Environmental Product Declaration

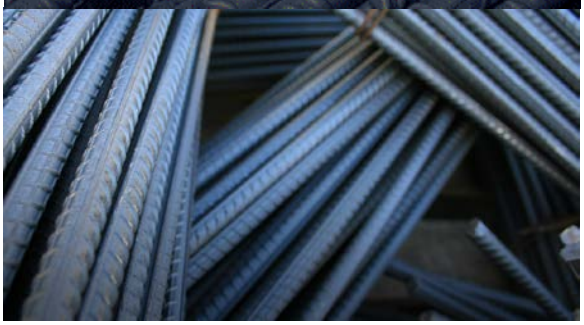
According to ISO 14025 and ISO 21930

Fabricated Carbon-Steel and Low-Alloy Uncoated Reinforcing Bar

Commissioned by the **Re-Steel Supply Co, Inc. Corporate**

RESTEEL

REINFORCING STEEL WIRE MESH



ASTM International Certified Environmental Product Declaration

This document is a Type III environmental product declaration for Re-Steel Fabricated Carbon-Steel and Low-Alloy Uncoated Reinforcing Bar (Rebar) products, as fabricated at six Re-Steel Supply Co, Inc. (Re-Steel) facilities. As such the EPD is categorized as a corporate average EPD representing multiple facilities.

This declaration has been prepared in accordance with ISO 14025, ISO 21930, ISO 14040/44, SCS North American Product Category Rule (PCR) for Designated Steel Construction Products and ASTM General Program Instructions for Type III EPDs.

Environmental Product Declaration Summary

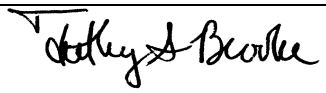
General Information	
Owner of the EPD	**Re-Steel Supply Co, Inc. Corporate** 2000 Eddystone Industrial Park Eddystone, PA 19022 Link (URL): http://www.resteel.com/ Re-Steel fabricates and supplies rebar, which is a finished steel product used to strengthen concrete for large-scale construction projects. Re-Steel products help make bridges, highways, major sports stadiums, high-rise buildings, and other large structures sturdier, safer, and more durable. Re-Steel is a three generation old family-run business that is the parent company of six fabrication facilities and one epoxy coating plant. The company has proliferated since its humble beginnings in 1973. The owner of the declaration is liable for the underlying information and evidence.
Corporate and Fabrication Sites	**Re-Steel Supply Co., Inc. Corporate** 2000 Eddystone Industrial Park Eddystone, PA 19022 **CFS Steel Company** 650 East 132nd Street Bronx, New York 10454

<table>
<tr><td colspan="2"></td><td colspan="2">MJ Associates
2798 East Venango Street
Philadelphia, PA 19134-1218

Re-Steel Supply Co., Inc. New England
25 Bleachery Court, PO Box 7630
Warwick, Rhode Island 02887-7630

Re-Steel Supply Co., Inc. West Virgina
63 Jr Hawvermale Way
522 Business Park
Berkley Springs, WV 25411

Victory Steel
6400 Beckley Street
Baltimore, MD 21224</td></tr>
<tr><td colspan="2">Product Name</td><td colspan="2">Fabricated Carbon-Steel and Low-Alloy Uncoated Rebar</td></tr>
<tr><td colspan="2">Product Definition</td><td colspan="2">ASTM A615, A706 [12], [13]: Rebar is defined as uncoated concrete reinforcement steel bar (coiled, plain, deformed, or smooth).</td></tr>
<tr><td colspan="2">Product Category Rule (PCR)</td><td colspan="2">SCS Global Services, 2015. North American Product Category Rule for Designated Steel Construction Products.</td></tr>
<tr><td colspan="2">Certification Period</td><td colspan="2">08.31.2016 – 08.31.2021</td></tr>
<tr><td colspan="2">Declared Unit</td><td colspan="2">1 metric ton of fabricated carbon-steel and low-alloy uncoated rebar</td></tr>
<tr><td colspan="2">ASTM Declaration Number</td><td colspan="2">EPD-041</td></tr>
<tr><td colspan="4">EPD Information</td></tr>
<tr><td colspan="2">Program Operator</td><td colspan="2">ASTM International</td></tr>
<tr><td colspan="2">Declaration Holder</td><td colspan="2">Re-Steel Supply Co., Inc. Corporate</td></tr>
<tr><td>Product group
Fabricated Steel Rebar</td><td>Date of Issue
08.31.2016</td><td>Period of Validity
5 years</td><td>Declaration Number
EPD-041</td></tr>
<tr><td colspan="4">Declaration Type
A “Product Stage” or “Cradle-to-gate” EPD of Re-Steel’s production of fabricated carbon-steel and low-alloy uncoated reinforcing bar (rebar) products. The declaration presents a weighted average profile for six facilities operated by Re-Steel and its divisions. Product activities covered include the raw material supply, transport and manufacturing (modules A1 to A3). The declaration is intended for Business-to-Business (B-to-B) communication.</td></tr>
<tr><td colspan="4">Applicable Countries
United States and Canada</td></tr>
</table>

