Ternium

LATIN AMERICA EPD®

Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012

Ternium Losacero 15, 25 and 30

Programme:	The International EPD® System www.environdec.com
EPD registered through the fully aligned regional programme/hub:	EPD Latin America, www.epd-latinamerica.com
Programme operator:	EPD International AB
Regional Hub:	EPD Latin America
EPD registration number	S-P-00702
Issue date:	2018-05-25
Validity date:	2023-05-16 An EPD should provide current information, and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com.
Revision date:	2018-05-17
Geographical scope:	Mexico

EPD Content

Ternium is a leading company in Latin America that manufactures and processes a broad range of steel products using the most advanced technology. The company provides customers that operate in such diverse and essential steel consuming industries, such as construction, automotive and energy, as well as manufacturers of heavy and agricultural machinery, household appliances and packaging, among others.

Ternium and its subsidiaries have 17 production centers in Argentina, Brazil, Colombia, Guatemala, Mexico, and the United States. It is also part of the controlling group of Usiminas, a leading steelmaker of the Brazilian market

Ternium supplies with high quality steel all the main regional markets and it also promotes the development of its customers from the metallurgical industry.

The company's distinctive position is a result of its highly integrated production procedure.

Its facilities feature the whole manufacturing process of steelmaking, from the mining of iron ore to the production of high value added products.

With a yearly achievable production capacity of 12.3 million tons, Ternium's shares are listed and traded on the New York Stock Exchange

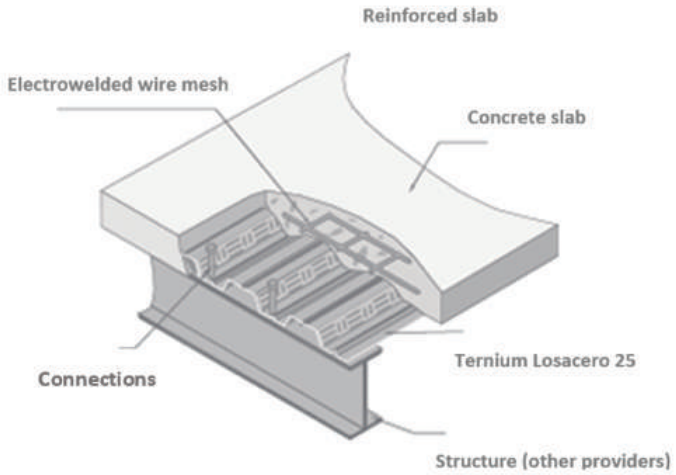
"Our mission is to create value with our customers, improving competitiveness and productivity together, through a highly efficient industrial and technological base and a global commercial network. Ternium is committed to establishing a long term presence, through local development and education. "

-Daniel Novegil, Ternium's CEO 2017.

1. General information

Product	Ternium Losacero 15, 25 and 30.
Name of the manufacturer	Ternium México S.A. de C.V.
Description of the construction product	Losacero is a galvanized structural steel flooring system for modern, rapid installation of great capacity and structural resistance created to interact with the concrete. It is ideal for use in building slabs in all types of buildings as steel roofing deck.
Declared unit	1 metric ton of Losacero.
Construction product identification	Central Product Classification: CPC 4219 Other structures (except prefabricated buildings) and parts of structures, of iron, and steel; plates, rods, angles, shapes, sections, profiles, tubes and the like, prepared for use in structures, of iron and steel; props and similar equipment for scaffolding, shuttering or pit propping.
Description of the main product components and or materials	100% Galvanized steel manufactured using 70% iron ore (direct reduced iron) and 30% steel scrap.
Programme	International EPD® System,www.environdec.com EPD® EPD registered through the fully aligned regional programme/hub: EPD Latin America, www.epdlatinamerica.com LATIN AMERICA EPD®
Programme operator	EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden EPD Latin America Chile: Alonso de Arcilla 2996, Ñuñoa, Santiago Chile Mexico: Boulevard de los Continentes No. 66 Colonia Valle Dorado. C.P. 54040 Tlalnepantla de Baz, Estado de México. México.
Date of issue:	2018-05-25
Valid to:	2023-05-16
Life cycle stages not considered Comparability of EPD of construction products	Distribution, use, end of life. a. EPD of construction products may not be comparable if they do not comply with EN 15804. b. Environmental product declarations within the same product category from different programs may not be comparable
For more information consult	mx.ternium.com
Environmental policy and management system	ISO 14001 ISO 9001
Sites for which this EPD is representative	Industrial Center Ave. Guerrero Nte. 151 Colonia Cuauhtémoc, San Nicolás de los Garza (66450) Nuevo León (+52) 81 8865-2828 Industrial Center: Carretera Pesquería - Los Ramones Km. 15 Ejido La Victoria Pesquería (66650) Nuevo León (+52) 81 8865-2828 / Industrial Center: Boulevard Harold Pape No. 1349 Colonia Elizondo Monclova (25760) Coahuila (+52) 866 649 7095 / Industrial Center: Ave. Churubusco 1000 Colonia Santa Fe Monterrey (64540) Nuevo León (+52) 81 83295000 Industrial Center: Ave. Juventud 340 Colonia Cuauhtémoc San Nicolás de los Garza (66450) Nuevo León (+52) 81 8865-2828

2 The product



Ternium Losacero is a galvanized structural steel flooring system for modern, rapid installation of great capacity and structural resistance created to interact with the concrete. It is ideal for use in building slabs in all types of buildings as steel roofing deck.

