Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for

Two-side handle – ITALIA LINE- Art. 3065

from

Programme:	The International EPD® System, www.environdec.com
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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

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Content

3 - General information
4 - Company information
4 - Product information
5 - LCA information
7 - Content information
8 - Results of the environmental performance indicators
11 - Additional environmental information
14 - Additional social and economic information
14 - References

General information

Programme information	The International EPD® System	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden	www.environdec.com info@environdec.com

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.2.5

PCR review was conducted by: PCR Committee: IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB
Moderator: Martin Erlandsson, IVL Swedish Environmental Research Institute

Life Cycle Assessment (LCA)

LCA accountability: Ing. Francesca Intini, T&A - Tecnologia & Ambiente srl

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by individual verifier

Third-party verifier: Adriana Del Borghi delborghi@tetisinstitute.it

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third-party verifier:
☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Master Italy srl

Contact: Uffico Tecnico
info@masteritaly.com

Description of the organisation: Since 1986, Master Group has been designing accessories and components for doors and windows in aluminium, with a process made of research, investments, study of the aluminium's world, and through a deep attention to the quality of the materials, the research of technologies able to allow production of goods made for high performances, and to find new market's needs, and to customers' satisfaction and constant care.
Present in more than 58 countries worldwide, Master is nowadays a global brand, focused on: development of new international markets, attention to safety and quality of products, continuous improvement, and waste reduction according to lean manufacturing's principles, implementation of the new model for industrial automation INDUSTRY 4.0, with particular attention to maintaining human capital central in all strategic and productive operations.
Master Group realizes 97% of the added value of its in-house production, covering all the steps that precede product marketing: from the analysis of market needs to design, prototyping and production.

Product-related or management system-related certifications: Master Italy obtained the following certifications:
- ISO 9001 – Quality Management System
- ISO 14001 – Environmental Management System
- ISO 45001 – Health and Safety Management System

Master Italy is committed with three Ps (People, Prosperity and Planet) to:
- ensuring the dignity, equality and prosperous lives of workers;
- to protect the planet's natural resources and climate for future generations.

Name and location of production site: S.P.37 Conversano - Castiglione Km. 0,570 Z.I. 70014 Conversano (BA) - ITALY

Product information

Product name: Two-side handle – ITALIA LINE- Art. 3065

Product identification: Solid and harmonious shapes will give a touch of design to every space. ITALIA is the new range of cremone bolts and handles for windows, doors, facades and sliding systems, designed to combine technical innovation and Made in Italy. The new range is equipped with the "click & turn" mechanism to facilitate the right position of the handle to assure a better anti-burglar function.

Product description: Die cast aluminium handle; zamak body, case and rotor; Delrin low-friction bushing.

UN CPC code: 4299

Geographical scope Global

LCA information

Functional unit / declared unit:

The functional unit is 1 piece of Double handle Art. 3065 that ensures the function of opening and maintaining doors and windows in buildings in a closed position by using a door or window handle with a net mass of 0,689 kg over the reference service life of 30 years, which corresponds to a minimum of 100.000 use cycles.
The declared unit is 1 piece Double Handle. The Double handle, including packaging, weighs 0,743 kg.
The Double Handles are packed multiples in PE bags for protection during transport and supplied in corrugated board.
The declared unit represents the Double Handle of the ITALIA LINE with the highest material content, therefore for each indicator, declare the highest result of the ITALIA LINE products ("worst-case product").
In this EPD the conversion factor is included. The mass for piece is adopted to convert the results for 1 kg.

Name	Value	Unit
Declared unit	1,000	piece
Mass of declared Product	0,689	kg
Conversion factor to 1 kg	1,451	piece

Reference service life:

30 years

Time representativeness:

Reference year for data 2022, data used for LCA calculations 2022.