Product Applicability and Characteristics Rebar is used as a tension device in reinforced concrete and reinforced masonry structures to strengthen and hold the concrete in tension. Rebar's surface is often patterned to form a better bond with the concrete.	
Content of the Declaration The declaration follows Section 7, Content of EPD, SCS Global Services, 2015. North American Product Category Rule for Designated Steel Construction Products. Version 1.0 [1].	
This EPD was independently verified by ASTM in accordance with ISO 14025: **Internal** **External** **X**	 Tim Brooke 100 Barr Harbor Drive, PO Box C700 West Conshohocken, PA 19428-2959, USA www.astm.org/EPDs.htm
EPD Project Report Information	
EPD Project Report	A Cradle-to-Gate Life Cycle Assessment of Re-Steel Fabricated Carbon-Steel and Low-Alloy Uncoated Reinforcing Bar (Rebar) Products. August 2016.
Prepared by Athena Sustainable Materials Institute	Lindita Bushi Ph.D. and Jamie Meil Athena Sustainable Materials Institute 119 Ross Avenue, Suite 100 Ottawa, Ontario, K1Y 0N6, Canada info@athenasmi.org
This EPD project report was independently verified by in accordance with ISO 14025 and the reference PCR:	Thomas P. Gloria, Ph.D. Industrial Ecology Consultants 35 Bracebridge Rd. Newton, MA 02459-1728 direct: 617.553.4929 mobile: 857.636.0585 email: t.gloria@industrial-ecology.com
PCR Information	
Program Operator	SCS Global Services
Reference PCR	North American Product Category Rule for Designated Steel Construction Products.
Date of Issue	Version 1.0, May 2015
PCR review was conducted by:	Dr. Thomas Gloria, (Chair) t.gloria@industrial-ecology.com Dr. Alain Dubrueil Mr. James Littlefield

1 PRODUCT IDENTIFICATION

1.1 PRODUCT DEFINITION

Rebar (short for reinforcing bar), also known as reinforcing steel, reinforcement steel, is defined as uncoated concrete reinforcement steel bar (coiled, plain, deformed, or smooth) [2, 3]. The Concrete Reinforcing Steel Institute (CSRI) defines uncoated carbon steel reinforcing bars as reinforcing steel bars produced to ASTM A615, A706, or A996 specifications; in other words, black bars [14]. Black rebar provides superior cost effectiveness for applications where epoxy and anti-rust coatings are not needed.

Rebar's surface is often patterned to form a better bond with the concrete. There are a number of ways to identify rebar from the production mill to the fabrication shop to the jobsite. Each individual reinforcing bar is manufactured with a series of individual markings:

- The first letter or symbol identifies the producing mill;
- The next marking is the bar size;
- The third marking symbol designates the type of reinforcing steel — usually either "S" for carbon-steel (ASTM A615) or "W" for low-alloy steel (ASTM A706);
- Finally, there will be a grade marking (60, 75, 80, 100, 120) or by the addition of one line (60) or two lines (75), three lines (80, 100), or four lines (120) that must be at least five deformations long.

