

# NORTON

SAINT-GOBAIN

## ENVIRONMENTAL PRODUCT DECLARATION

OF MULTIPLE PRODUCTS, BASED ON A  
REPRESENTATIVE PRODUCT

IN ACCORDANCE WITH ISO 14025:2006 AND  
EN 15804:2012+A2:2019/AC:2021



## Norton®

# “Travaux Extrêmes” Blue Pro

## Cutting Discs – Multi Materials



THE INTERNATIONAL EPD® SYSTEM

The International EPD®

Program operator: EPD international AB

System Registration number:

**IES-0020352:001**

Version: 1.0

Date of publication: 2025/06/06

Validity: 5 years

Valid until: 2030/06/05

Scope of the EPD®: France



List of products covered by the EPD®:

115 x 1,6 mm – 66252849862 / 66252849868


125 x 1,6 mm – 66252849863 / 66252849869

This EPD® is only valid for the new generation of products, which is clearly identifiable through the recycled content claim (ISO 14021) displayed on each product.

Products with similar article codes but **without** a recycled content claim on them are from the old generation and are **not** covered by this EPD®.



# Programme operator and EPD® information

<b>EPD® programme operator</b>	<p><b>The International EPD® System</b>          EPD International AB          Box 210 60          SE-100 31 Stockholm          Sweden</p> <p>www.environdec.com          info@environdec.com</p>
<b>CEN standard EN 15804:2012+A2:2019/AC:2021 serves as the Core Product Category Rules (PCR)</b>	
<b>Product Category Rules (PCR)</b>	<b>c-PCR-030 Abrasive Products – Version 2024-06-20 (c-PCR to PCR 2019:14 Construction Products)</b>
<b>PCR review was conducted by</b>	<p>The Technical Committee of the International EPD® System. See <a href="http://www.environdec.com">www.environdec.com</a> for a list of members.</p> <p>Chair of the PCR review: Diogo Aparecido Lopes Silva.          The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a>          Contact via <a href="mailto:info@environdec.com">info@environdec.com</a></p>
<b>Independent third-party verification of the declaration and data, according to ISO 14025:2006:</b>	<input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> <b>EPD verification</b>
<b>Third party verifier</b>	<p><b>Viktor HAKKARAINEN – CHM Analytics</b>          Drottninggatan 69, 411 07 Gothenburg, Sweden  <a href="mailto:viktor.hakkarainen@chm-analytics.com">viktor.hakkarainen@chm-analytics.com</a></p> 
<b>Approved by</b>	The International EPD® System
<b>Procedure for follow-up of data during EPD validity involves third party verifier:</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>EPD® registration number</b>	<b>IES-0020352:001</b>
<b>EPD® prepared by</b>	Ibrahim KHALID – Saint-Gobain Surface Solutions <a href="mailto:ibrahim.khalid@saint-gobain.com">ibrahim.khalid@saint-gobain.com</a>
<b>Declaration issued</b>	2025/06/06, <b>valid until:</b> 2030/06/05
<b>Geographical scope of the EPD®</b>	<b>France</b>

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same version number up to the first two digits) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical DU/FU); 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 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

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

# Product information

## Company information

Manufacturer of the product and EPD® owner	Saint-Gobain Surface Solutions
Production site	Saint-Gobain Surface Solutions – Amboise, France 2 Chemin des Sables, 37530 Nazelles-Négron
Plant certifications and labels	ISO 14001 ISO 9001 ISO 45001 Label « Origine France Garantie »