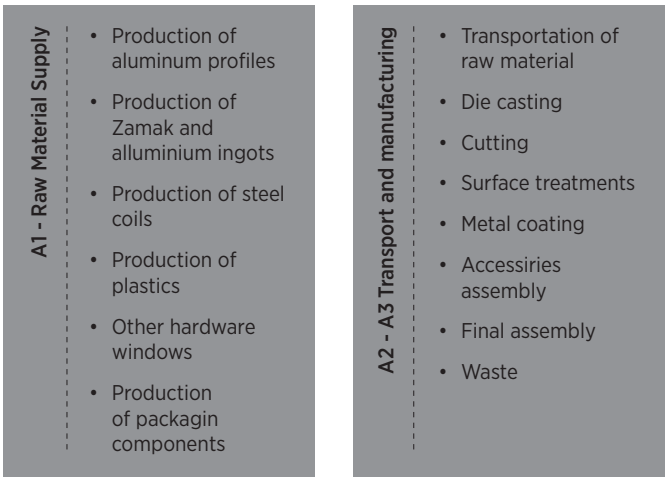
Database(s) and LCA software used:

SimaPro 9.5 Ecoinvent 3.9

Description of system boundaries:

Cradle to grave and module D (A + B + C + D).

System diagram:



For the transport to the construction site in module A4 the default assumptions listed in UNI 17610 is adopted: 16-32 t truck over 3500 km.
In the absence of producer specific information, manual installation is assumed as the default way of installing building hardware in windows or in directly in building. Then the A5 module analyses the recovery of packaging incurred as waste during product installation.
In the case of selective demolition of buildings, the product can be recovered and sent to companies specialized in recovery.

The scenarios adopted for the modeling of modules from B1 to D are shown below:

- B1-B7: The product is designed to last throughout its service life without deterioration. The impacts associated with this modules were considered negligible and in some module not relevant for building hardware
- C1 - The impacts associated with the demolition phase were considered negligible, including the dismantling of the product;
- C2 - The transport of the product at the end of its life and of the packaging is modeled with a scenario equal to 50 km by lorry;
- C3 - After the dismantling activities, 95% of the components are recovered from the product.
- C4 - After the dismantling activities, 5% of the components are disposed to the landfills
- D – The impacts relating to the avoided impacts of the virgin raw material (aluminium, metals, plastic, etc.) have been quantified.

Cut-off rule: 1% cut-off rule was applied for input flows in the inventory.

The core process is within the Italian territory, therefore the data relating to energy aspects refer to the energy mix of the Italian supplier, with the exclusion of the manufacturing process of some raw materials, for which reference was made to the energy mix of the country of production.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishmen	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse - Recovery Recycling potential
Module	A1	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	IT	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO
Specific data used	>90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation products	Not Relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation sites	Not Relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information

The content of recycled or recovered material or by-products included per functional unit (considering the pre- and post-consumer material used and adopting the mass balance method) is equal to 52%.

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Aluminum	0,296	97%	-
Steel	0,08	0%	-
Zamak	0,300	26%	-
Acetal	0,004	0%	-
Finishes	0,009	0%	-
TOTAL	**0,689**		-
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Film/LDPE	0,012	23%	
Corrugated board	0,042	70%	0,460
TOTAL	**0,054**		

The product do not contain substances which exceed the limits for registration with the European Chemicals Agency regarding the “Candidate List of Substances of Very High Concern for Authorisation”.

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

Results per functional or declared unit 1 piece

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	3,9E+00	4,9E-01	2,0E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	8,0E-04	1,2E-03	1,2E-03	-6,8E-01
GWP-biogenic	kg CO_2 eq.	1,0E-01	4,4E-04	2,1E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,2E-07	5,2E-07	1,3E-05	-2,1E-02
GWP-luluc	kg CO_2 eq.	7,1E-03	2,4E-04	1,0E-06	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,7E-07	2,3E-07	1,3E-06	-3,5E-03
GWP-total	kg CO_2 eq.	4,0E+00	4,9E-01	2,1E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	8,0E-04	1,2E-03	1,2E-03	-7,1E-01
ODP	kg CFC 11 eq.	8,9E-08	1,1E-08	5,9E-11	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,8E-11	1,8E-11	1,4E-11	-1,3E-08
AP	mol H^+ eq.	2,7E-02	1,6E-03	1,9E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,2E-06	1,1E-05	7,5E-06	-5,7E-03
EP-freshwater	kg P eq.	2,1E-03	3,4E-05	2,5E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,6E-08	5,8E-08	3,5E-07	-6,6E-04
EP-marine	kg N eq.	4,6E-03	5,5E-04	4,1E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-06	4,9E-06	1,9E-06	-1,3E-03
EP-terrestrial	mol N eq.	4,8E-02	5,8E-03	7,0E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,3E-05	5,4E-05	2,1E-05	-1,4E-02
POCP	kg NMVOC eq.	1,6E-02	2,4E-03	3,6E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,6E-06	1,6E-05	6,9E-06	-4,1E-03
ADP-minerals & metals [1]	kg Sb eq.	5,1E-04	1,6E-06	4,8E-09	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,6E-09	4,4E-10	2,4E-09	-2,7E-04
ADP-fossil [1]	MJ	5,2E+01	6,9E+00	2,1E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,1E-02	1,6E-02	1,7E-02	-9,6E+00
WDP [1]	m^3	1,6E+00	2,8E-02	1,3E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,3E-05	4,1E-05	4,3E-04	-5,3E-01