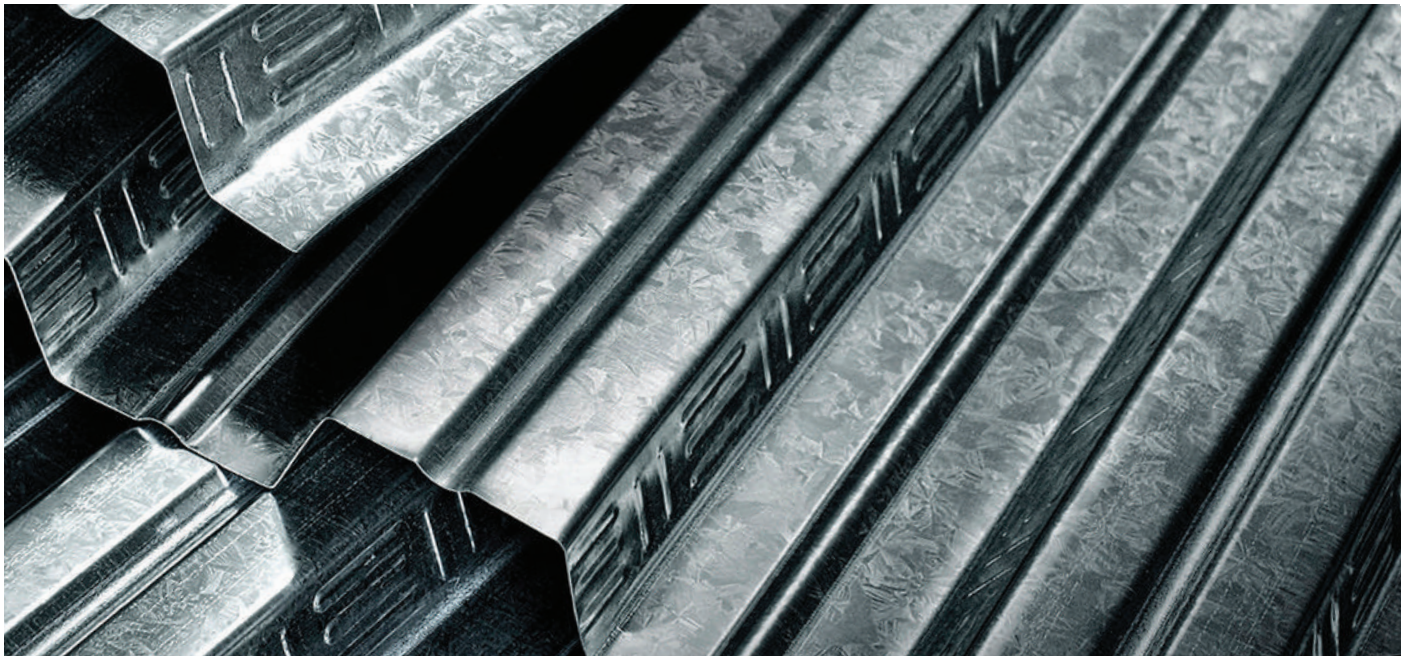
Ternium Losacero has three main functions:

1) To act as a work platform during construction, that is, it serves as a formwork for the casting,

2) To provide positive reinforcement by bending to the concrete slab and

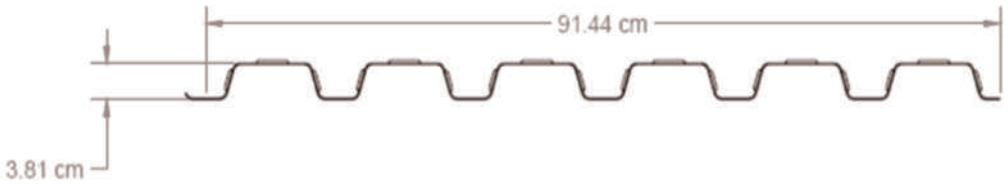
3) To provide resistance for horizontal loads.

Ternium Mexico manufactures several types of Ternium Losacero, the difference between the types of Ternium Losacero lies in the size of the cant, which provides specific characteristics during the installation of each product.



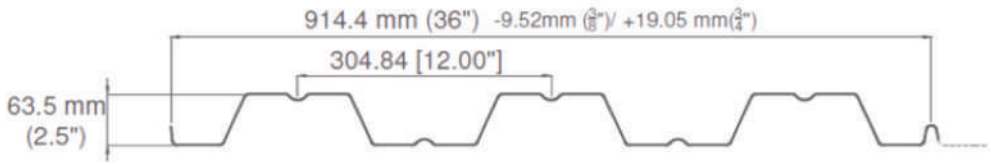
Ternium Losacero 15

Covering capacity Nominal value
914.4 mm (36")



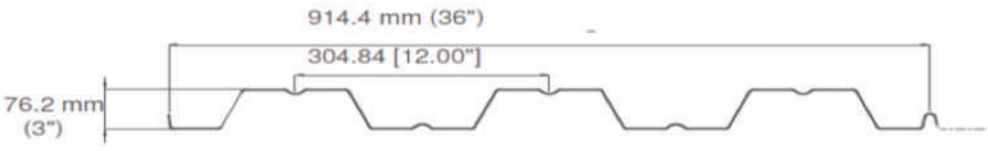
Ternium Losacero 25

Nominal value	Covering capacity Min	Covering capacity Max
914.4 mm (36")	904.88 mm (35.625")	933.45 mm (36.75")



Ternium Losacero 30

Nominal value	Covering capacity Min	Covering capacity Max
914.4 mm (36")	904.88 mm (35.625")	933.45 mm (36.75")



3 Content declaration

A list of materials and chemical substances including information about their hazardous properties is provided in this EPD for Ternium Losacero 15, 25 and 30.

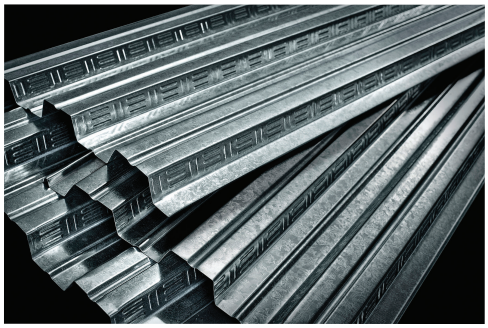
Material content in Ternium Losacero 15, 25 and 30.			
Material	Function	Weight	Health class1
Low-alloyed steel	Structural	> 94%	Non hazardous
Zinc	Coating agent	< 5%	Non hazardous
Chemical treatment	Coat adhesion	< 1%	Non hazardous

1According to EN15804 declaration of material content of the product shall list Substance of Very High Concern (SVHC) that are listed by European Chemicals Agency.