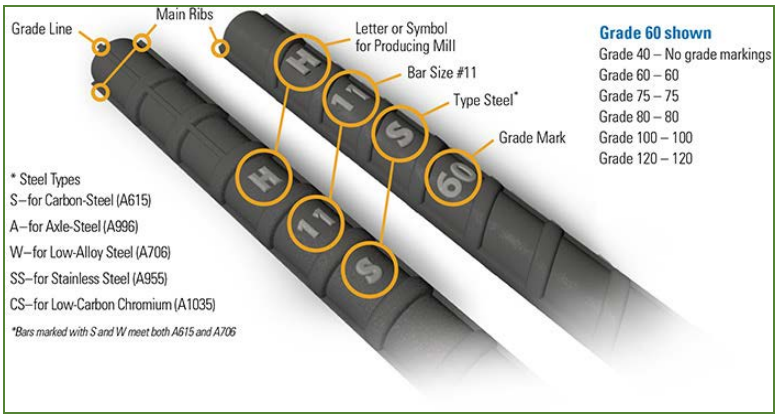


Figure 1 ASTM Bar Marking Sequence [CRSI 2016]

1.2 PRODUCT STANDARDS

Re-Steel's uncoated fabricated rebar meet the following standards and requirements:

- ASTM A615, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement [12]
- ASTM A706, Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement [13].

Rebar is used as a tension device in reinforced concrete and reinforced masonry structures to strengthen and hold the concrete in tension. The most common steel rebar used in concrete products are manufactured in compliance with ASTM A615. ASTM A615 states that welding of A615 steel should be approached with caution since no specific provisions have been included to enhance its weldability [12]. Reinforcing bars conforming to ASTM A706 specifications are recommended for use in seismic-resistant reinforced concrete structures that require controlled tensile properties or for applications that involve extensive welding [13].

1.3 TECHNICAL DATA, MATERIAL CONTENT, AND PACKAGING

Tables 1 summarizes key technical data for Re-Steel's uncoated fabricated rebar products for the 2015 calendar year (12 months). The material content of raw rebar stock will vary slightly from batch to batch and from supplier to supplier. In general, the steel will contain approximately 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 [2, 3].

Table 1. Technical Data for Re-Steel Uncoated Fabricated Rebar

Product	Specifications	Bar grades and sizes
Re-Steel fabricated uncoated rebar products	ASTM A615	Grade: 60 (420) and 75 (520) Size #: 3, 4, 5, 6, 7, 8, 9, 10, 11, 14 and 18
	ASTM A706	Grade: 60 (420) Size #: 3, 4, 5, 6, 7, 8, 9, 10, 11, 14 and 18

Table 2 shows the packaging materials for Re-Steel uncoated fabricated rebar. The Re-Steel fabricated rebar is packaged into bundles, which range from 1.0 to 3 metric tons. The rebar bundles are banded together with steel tie wire. The piece count, length, weight, size, and grade information are declared on a tag that is stud-welded or wire-tied to one of the rebar products in the bundle. The wood dunnage is used to separate and space the fabricated bundles shipped to the job site where they are further used and recycled. Re-Steel recycles all incoming dunnage used to bring raw rebar stock lengths from supplier mills.

Table 2. Packaging Materials for Re-Steel Uncoated Fabricated Rebar

Packaging material	Quantity	SI Units (per metric ton rebar)	Quantity	US Customary Units (per short ton rebar)
Wood dunnage	9.5E-03	metric ton	9.5E-03	short ton
Steel tie wire	1.1E-03	metric ton	1.1E-03	short ton
Poly thermal tags	1.2E-06	metric ton	1.2E-06	short ton
Total	**1.1E-02**	**metric ton**	**1.1E-02**	**short ton**

2 DECLARED UNIT

According to the SCS Steel PCR [1], the declared unit of this study is defined as one metric ton of uncoated fabricated rebar. As shown in Table 3, both a declared unit of 1 metric ton (required) and the optional unit of 1 short ton are reported.

Table 3. Declared Unit for Uncoated Fabricated Rebar and the Approximate Density

Parameter	Quantity	SI Units	Quantity	US Customary Units
Declared unit	1	metric ton	1	short ton
Density	7840	kg/m3	489	lb/ft^3

3 LIFE CYCLE STAGES

As illustrated in Figure 2, the system boundary of construction products is typically characterized by the temporal flow of its life cycle – i.e. Product, Construction Process, Use, and End of Life stages.