Acronyms: GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

[1] The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per functional or declared unit 1 piece

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[2]	kg CO_2 eq.	4,0E+00	4,9E-01	4,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	8,0E-04	1,2E-03	1,2E-03	-6,9E-01

Resource use indicators

Results per functional or declared unit 1 piece

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	5,1E+00	1,1E-01	7,4E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,0E-04	1,6E-04	1,1E-03	-1,5E+00
PERM	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PERT	MJ	5,1E+00	1,1E-01	7,4E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,0E-04	1,6E-04	1,1E-03	-1,5E+00
PENRE	MJ	5,6E+01	7,4E+00	2,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-02	1,7E-02	1,8E-02	-1,0E+01
PENRM	MJ	3,5E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PENRT	MJ	5,6E+01	7,4E+00	2,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-02	1,7E-02	1,8E-02	-1,0E+01
SM	kg	5,2E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
RSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
NRSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
FW	m3	4,8E-02	9,9E-04	4,2E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,6E-06	1,5E-06	1,3E-05	-1,8E-02

Acronyms: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste indicators

Results per functional or declared unit 1 piece

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1,3E-02	4,4E-05	1,1E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	7,2E-08	1,0E-07	5,6E-08	-1,7E-03
Non-hazardous waste disposed	kg	6,9E-01	3,4E-01	1,7E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,7E-04	2,4E-05	3,1E-02	-1,0E-01
Radioactive waste disposed	kg	9,4E-05	2,3E-06	1,3E-08	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,5E-09	3,4E-09	1,8E-08	-3,3E-05

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Output flow indicators

Results per functional or declared unit 1 piece																
Indicator	**Unit**	**A1 A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Material for recycling	kg	9,2E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,5E-01	0,0E+00	0,0E+00
Materials for energy recovery	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Exported energy, electricity	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Exported energy, thermal	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00

Additional environmental information

In this section the conversion factors are used to convert the result to 1 kg of Two-side handle Art. 3065, equal to 1,451 pieces.

Results per conversion factor 1 kg

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	5,7E+00	7,1E-01	2,9E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-03	1,7E-03	1,7E-03	-9,9E-01
GWP-biogenic	kg CO_2 eq.	1,5E-01	6,4E-04	3,0E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	9,1E-07	7,6E-07	1,9E-05	-3,0E-02
GWP-luluc	kg CO_2 eq.	1,0E-02	3,5E-04	1,5E-06	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,4E-07	3,4E-07	1,8E-06	-5,1E-03
GWP-total	kg CO_2 eq.	5,9E+00	7,1E-01	3,0E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-03	1,7E-03	1,7E-03	-1,0E+00
ODP	kg CFC 11 eq.	1,3E-07	1,5E-08	8,6E-11	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,6E-11	2,7E-11	2,0E-11	-1,8E-08
AP	mol H^+ eq.	4,0E-02	2,3E-03	2,7E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,6E-06	1,6E-05	1,1E-05	-8,2E-03
EP-freshwater	kg P eq.	3,0E-03	5,0E-05	3,7E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	8,1E-08	8,4E-08	5,0E-07	-9,6E-04
EP-marine	kg N eq.	6,7E-03	8,0E-04	5,9E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,7E-06	7,2E-06	2,8E-06	-1,9E-03
EP-terrestrial	mol N eq.	6,9E-02	8,4E-03	1,0E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,9E-05	7,8E-05	3,0E-05	-2,0E-02
POCP	kg NMVOC eq.	2,3E-02	3,5E-03	5,3E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,7E-06	2,3E-05	1,0E-05	-6,0E-03
ADP-minerals & metals [1]	kg Sb eq.	7,4E-04	2,3E-06	7,0E-09	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,7E-09	6,4E-10	3,4E-09	-3,9E-04
ADP-fossil [1]	MJ	7,6E+01	1,0E+01	3,1E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,7E-02	2,3E-02	2,4E-02	-1,4E+01
WDP [1]	m^3	2,4E+00	4,1E-02	1,9E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,3E-05	5,9E-05	6,3E-04	-7,7E-01