Steel manufactured in the Guerrero Industrial Works uses 70% iron ore (direct reduced iron) and 30% steel scrap as source of iron.

4 Declared unit

1 metric ton of Ternium Losacero 15, 25 or 30 used as building slab for the construction industry.



5 Flow diagram and general system boundaries

Environmental potential impacts were calculated according to EN 15804:2012 and PCR 2012:01 Construction products and construction services Version 2.2 (2017-05-30). This EPD is in accordance with ISO 14025:2006.

The approach of this EPD is from the cradle to gate, as system boundary.

Environmental potential impacts were calculated through Life Cycle Assessment (LCA) methodology according to ISO 14040:2006 and ISO 14044:2006. An external third party critical review process of the LCA was conducted according to ISO/TS 14071:2014.

Scope of the inventory performed in the LCA.

Life cycle environmental information of Ternium Losacero 15, 25 and 30							Other environmental information
Product stage			Construction process stage		Use stage	End of life stage	Reuse recovery stage
A1	A2	A3	A4	A5	B1 - B7	C1 - C4	D
Production of iron pellets, pre-processing of scrap steel, production of ferroalloys, lime, carbon, etc. Electricity generation and production of natural gas used during manufacturing	Transport of iron pellets, transport of scrap steel, transport of ancillary materials to factory. Internal transportation requirements	Production and consumption of ancillary materials: oxygen, argon, nitrogen, oils, grease, etc. Waste transportation, waste treatment and, emissions to air and water	Product distribution	Construction and installation	Use, maintenance, repair, replacement, refurbishment, operational energy use, operational water use	De-construction, demolition, transport, waste processing, disposal	Re-use-Recovery-Recycling-potential
Included	Included	Included	Not declared	Not declared	Not declared	Not declared	Not declared
Cradle-to-gate Declared unit							

Ternium Mexico collected primary (specific) data from annual internal records the year 2016 for the following aspects:

- Manufacturing of iron pellet.
- Distance for transportation of raw materials and ancillary materials for Losacero manufacturing.
- Raw materials consumption for Losacero manufacturing.
- Energy consumption for Losacero manufacturing.
- Production yield and generation of by products.
- Consumption of ancillary materials during manufacturing.
- Waste generation and management strategies.
- Emissions to air during manufacturing process.
- Distance for transportation of waste to treatment.

Secondary (generic) data for upstream processes were used for the following elements:

- Mining activities for iron ore production.
- Consumption of fuels and emissions related to electricity production by independent providers.
- Energy and materials consumption and emissions related to the production of raw materials for steelmaking and galvanizing.
- Materials and energy consumption, emissions related to transport of raw materials and ancillary materials.
- Energy and materials consumption and emissions related to the production of ancillary inputs.
- Materials and energy consumption, emissions and waste management related to transport of waste.

Electricity consumption was modeled considering the share of electricity from the grid and electricity from independent providers as declared by Ternium Mexico.

5.1 Description of information modules

Description of information modules included in this EPD is provided below:

A1) Raw materials supply

Production of iron ore and pelletizing

Scrap steel pre-processing

Production of other raw materials: ferroalloys, lime, carbon, graphite electrodes, calcium carbide, zinc for galvanizing.

Production of packaging materials for raw materials.

Generation and distribution of the electricity consumed in manufacturing.

Production and processing of natural gas as fuel during the production process.

A2) Transportation

Transportation of iron ore pellets.

Transportation of steel scrap.

Transportation of other raw materials.

Transportation of ancillary materials.

Internal transport.

A3) Manufacturing

Consumption of fresh water.

Production and consumption of natural gas for direct reduction process (process gas).

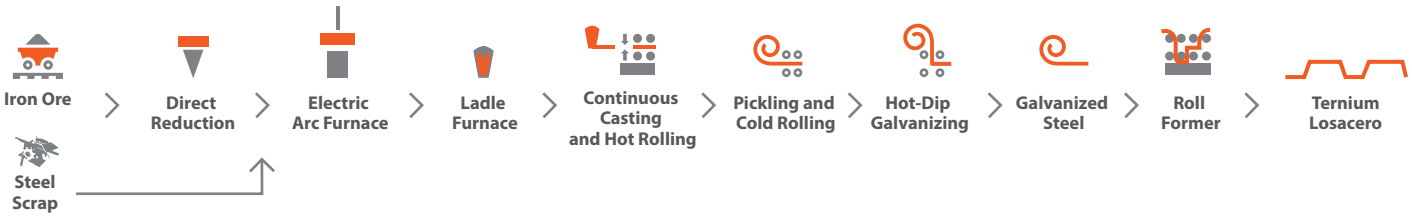
Production and consumption of ancillary materials: oxygen, nitrogen, argon, chemicals for water treatment, tows for cleaning and maintenance, lubricating oils and grease.

Waste generation and waste management.

Emissions to air and water.

Transport of waste to the treatment and disposal site or to recycling facilities.