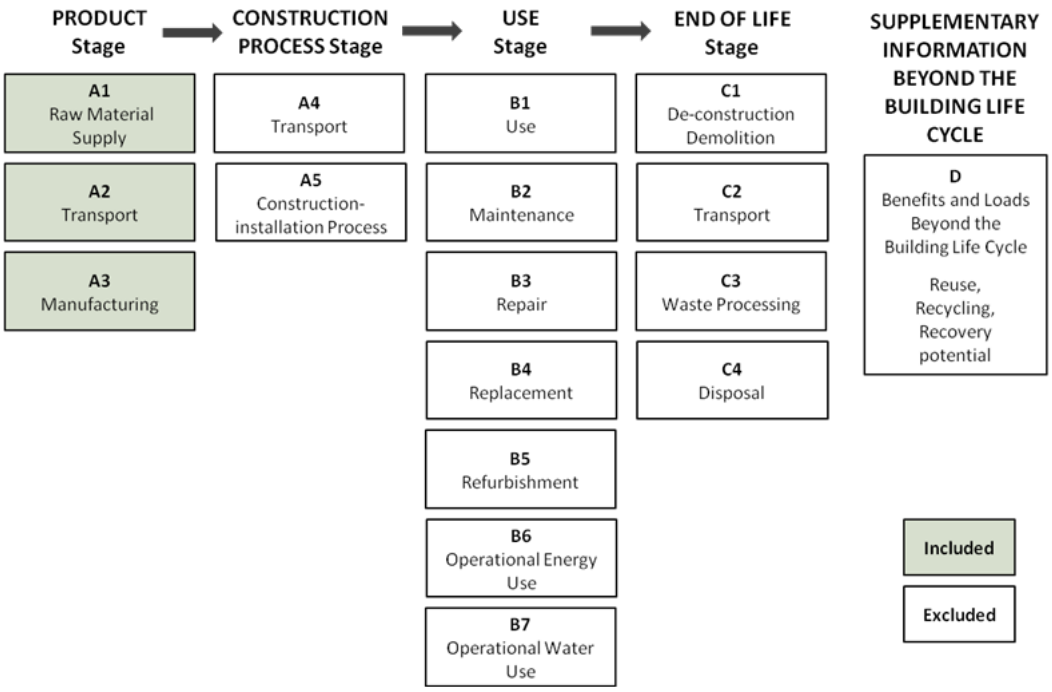


Figure 2 Life Cycle Modules Included and Excluded from the System Boundary

The various processes that occur at each stage are classified and grouped in information modules (or simply "modules"), labeled with alpha-numeric designations "A1" through "C4". A declared unit is defined for EPDs covering “cradle-to-gate”, or the production stage (shown infilled green in Figure 6), which consists of three modules: A1 Raw Material

Supply; A2 Transport (to the manufacturer); and A3 Manufacturing (Fabrication). This study focuses on the product stage only and no Module D credits or burdens are included in the assessment or EPD.

All included and excluded product stage processes are listed in Table 4.

Table 4: Product stage system boundaries –Included and excluded processes

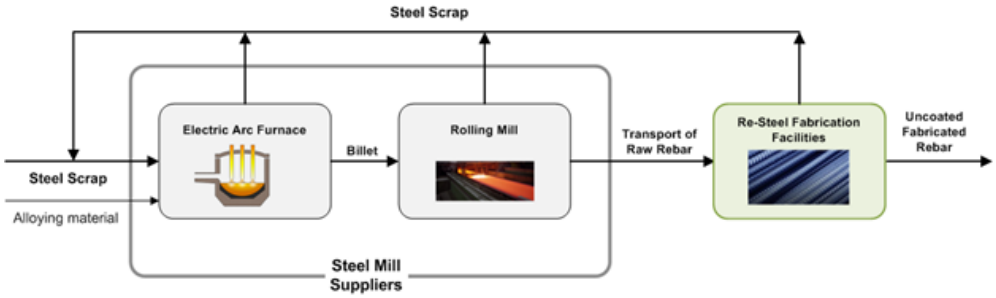
Product Stage	Included	Excluded
A1-A3 Modules	**A1 Product Stage** [1, 2, 3]: The primary material used for the manufacture of raw rebar is steel scrap. Scrap metal, together with alloying material additions, are melted in an EAF to obtain liquid steel and casted into steel billets. The billets are sent to the rolling mill where they are rolled and shaped to the required dimensions for the raw rebar. After cooling, raw rebar products are placed in storage bays before being transported to the fabrication shops. The raw materials are included in the A1 Product stage. Inbound transportation includes transportation of all materials and fuels from level two suppliers to the level one suppliers of Re-Steel, and is included in A1 Product stage. The environmental burden of the manufacturing of unfabricated rebar is included in the A1 Product stage. **A2 Product Stage** [1]: The transportation of the unfabricated rebar, ancillary materials (grease, lubricants, hydraulic oil, gear and motor oils), packaging materials (dunnage, steel wire and poly thermal tags) and fuels (diesel and LPG) used to the Re-Steel fabrication facilities is included in A2 Product stage. •**A3 Product Stage** [1]: The fabrication module includes bending, cutting (shear and saw), threading (optional), assembly of pieces of rebar ready for shipment to the job site, lighting (if applicable), storage of products and on-site product transportation (loading and unloading). Fabrication scrap (0.011 metric ton/metric ton fabricated rebar) is sent for recycling to local steel mills. The environmental burden of the fabrication process (energy consumption, ancillary and packaging material production & transportation, and onsite- product transportation) is included in A3 Product Stage.	-Production, manufacture, and construction of manufacturing capital goods and infrastructure; -Production and manufacture of production equipment, delivery vehicles, and laboratory equipment; -Personnel-related activities (travel, furniture, and office supplies); and - Energy and water use related to company management and sales activities that may be located either within the factory site or at another location.