Acronyms: GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

[1] The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per conversion factor 1 kg

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[2]	kg CO2 eq.	5,8E+00	7,1E-01	6,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,2E-03	1,7E-03	1,7E-03	-1,0E+00

Resource use indicators

Results per conversion factor 1 kg

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	7,4E+00	1,6E-01	1,1E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,9E-04	2,4E-04	1,6E-03	-2,1E+00
PERM	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PERT	MJ	7,4E+00	1,6E-01	1,1E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,9E-04	2,4E-04	1,6E-03	-2,1E+00
PENRE	MJ	8,2E+01	1,1E+01	3,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,8E-02	2,4E-02	2,6E-02	-1,5E+01
PENRM	MJ	5,1E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PENRT	MJ	8,2E+01	1,1E+01	3,3E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,8E-02	2,4E-02	2,6E-02	-1,5E+01
SM	kg	7,6E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
RSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
NRSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
FW	m^3	7,0E-02	1,4E-03	6,2E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,4E-06	2,2E-06	1,8E-05	-2,6E-02

Acronyms: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste indicators

Results per conversion factor 1 kg

Indicator	Unit	A1 A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,02E-02	6,4E-05	1,6E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,1E-07	1,5E-07	8,1E-08	-2,4E-03
Non-hazardous waste disposed	kg	1,0E+00	4,9E-01	2,4E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,8E-04	3,5E-05	4,4E-02	-1,5E-01
Radioactive waste disposed	kg	1,4E-04	3,3E-06	1,8E-08	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,5E-09	4,9E-09	2,6E-08	-4,9E-05

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Output flow indicators

Results per conversion factor 1 kg																
Indicator	**Unit**	**A1 A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Material for recycling	kg	1,3E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	9,5E-01	0,0E+00	0,0E+00
Materials for energy recovery	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Exported energy, electricity	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Exported energy, thermal	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00

Additional social and economic information

The Sustainable Development Goals (SDGs) are 17 objectives contained in a major action plan on which the governments of the 193 UN member countries have agreed. The SDGs serve to set common and measurable goals that encourage everyone – governments, companies like Master Italy – to act globally to achieve them, gathering and providing a wide variety of forces, knowledge and resources. This will make it possible to build alliances that push for a more prosperous, fairer and more equitable society.

There are 9 SDGs which Master Italy is committed to contribute to this epochal change, in which the main focus' remain: People, Prosperity and Planet.

People is the chapter of Masterability dedicated to the actions that the company enhance for its people.
It is the natural prosecution of the of the three years project People in which the objective is the increase of the welfare of the employees and improve the corporate environment. Always aiming at increasing skills and personal and professional growth.

Planet is the chapter dedicated to the actions that the company is putting in place to preserve the environment in which we operate and live.
These are initiatives aimed at reducing the environmental impact by acting both directly on production processes and on environmental policies, to support and encourage virtuous behaviour inside and outside the company walls.

Prosperity is a very broad concept dealing with a prosperous and healthy growth in various contexts such as economy, culture, art, environment, sustainability and human rights. Prosperity, therefore the common well-being, can be achieved only if men and women have the same rights and possibilities, this is the reason why Master Italy is committed to promoting equal opportunities for education, sustainability, art and nature to the local community

References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14 Construction products, version 1.2.5

Analisi del ciclo di vita di una selezione di prodotti della Master Italy, Ver.1.2, Luglio 2023

EN 17610:2022 Building hardware - Environmental product declarations - Product category rules complementary to EN 15804 for building hardware

EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

This declaration applies to products mentioned in the list, along with their finishes:

3065
3051
3060
3063
3064.7
3063.1
3064.6
3068
3064.1
3064.5
3064.2
3064.16
3064.16
3067
3068.1
3050
3051.10
3066.1
3050.10

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