Ternium Losacero 15 and 25 are produced in industrial centers different than Ternium Losacero 30. However, the production process flow is the same for all products:



5.2 Data quality assessment

The assessment of data quality is provided in this EPD

Module A1) Raw materials supply					
Data	**Time related coverage**	**Geographic coverage**	**Technological coverage**	**Data source**	**Measured or estimated**
Raw materials and energy consumption, waste generation and emissions for iron ore extraction	1999 - 2016	Europe adapted to Mexico	Modern	Ecoinvent 3	M&E
Raw materials and energy consumption, waste generation and emissions for iron pellet manufacturing	2016	Mexico	Modern	Ternium Mexico	M
Energy consumption for scrap steel pre-processing	2018	Europe	Modern	Scrap steel processing equipment provider	E
Raw materials consumption for Losacero manufacturing.	2016	Mexico	Modern	Ternium Mexico	M
Energy consumption for Losacero manufacturing.	2016	Mexico	Modern	Ternium Mexico	M
Consumption of fuels and emissions related to electricity production in Mexico at country level	2016	Mexico	Modern Mexican energy mix	Mexicaniuh	M&E
Consumption of fuels and emissions related to electricity production by independent providers	2000 - 2016	Mexico	Modern Natural gas Combined cycle	Ecoinvent 3.3 adapted	M&E
Energy and materials consumption and emissions related to natural gas production in Mexico	2016	Mexico	Modern	Mexicaniuh	M&E
Energy and materials consumption and emissions related to the production of other raw materials for steelmaking and galvanizing	1990-2016	Europe	Modern	Ecoinvent 3.3	M&E

Module A2) Transportation					
Data	**Time related coverage**	**Geographic coverage**	**Technological coverage**	**Data source**	**Measured or estimated**
Distance for transportation of raw materials	2016	Mexico	Not applicable	Ternium Mexico	M
Distance for transportation of ancillary inputs	2016	Mexico	Not applicable	Ternium Mexico	M
Materials and energy consumption, emissions and waste management related to transport of raw materials and ancillary materials.	1992-2014	World average based on Europe	World average based on Europe	Ecoinvent 3.3	M&E

Module A3) Manufacturing					
Data	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Production yield and generation of by products	2016	Mexico	Modern	Ternium Mexico	M
Consumption of ancillary materials during manufacturing	2016	Mexico	Modern	Ternium Mexico	M
Energy and materials consumption and emissions related to the production of ancillary inputs	1990 - 2016	World average based on Europe	World average based on Europe	Ecoinvent 3.3	M&E
Waste generation during manufacturing process and management strategies	2016	Mexico	Modern	Ternium Mexico	M
Energy and materials consumption and emissions related to waste treatment process	1990 - 2016	World average based on Europe	World average based on Europe	Ecoinvent 3.3	M&E
Emissions to air during manufacturing process	2016	Mexico	Modern	Ternium Mexico EPA AP42	M
Distance for transportation of waste to treatment	2016	Mexico	Modern	Ternium Mexico y Google Maps	M
Materials and energy consumption, emissions and waste management related to transport of waste.	1992-2014	World average based on Europe	World average based on Europe	Ecoinvent 3.3	M&E

6. Environmental performance-related information

Since this is a Cradle to Gate EPD, reference service life is not specified.

6.1 Potential environmental impact

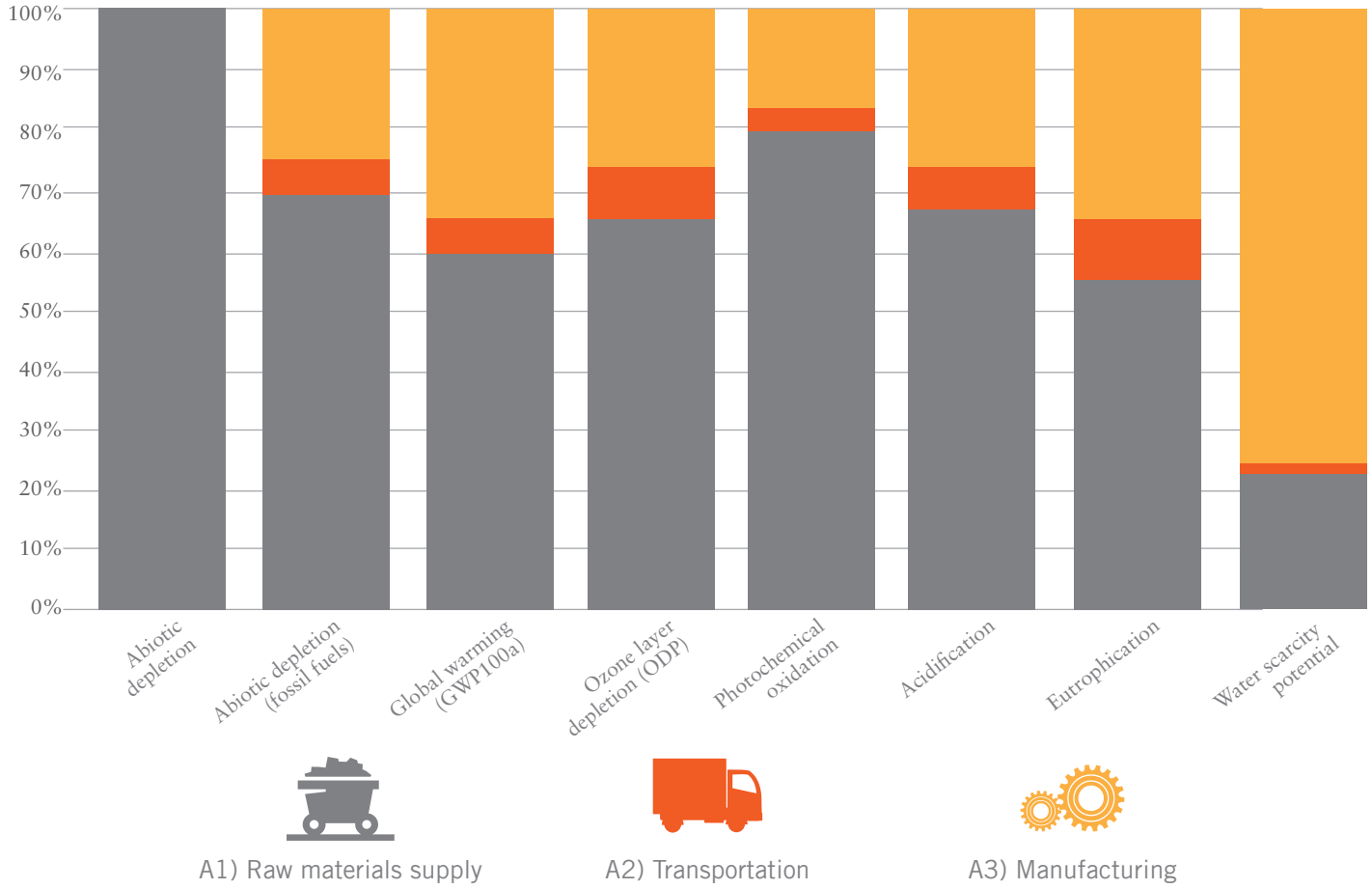
All individual information modules are reported separately. However, as supplement information a figure for the total impact across all phases is provided.