4 CUT-OFF RULES, ALLOCATION RULES AND DATA QUALITY REQUIREMENTS

Cut-off Rules
No cut-off criteria were applied in the study. All input/output data reported by the six Re-Steel fabrication shops were included in the LCI modelling. None of the reported flow data were excluded based on the cut-off criteria.
Allocation Rules
Allocation rules, as specified in section 6.4.3, SCS Steel PCR [1] were followed. **A1 Product system, co-products:** Both major upstream suppliers (CMC and Gerdau) have applied the avoided burden method for co-products in accordance with the PCR. Using system expansion, credit is given for the end use of the co-products of the steel manufacturing process. Avoided production products and rates for EAF slag and mill scale are based on the worldsteel LCA Methodology Report [9], [2], [3].

Allocation Rules (continued)

Steel scrap: Scrap generated during manufacturing is modeled as a closed-loop system. 1.011 metric ton of raw rebar is used at Re-Steel facilities to fabricate 1 metric ton of uncoated fabricated rebar products. Scrap burden includes inbound transportation only. Upstream processing, e.g. shredding and sorting, is excluded as it would instead fall under module C3 of the previous life cycle in which the scrap is generated [1], [2].



Data Quality Requirements

Data quality requirements, as specified in SCS Steel PCR: 2015, Section 6.3.7, were observed [1].

Precision: Re-Steel facilities, through measurement and calculation, collected primary input and output data specific to their production of fabricated rebar. For accuracy the LCA team individually validated these plant gate-to-gate input and output data.

Completeness: All relevant, specific processes, including inputs (raw materials, energy and ancillary materials) and outputs (emissions and production volume) were considered. The relevant background materials and processes were based on supplier specific EPDs completed in accordance with SCS Steel PCR or otherwise based on the US LCI Database (adjusted for known data placeholders), ecoinvent LCI database v3.2, and modeled in SimaPro software v.8.2, July 2016.

Consistency: System boundaries, allocation and cut-off rules have been uniformly applied across the product stage modules. The study predominantly relies on two upstream semi-finished steel EPD sources and two secondary data sources (US LCI and ecoinvent 3.2 databases); adjustments were uniformly applied to all US LCI electricity, fuel, and transport processes. Crosschecks concerning the plausibility of mass and energy flows were continuously conducted.

Reproducibility: Internal reproducibility is possible since the data and the models are stored and available in Athena LCI database developed in SimaPro, 2016. A high level of transparency is provided throughout the report as the LCI profile is presented for the declared product. Key secondary (generic) LCI data sources are summarized in Table 8.

Uncertainty: Uncertainty associated with the LCA model and results is considered “low” given the high representativeness of primary data collected for unfabricated rebar (A1), transport (A2) and fabrication (A3).

Representativeness: Table 8 provides details of the data quality of the LCI datasets used for purposes of completing this LCA study. The representativeness of the data is summarized as follows.

• **Temporal** representativeness is considered to be “high”.

Primary data for rebar fabrication process were collected at six Re-Steel fabrication shops for the reference year 2015 (12 months). Primary data for the unfabricated rebar were collected by CMC and Gerdau for the reference year 2014 (12 months) [2, 3]. All secondary data come from the SimaPro 8.2, July 2016 (US LCI (adjusted) database, ecoinvent v.3.2 database for US and global, 2016).

• **Geographical** representativeness is considered to be "high".

