calorific value
Use of nonrenewable primary energy excluding nonrenewable primary energy resources used as raw materials	1.13×10^{4}	8.16×10^{2}	4.72×10^{2}	1.26×10^{4}	MJ, net calorific value
Use of nonrenewable primary energy resources used as raw materials	4.79×10^{2}	0.0	0.0	4.79×10^{2}	MJ, net calorific value
Total use of nonrenewable primary energy resources (primary energy and primary energy resources used as raw materials)	1.18×10^{4}	8.16×10^{2}	4.72×10^{2}	1.31×10^{4}	MJ, net calorific value
Use of secondary material	1.16×10^{0}	0.0	0.0	1.16×10^{0}	metric ton
Use of renewable secondary fuels	0.0	0.0	0.0	0.0	MJ, net calorific value
Use of nonrenewable secondary fuels	0.0	0.0	0.0	0.0	MJ, net calorific value
Net use of fresh water	1.94×10^{0}	0.0	1.06×10^{-1}	2.05×10^{0}	m^3

TABLE 9: ENERGY AND MATERIAL RESOURCE CONSUMPTION RESULTS, PER 1 METRIC TON, WIRE ROD

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- WIRE ROD	A2 - TRANSPORTATION	A3 - FABRICATION		
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	1.04×10^{2}	0.0	0.0	1.04×10^{2}	MJ, net calorific value
Use of renewable primary energy resources used as raw materials	0.0	0.0	0.0	0.0	MJ, net calorific value
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	1.04×10^{2}	0.0	0.0	1.04×10^{2}	MJ, net calorific value
Use of nonrenewable primary energy excluding nonrenewable primary energy resources used as raw materials	1.06×10^{4}	0.0	0.0	1.06×10^{4}	MJ, net calorific value
Use of nonrenewable primary energy resources used as raw materials	4.22×10^{2}	0.0	0.0	4.22×10^{2}	MJ, net calorific value
Total use of nonrenewable primary energy resources (primary energy and primary energy resources used as raw materials)	1.11×10^{4}	0.0	0.0	1.11×10^{4}	MJ, net calorific value
Use of secondary material	1.18×10^{0}	0.0	0.0	1.18×10^{0}	metric ton
Use of renewable secondary fuels	0.0	0.0	0.0	0.0	MJ, net calorific value
Use of nonrenewable secondary fuels	0.0	0.0	0.0	0.0	MJ, net calorific value
Net use of fresh water	1.75×10^{0}	0.0	0.0	1.75×10^{0}	m^3

Waste generation results are presented below for the product stage total.

TABLE 10: WASTE GENERATION RESULTS, PER 1 METRIC TON, FABRICATED REBAR

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- UNFABRICATED REBAR	A2 - TRANSPORTATION	A3 - FABRICATION		
Nonhazardous waste disposed	$4.84x10^{-5}$	0.0	0.0	$4.84x10^{-5}$	metric ton
Hazardous waste disposed	0.0	0.0	0.0	0.0	metric ton
Radioactive waste disposed	0.0	0.0	0.0	0.0	metric ton

TABLE 11: WASTE GENERATION RESULTS, PER 1 METRIC TON, WIRE ROD

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- UNFABRICATED REBAR	A2 - TRANSPORTATION	A3 - FABRICATION		
Nonhazardous waste disposed	$4.84x10^{-5}$	0.0	0.0	$4.84x10^{-5}$	metric ton
Hazardous waste disposed	0.0	0.0	0.0	0.0	metric ton
Radioactive waste disposed	0.0	0.0	0.0	0.0	metric ton

Other environmental indicators are presented below as an aggregated product stage total. Materials for recycling accounts for the steel scrap, slag, mill scale, and dust collected at the steel mill.

TABLE 12: OTHER ENVIRONMENTAL OUTPUT RESULTS, PER 1 METRIC TON, FABRICATED REBAR

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- UNFABRICATED REBAR	A2 - TRANSPORTATION	A3 - FABRICATION		
Components for re-use	0.0	0.0	0.0	0.0	metric ton
Materials for recycling	$3.13x10^{-1}$	0.0	$3.30x10^{-2}$	$3.46x10^{-1}$	metric ton
Materials for energy recovery	$2.53x10^{-4}$	0.0	0.0	$2.53x10^{-4}$	metric ton
Exported energy	0.0	0.0	0.0	0.0	metric ton

TABLE 13: OTHER ENVIRONMENTAL OUTPUT RESULTS, PER 1 METRIC TON, WIRE ROD

CATEGORY INDICATOR	PRODUCT STAGE			TOTAL	UNIT
	A1- WIRE ROD	A2 - TRANSPORTATION	A3 - FABRICATION		
Components for re-use	0.0	0.0	0.0	0.0	metric ton
Materials for recycling	3.21×10^{-1}	0.0	0.0	3.21×10^{-1}	metric ton
Materials for energy recovery	2.53×10^{-4}	0.0	0.0	2.53×10^{-4}	metric ton
Exported energy	0.0	0.0	0.0	0.0	metric ton

DISCLAIMER

This Environmental Product Declaration (EPD) conforms to ISO 14025, ISO 14040, ISO 14044, and ISO 21930.

Scope of Results Reported: The PCR requires the reporting of a limited set of LCA metrics; therefore, there may be relevant environmental impacts beyond those disclosed by this EPD. The EPD does not indicate that any environmental or social performance benchmarks are met nor thresholds exceeded.

Accuracy of Results: This EPD has been developed in accordance with the PCR applicable for the identified product following the principles, requirements and guidelines of the ISO 14025, ISO 14040, ISO 14044, and ISO 21930 standards. The results in this EPD are estimations of potential impacts. The accuracy of results in different EPDs may vary as a result of value choices, background data assumptions and quality of data collected.

Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. Such comparisons can be inaccurate, and could lead to the erroneous selection of materials or products which are higher-impact, at least in some impact categories. Any comparison of EPDs shall be subject to the requirements of ISO 21930. For comparison of EPDs which report different module scopes, such that one EPD includes Module D and the other does not, the comparison shall only be made on the basis of Modules A1, A2, and A3. Additionally, when Module D is included in the EPDs being compared, all EPDs must use the same methodology for calculation of Module D values.

REFERENCES

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- ISO 14040: 2006 Environmental Management – Life cycle assessment – Requirements and Guidelines
- ISO 14044: 2006 Environmental Management – Life cycle assessment – Requirements and Guidelines.
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- GaBi Databases. Thinkstep. http://www.gabi-software.com

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