Parameters describing environmental potential impacts were calculated using CML-IA method version 3.04 (Guinee et al. 2001; Huijbregts et al. 2003; Wegener et al. 2008) as implemented in SimaPro 8.4. Water scarcity potential was calculated using AWARE method (Boulay et al. 2018).

Ternium Losacero 15 and 25						
Impact Category	Unit	A1) Raw materials	A2) Transportation	A3) Manufacture	Total A1 - A3	A4 - A5, B1-B7, C1-C4, D
Abiotic depletion	kg Sb equiv %	3.03E-01 99.9%	1.67E-04 0.1%	1.76E-04 0.1%	3.03E-01 100%	
Abiotic depletion (fossil fuels)	MJ %	19 142 70.0%	1 611 5.9%	6 582 24.1%	27 336 100%	
Global warming (GWP100a)	kg CO2 equiv %	1 041 60.2%	114 6.6%	574 33.2%	1 729 100%	
Ozone layer depletion (ODP)	kg CFC-11 equiv %	1.40E-04 67.7%	1.72E-05 8.4%	4.93E-05 23.9%	2.06E-04 100%	Modules not declared
Photochemical oxidation	kg C2H4 eq %	0.62 79.8%	0.03 4.1%	0.13 16.1%	0.78 100%	
Acidification	kg SO2 equiv %	8.3 67.4%	0.8 6.9%	3.2 25.7%	12.3 100%	
Eutrophication	kg PO4--- eq %	1.25 56.8%	0.21 9.7%	0.73 33.5%	2.19 100%	
Water scarcity potential	m^3eq %	257 22.9%	8 0.7%	857 76.4%	1122 100.0%	

** Note: AWARE method sets the maximal characterization factor (i.e. 100) for the geographical location of Ternium Works involved in Ternium Losacero 15 and 25 manufacturing. However, AWARE factor is linked to Ecosystem Water Requirement (EWR) which is calculated at global scale and does not account for specific local aspects due to limited data access. EWR is the most uncertain variable of the method (Boulay et al. 2018).*

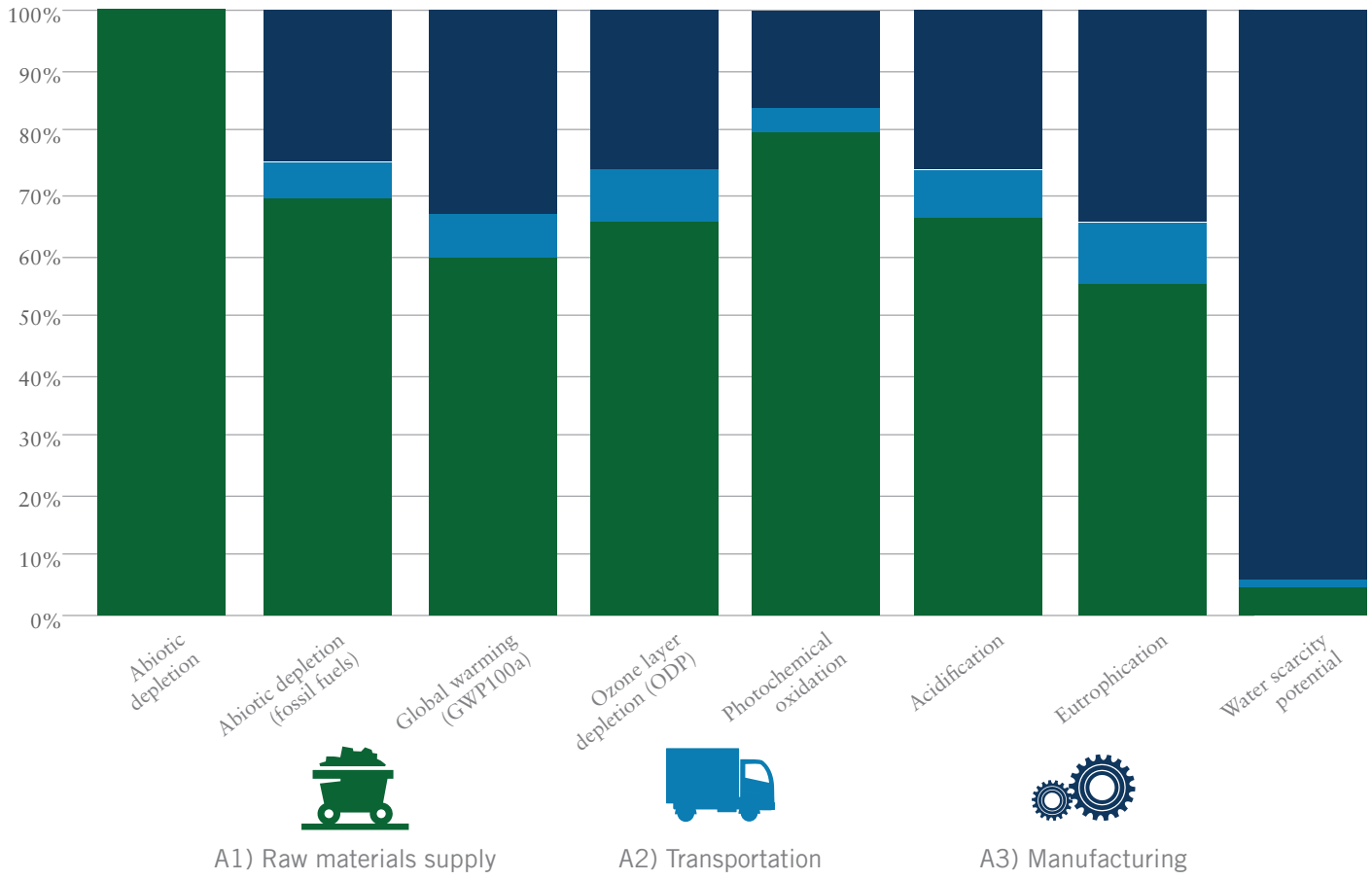
Potential environmental impact of Ternium Losacero 15 and 25