Primary data for rebar fabrication were collected specific to the US northeast. Supplier specific primary data were used for the unfabricated rebar [2, 3]. As shown in Table 8, US northeast, US specific or adjusted generic data were used to complete the LCI modeling. Generic data is publically available and may be average or specific.

• **Technological** representativeness is considered to be “high”.

Both primary data for rebar fabrication and unfabricated bar were modeled to be specific to the technologies or technology mixes under study and represent contemporary US technologies for steel rebar manufacturing.

5 LIFE CYCLE ASSESSMENT RESULTS

This section summarizes the results of the life cycle impact assessment (LCIA) and inventory metrics based on the cradle-to-gate life cycle inventory inputs and outputs analysis. Table 5 shows the aggregated product stage total, both per 1 metric ton and optional unit of 1 short ton of fabricated rebar. Tables 6 presents the EPD results by information module, in absolute and percent basis, respectively.

Net negative results are observed for the ADP-elements. As explained in the CMC and Gerdau EPD for unfabricated rebar, 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 raw rebar is made from 100% scrap and thus has no direct abiotic depletion potential associated with it [2, 3].

Table 5: Product Stage EPD Results for 1 metric and optional unit of 1 short ton fabricated rebar

Category Indicator	Per Metric Ton		Per Short Ton	
	Product Stage (A1 –A3)	Unit	Product Stage (A1 –A3)	Unit
Part A: LCA Impact Category Indicators				
Global warming potential, GWP	0.728	metric ton CO_2 eq	0.728	short ton CO_2 eq
Ozone depletion potential, ODP	8.87E-10	metric ton CFC-11 eq	8.87E-10	short ton CFC-11 eq
Acidification potential, AP	2.32E-03	metric ton SO_2 eq	2.32E-03	short ton SO_2 eq
Eutrophication potential, EP	1.23E-04	metric ton N eq	1.23E-04	short ton N eq
Photochemical ozone creation potential, POCP	3.31E-02	metric ton O_3 eq	3.31E-02	short ton O_3 eq
Abiotic depletion potential for non-fossil resources, ADP- Elements[a)]	-1.03E-05	metric ton Sb eq	-1.03E-05	short ton Sb eq
Abiotic depletion potential for fossil resources, ADP- Fossil fuels	8.03E+03	MJ	6.90E+06	BTU
Part B: Metrics describing Resource Use				
Use of renewable primary energy excluding renewable primary energy resources used as raw	310	MJ	2.67E+05	BTU
Use of renewable primary energy resources used as raw materials, PERM	2.95E-10	MJ	2.54E-07	BTU

Category Indicator	Per Metric Ton		Per Short Ton	
	Product Stage (A1 –A3)	Unit	Product Stage (A1 –A3)	Unit
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials, PERT	310	MJ	2.67E+05	BTU
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials, PENRE	1.02E+04	MJ	8.81E+06	BTU
Use of non-renewable primary energy resources used as raw materials, PENRM	690	MJ	5.94E+05	BTU
Total use of non-renewable primary energy resources (primary energy and primary energy resources used	1.09E+04	MJ	9.40E+06	BTU
Use of secondary material, SM	1.13	metric ton	1.13	short ton
Use of renewable secondary fuels, RSF	0	MJ	0	BTU
Use of non-renewable secondary fuels, NRSF	0	MJ	0	BTU
Net use of fresh water, FW	2.90	m3	694	gallons
Part C: Other environmental information describing different waste categories and output flows				
Hazardous waste disposed, HWD	6.78E-07	metric ton	6.78E-07	short ton
Non-hazardous waste disposed, NHWD	1.04E-02	metric ton	1.04E-02	short ton
Radioactive waste disposed, RWD	1.80E-04	metric ton	1.80E-04	short ton
Components for re-use, CRU	0	metric ton	0	short ton
Materials for recycling, MFR	2.18E-01	metric ton	2.18E-01	short ton
Materials for energy recovery, MER	0	metric ton	0	short ton
Exported energy, EE	0	MJ	0	BTU

Note: [a)]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.