Ternium Losacero 30						
Impact Category	Unit	A1) Raw materials	A2) Transportation	A3) Manufacture	Total A1 - A3	A4 - A5, B1-B7, C1-C4, D
Abiotic depletion	kg Sb equiv %	2.15E-01 99.8%	3.15E-04 0.1%	1.40E-04 0.1%	2.16E-01 100%	
Abiotic depletion (fossil fuels)	MJ %	19 052 68.9%	2 371 8.6%	6 234 22.5%	27 657 100%	
Global warming (GWP100a)	kg CO_2 equiv %	991 57.6%	162 9.4%	568 33.0%	1 721 100%	
Ozone layer depletion (ODP)	kg CFC-11 equiv %	1.42E-04 63.5%	2.58E-05 11.6%	5.56E-05 24.9%	2.23E-04 100%	Modules not declared
Photochemical oxidation	kg C_2H_4 eq %	0.57 81.1%	0.04 5.8%	0.09 13.1%	0.70 100%	
Acidification	kg SO_2 equiv %	7.5 65.0%	1.0 9.0%	3.0 26.0%	11.5 100%	
Eutrophication	kg PO_4--- eq %	0.98 51.2%	0.25 13.1%	0.69 35.7%	1.92 100%	
Water scarcity potential	m^3eq %	36 4.6%	11 1.5%	728 93.9%	775 100.0%	

** Note: AWARE method sets the maximal characterization factor (i.e. 100) for the geographical location of Ternium Works involved in Ternium Losacero 30 manufacturing. However, AWARE factor is linked to Ecosystem Water Requirement (EWR) which is calculated at global scale and does not account for specific local aspects due to limited data access. EWR is the most uncertain variable of the method (Boulay et al. 2018).*

Potential environmental impact of Ternium Losacero 30

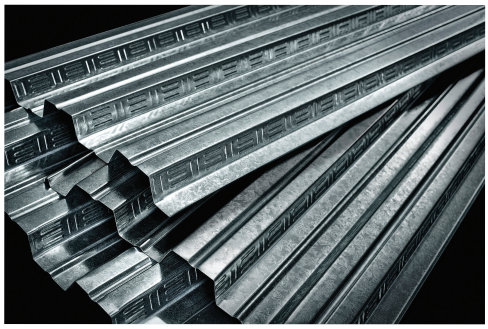


6.2 Use of resources

Parameters describing resource use were evaluated with the Cumulated Energy Demand method version 1.09 (Frischknecht et al. 2007) except for the indicator of use of net fresh water that was evaluated with ReCiPe 2016 (Huijbregts et al. 2017).

Ternium Losacero 15 and 25

Parameter	Unit	Total A1 - A3	A1) Raw materials supply	A2) Transportation	A3) Manufacture (direct)**	A3) Manufacture (indirect)**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1 007	741	40	0	226
	%	100%	74%	4%	0%	22%
Use of renewable primary energy as raw materials	MJ	0	0	0	0	0
	%	-	0%	0%	0%	0%
Total use of renewable primary energy resources	MJ	1 007	741	40	0	226
	%	100%	74%	4%	0%	22%
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	24 172	19 690	1 651	0	2 831
	%	100%	81%	7%	0%	12%
Use of non-renewable primary energy used as raw materials	MJ	4 007	0	0	4 007	0
	%	100%	0%	0%	100%	0%
Total use of non-renewable primary energy resources	MJ	28 179	19 690	1 651	4 007	2 831
	%	100%	70%	6%	14%	10%
Use of secondary material	kg	320	0	0	320	0
	%	100%	0%	0%	100%	0%
Use of renewable secondary fuels	MJ	0	0	0	0	0
	%	-	0%	0%	0%	0%
Use of non-renewable secondary fuels	MJ	0	0	0	0	0
	%	-	0%	0%	0%	0%
Use of net fresh water	m^3	13.2	4.1	0.4	4.2	4.4
	%	100%	31%	3%	32%	33%



Ternium Losacero 30 Parameter	Unit	Total A1 - A3	A1) Raw materials supply	A2) Transportation	A3) Manufacture (direct)**	A3) Manufacture (indirect)**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ %	934 100%	642 69%	50 5%	0 0%	242 26%
Use of renewable primary energy as raw materials	MJ %	0 -	0 0%	0 0%	0 0%	0 0%
Total use of renewable primary energy resources	MJ %	934 100%	642 69%	50 5%	0 0%	242 26%
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ %	24 610 100%	19 648 80%	2 422 10%	0 0%	2 540 10%
Use of non-renewable primary energy used as raw materials	MJ %	3 934 100%	0 0%	0 0%	3 934 100%	0 0%
Total use of non-renewable primary energy resources	MJ %	28 544 100%	19 648 69%	2 422 8%	3 934 14%	2 540 9%
Use of secondary material	kg %	315 100%	0 0%	0 0%	315 100%	0 0%
Use of renewable secondary fuels	MJ %	0 -	0 0%	0 0%	0 0%	0 0%
Use of non-renewable secondary fuels	MJ %	0 -	0 0%	0 0%	0 0%	0 0%
Use of net fresh water	m^3 %	11.2 100%	3.3 30%	0.6 5%	3.1 28%	4.2 37%

***The column "A3) Manufacturing (direct) refers to direct data from Ternium operations. The column "A3) Manufacturing (indirect) refers to background data regarding production of ancillary materials and other processes outside Ternium's facilities".*

6.3 Other indicators describing waste categories

Environmental parameters describing waste generation are provided in this EPD.
Environmental indicators describing waste generation were obtained from LCI except for background information which has been calculated using EDIP 2003 method (Hauschild and Potting, 2005)

Ternium Losacero 15 and 25

Parameter	Unit	Total A1-A3	A1) Raw materials supply	A2) Transportation	A3) Manufacturing (direct)**	A3) Manufacturing (Indirect)**
Hazardous waste	kg %	5.22 100%	0.25 5%	1.30E-03 0%	4.62 88%	0.35 7%
Non hazardous waste	kg %	91.3 100%	33.9 37%	27.0 30%	11.4 13%	18.9 21%
Radioactive waste*	kg %	3.75E-02 100%	2.08E-02 55%	9.65E-03 26%	0 0%	7.10E-03 19%
Components for reuse	kg %	0 -	0 0%	0 0%	0 0%	0 0%
Materials for recycling	kg %	240 100%	0 0%	0 0%	240 100%	0 0%
Materials for energy recovery	kg %	0.63 100%	0 0%	0 0%	0.63 100%	0 0%
Exported electricity	MJ %	0 -	0 0%	0 0%	0 0%	0 0%
Exported heat	MJ %	22.5 100%	0 0%	0 0%	22.5 100%	0 0%

**No radioactive waste is produced during Ternium operations.*
***The column "A3) Manufacturing (direct) refers to direct data from Ternium operations. The column "A3) Manufacturing (indirect) refers to background data regarding production of ancillary materials and other processes outside Ternium's facilities".*

Ternium Losacero 30

Parameter	Unit	Total A1-A3	A1) Raw materials supply	A2) Transportation	A3) Manufacturing (direct)**	A3) Manufacturing (Indirect)**
Hazardous waste	kg	2.83	0.21	1.77E-03	1.44	1.18
	%	100%	7%	0%	51%	42%
Non hazardous waste	kg	133	30	75	12	17
	%	100%	22%	57%	9%	12%
Radioactive waste*	kg	3.96E-02	1.91E-02	1.45E-02	0	6.01E-03
	%	100%	48%	37%	0%	15%
Components for reuse	kg	0	0	0	0	0
	%	-	0%	0%	0%	0%
Materials for recycling	kg	240	0	0	240	0
	%	100%	0%	0%	100%	0%
Materials for energy recovery	kg	0.41	0	0	0.41	0
	%	100%	0%	0%	100%	0%
Exported electricity	MJ	0	0	0	0	0
	%	-	0%	0%	0%	0%
Exported heat	MJ	10.8	0	0	10.8	0
	%	100%	0%	0%	100%	0%

***No radioactive waste is produced during Ternium operations.*
***The column "A3) Manufacturing (direct) refers to direct data from Ternium operations. The column "A3) Manufacturing (indirect) refers to background data regarding production of ancillary materials and other processes outside Ternium's facilities".*

6.4 Additional environmental information

Almost all the Industrial centers of Ternium Mexico related to the Losacero manufacturing process are certified with ISO 14001 and most of them also has Industria Limpia Award. Monclova industrial center is currently under certification process (ISO 14001). Also, an environmental policy is kept in practice in all industrial centers of the company in Mexico.

All the Industrial centers of Ternium Mexico related to the Losacero manufacturing, send for energy recovery a percentage of hazardous waste.

Facility	Fraction of waste to energy recovery
Pesquería	7%
Juventud	83%
Churubusco	4%
Guerrero	40%
Monclova	12%

Ternium's Certifications

Environment

Ternium plants in Mexico participate in the National Voluntary Environmental Audit Program of the PROFEPA (Federal Attorney for Environmental Protection), thereby ensuring that during the manufacturing processes, compliance with the provisions of current environmental regulations is met.

Likewise, the Environmental Management System of the Ternium Plants that participate in the manufacture of Losacero 15,25,30, are certified under standard ISO 14001.

Quality

In order to ensure the quality of the Losacero 15, 25 and 30 steel that is produced in the Ternium plants, under the different manufacturing processes are certified with the ISO 9001 quality standard, in its latest version. Additionally, the chemical and physical test labs are certified with ISO 17025 standard, as well in its latest version.

Safety
To ensure the care of the physical integrity and occupational health of all the personnel, of the Ternium Plants that participate in the manufacture of Losacero 15,25,30, the Safety Management System is certified with the OHSAS standard 18001.

Sustainability and environment protection
Ternium produces 100% recyclable products, with the highest quality and minimal environmental impact. Recycling is an important part of the company's production process, as well as ensuring a long-term healthy link with the communities neighboring the production centers.

Ternium is deeply committed to sustainable development, so its actions are guided by an Environmental Policy that involves employees, shareholders, suppliers, customers and communities. The company has a Management System that foresees procedures, reviews and specific records for the proper operation, maintenance and control of facilities, as well as for the handling of substances.

Active Participation
Ternium reports, since 2005, CO2 emissions to the World Steel Association. This garnered the recognition of the "Climate Action Member" program. Additionally, it subscribed to the report on sustainability indicators and also reports on energy consumption and personnel training. In addition, the company is part of different groups that are concerned about environmental issues, mainly the World Business Council for Sustainable Development (National Chapters), the Latin American Steel Association (Alacero), World Steel Association and various work committees in several industrial associations. In Mexico, it participates through the commissions related to environmental issues and energy saving of the National Chamber of Iron and Steel (CANACERO), the Mining Chamber of Mexico (CAMIMEX) and the Environmental Protection Institute of Nuevo León (IPA). NL).