Table 6. Product Stage EPD results by Module- in Percentage Basis

Category Indicator	Unit	Total	A1	A2	A3
Part A: LCA Impact Category Indicators					
Global warming potential, GWP	%	100%	96%	3%	1%
Ozone depletion potential, ODP	%	100%	92%	0%	7%
Acidification potential, AP	%	100%	87%	11%	2%
Eutrophication potential, EP	%	100%	85%	12%	3%
Photochemical ozone creation potential, POCP	%	100%	78%	20%	2%
Abiotic depletion potential for non-fossil resources, ADP- Elements	%	100%	100%	0%	0%
Abiotic depletion potential for fossil resources, ADP- Fossil fuels	%	100%	99.4%	0.5%	0.1%
Part B: Metrics describing Resource Use					
Use of renewable primary energy excluding renewable primary energy resources used as raw materials, PERE	%	100%	98%	0%	2%
Use of renewable primary energy resources used as raw materials, PERM	%	100%	100%	0%	0%
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials, PERT	%	100%	98%	0%	2%
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials, PENRE	%	100%	96%	3%	1%
Use of non-renewable primary energy resources used as raw materials, PENRM	%	100%	100%	0%	0%
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials), PENRT	%	100%	96%	3%	1%
Use of secondary material, SM	%	100%	100%	0%	0%
Use of renewable secondary fuels, RSF	%	-	-	-	-
Use of non-renewable secondary fuels, NRSF	%	-	-	-	-
Net use of fresh water, FW	%	100.0%	98.0%	0.0%	2.0%
Part C: Other environmental information describing different waste categories and output flows					
Hazardous waste disposed, HWD	%	100%	100%	0%	0%

Category Indicator	Unit	Total	A1	A2	A3
Non-hazardous waste disposed, NHWD	%	100%	100%	0%	0%
Radioactive waste disposed, RWD	%	100%	100%	0%	0%
Components for re-use, CRU	%	-	-	-	-
Materials for recycling, MFR	%	100%	95%	0%	5%
Materials for energy recovery, MER	%	-	-	-	-
Exported energy, EE	%	-	-	-	-

6 INTERPRETATION

The above EPD results represent a “cradle-to-gate” EPD per 1 metric ton uncoated fabricated rebar as manufactured at the six Re-Steel fabrication shops for the reference year 2015.

Raw Material Supply (A1) dominates the EPD results – ranging from 78% to 100% of the total environmental burden. Transportation (A2) is the second largest contributor to the declared product impacts and generally accounts for less than 12% of the overall impacts; however, it does account for around 20% of the smog creation potential. With the exception of the ODP, Fabrication (A3) accounts for less than 3% of the overall impacts.

Primary energy consumption is predominately derived from fossil fuels (97%) with renewable energy making up the remaining 3%.

7 ADDITIONAL AND ENVIRONMENTAL INFORMATION

- All Re-Steel uncoated fabricated rebar is manufactured from 100% recycled scrap steel (EAF production route) sourced within the United States.
- Re-Steel fabrication scrap is 100% recycled back to US mill shops.

8 DECLARATION TYPE

A “Product Stage” or “Cradle-to-gate” EPD of Re-Steel’s production of fabricated carbon-steel and low-alloy uncoated reinforcing bar (rebar) products. The declaration presents a weighted average profile for six facilities operated by Re-Steel and its divisions. Product activities covered include the raw material supply, transport and manufacturing (modules A1 to A3). The declaration is intended for Business-to-Business (B-to-B) communication.

9 PRODUCT SPECIFIC DECLARATION

The Re-Steel EPD fall under the description:
- A company specific product EPD, from the manufacturer’s plants.

10 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 14040, ISO 14044, ISO 14025 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.

11 EPD Explanatory Material

For any explanatory material, in regard to this EPD, please contact the program operator.

ASTM International
Environmental Product Declarations
100 Barr Harbor Drive,
West Conshohocken,
PA 19428-2959, http://www.astm.org

12 REFERENCES

1. SCS Global Services, 2015. North American Product Category Rule for Designated Steel Construction Products.
   Retrieved from: http://www.scsglobalservices.com/files/standards/scs_pcr_steel-products_050515_final.pdf, August 2016.

2. CMC EPD, 2015. Concrete Reinforcing Steel and Fabricated Concrete Reinforcing Steel.
   Retrieved from: https://www.cmc.com/pdf/LEEDv4-CMC-EPD-Fabricated-Concrete-Reinforcing-Steel.pdf, http://www.astm.org/CERTIFICATION/DOCS/253.EPD_for_Concrete_Reinforcing_Steel.pdf
   August 2016.

3. Gerdau EPD, 2016. Environmental Product Declaration- Rebar, July 2016.

4. ISO 21930: 2007 Building construction – Sustainability in building construction – Environmental declaration of building products.

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