6.5 Specific statements about this EPD

a) Geographical coverage: Mexico.

b) Scope of the EPD: This EPD only covers the Cradle to Gate life cycle stages because other stages are very dependent on particular scenarios and are better developed for specific building or construction works.

c) EPD Comparison:
a. EPD of construction products may not be comparable if they do not comply with EN 15804
b. Environmental product declarations within the same product category from different programs may not be comparable

d) Additional information about Losacero can be provided on the request of the costumer.

e) LCI calculation rules for the different types of Losacero:

· Ternium Losacero 15 and 25: there is no differentiation between the manufacturing process of these products until the final step (finishing). During this step, the only difference between Losacero 15 and Losacero 25 is the type of roll used to provide the final shape. Therefore, Losacero 15 and Losacero 25 are practically the same product and the inputs and outputs as well as the environmental potential impacts are the same, eliminating the need to calculate an average.

· Ternium Losacero 30: the processes of Pickling, Cold Rolling and Galvanizing are carried out in different industrial plants for Losacero 30 than for Losacero 15 and Losacero 25. Also, the difference between impact indicators is higher than 10% when comparing Losacero 30 with the other products. As a result, environmental information is presented in separate columns (PCR 2012:01, section 2.5).

f) Allocation rules:
a. Allocation for co-products: The first allocation procedure was performed so that it reflects the way in which the inputs and outputs change by quantitative changes in the products (or functions) delivered by the system. In this case, a mass-basis allocation procedure was applied when co-products are present in a process:

Process	By-product Ternium Losacero 15 and 25	By-product Ternium Losacero 30
Direct reduction	Iron dust, REDI sludge and CO_2.	Iron dust, REDI sludge and CO_2.
Steelmaking	Slag and steel dust	Slag and steel dust
Hot rolling	Steel scale	Steel scale
Pickling and cold rolling	Wooden pallets, carton, spent oil, metal containers.	Packaging materials and steel residue from trimming.
Galvanizing	Zinc dross	Zinc dross
Roll Former	Not applicable	Not applicable

b. Allocation for recycling: Allocation for recycling: Allocation of recycled material known as open loop recycling, is reported in the inventory under the Polluters Pay (PP) allocation method. In the PP allocation method, the exact boundary settings between the first and the next product systems are defined by the willingness to pay for the recycled material. This implies that for inflow of recycled material to the product system, the recycling process and the transportation from the recycling process to where the material is used were included. If an outflow of material to recycling was reported, the transportation of the material to a sorting facility or recycling process was included.

g) Cut off criteria applied in the EPD:
a. Environmental impact from construction, production equipment, and tools that are not directly consumed in the production process are not accounted for in the LCI.
b. Personnel-related impacts, such as transportation to and from work, are also not accounted for in the LCI.

h) Key assumptions of the LCA:

a. Life cycle inventory for Losacero 15 and Losacero 25 was calculated assuming inputs and outputs are the same because they are produced in the same plants and data is available on an annual basis.

b. It was assumed that natural gas consumed in the manufacturing process is produced in the industrial gas processing center located in Burgos, located in Reynosa, Tamaulipas.

c. It was assumed that tow and rags leave the system in the form of impregnated textiles and that they have the capacity to absorb 55% of their weight.

d. It was assumed that scrap purchased in the Metropolitan area of Monterrey is transported by a truck with a capacity greater than 30 t and that it is purchased within the same municipality (34 km).

e. It was assumed that all scrap purchased outside the Metropolitan area of Monterrey is purchased from Saltillo area, at 80 km and transported by a truck with a capacity greater than 30 t.

7 Verification and registration

CEN standard EN 150804 served as the core PCR	
Programme:	The International EPD® System www.environdec.com
EPD International AB Regional Hub:	EPD Latin America
EPD registration number:	S-P-00702
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Product group classification:	UN CPC 4219
PCR:	PCR 2012:01 construction products and construction services, Version 2.2 (2017-05-03).
PCR review was conducted by:	The Technical Committee of the International EPD® System. Chair: Massimo Marino. Contact via info@environdec.com
Independent verification of the declaration data, according to ISO 14025:2006	EPD verification
External third party verifier and critical reviewer of the LCA:	Claudia A. Peña
Accredited or approved by:	The International EPD® System

Contact Information

EPD owner:

Ternium

Ternium Mexico S.A. de C.V.
Avenida Universidad 992
Colonia Cuauhtemoc, C.P. 66
450 San Nicolas De Los
Garza. Nuevo León, México.
mx.ternium.com

Contact person: Luis Rechy
lrechy@ternium.com.mx

LCA author:

Center for Life Cycle Assessment and Sustainable Design

Center for Life Cycle Assessment
and Sustainable Design - CADIS
Bosques De Bohemia 2 No. 9
Bosques del Lago.
Cuautitlan Izcalli. Estado De
México. C.P. 54 766, México.
www.centroacv.mx

Contact person: Juan Pablo
Chargoy
jpchargoy@centroacv.mx

Programme operator (PO):

EPD® THE INTERNATIONAL EPD® SYSTEM

EPD International AB
BOX 210 60, SE-100 31
STOCKHOLM,
SWEDEN
www.environdec.com
info@environdec.com
Regional Hub of the PO

EPD® LATIN AMERICA

Chile: Alonso de Arcilla 2996,
Nuñoa, Santiago Chile
Mexico: Boulevard de los
Continentes No. 66
Colonia Valle Dorado. C.P.
54040
Tlalnepantla de Baz, Estado de
México. México.
epd-latinamerica.com

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ISO 14040:2006 Environmental management – Life cycle assessment -- Principles and framework

ISO 14044:2006 Environmental management – Life cycle assessment -- Requirements and guidelines

ISO 21930:2017 Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

ISO/TS 14067:2013 Greenhouse gases – Carbon footprint of products -- Requirements and guidelines for quantifi-cation and communication

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