## Product description and use

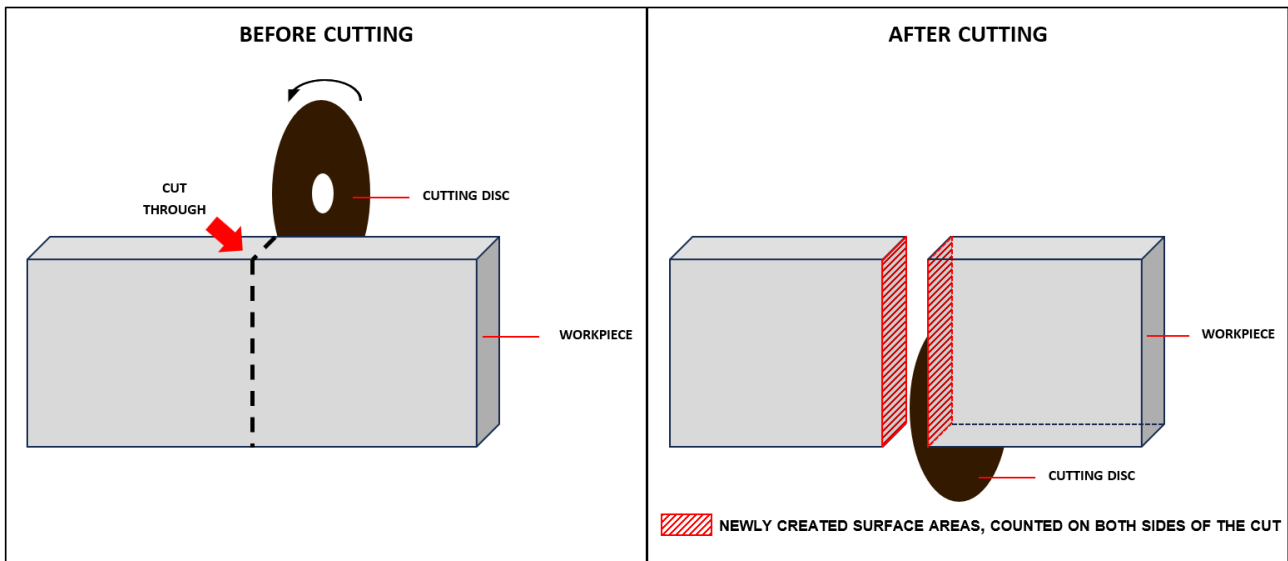
Product name	Norton® “Travaux Extrêmes” Blue Pro Multi Materials Cutting Discs
Declared product (representative product)	125 x 1,6 mm – Sold in a set of 4 pieces – 66252849869
UN CPC code	37910 - Millstones, grindstones, grinding wheels and the like, without frameworks, for working stones, and parts thereof, of natural stone, of agglomerated natural or artificial abrasives, or of ceramics; natural or artificial abrasive powder or grain, on a base of textile, paper or other material
Product description	<p>The Norton® “Travaux Extrêmes” Blue Pro range represents the high-end offering from Norton, incorporating the latest technological advancements for the DIY market.</p> <p>These <b>multi-materials cutting discs</b> are highly versatile and are suitable for all types of materials.</p>
Recommended product uses	<p><b>Cutting on:</b></p> <ul style="list-style-type: none"><li>• Ceramics &amp; Natural Stones</li><li>• Non-ferrous metals (Aluminium, Copper, ...)</li><li>• Plastics &amp; Composites (PVC, ...)</li><li>• Steel &amp; other ferrous metals (cast iron, ...)</li><li>• Tiles</li><li>• ...</li></ul>

## Technical data

Specification	Value / Description
Main abrasive	Silicon Carbide
Maximum operating speed and rotational frequency (safety)	Max operating speed: 80 m/s Max rotational frequency: 115 mm = 13 300 rpm 125 mm = 12 250 rpm

## Function of the product – Cutting

The products covered by this EPD® are cutting discs. Their function is to cut through a workpiece. Cutting as a service can be defined as the creation of a new surface on the workpiece (more precisely: two new surfaces on both sides of the cut) where the abrasive is applied to as the cutting edge.



The purpose of cutting is the creation of the new surface area and not the removal of material. The functional unit, which is the unit per which LCA results are given, is based on this definition of cutting (generation of a new surface on a workpiece).

## Multiple products included in the EPD®

This Environmental Product Declaration (EPD®) describes the environmental impacts of cutting discs from the Norton® “Travaux Extrêmes” Blue Pro Multi Materials range. The declared product is the 125 x 1,6 mm disc sold in a set of 4 pieces (66252849869). The choice of this item as the representative product is based on sales volume.

This EPD® of multiple products also covers products from the same range, in different dimensions or in different sets, as shown in the following table:

Multiple products included in the EPD®				
Dimensions	125 x 1,6 mm		115 x 1,6 mm	
Set format	<i>Set (4 pieces)</i>	<i>Unit (bulk)</i>	<i>Set (4 pieces)</i>	<i>Unit (bulk)</i>
Article code	66252849869	66252849863	66252849868	66252849862
Covered	Reference product	Yes	Yes	Yes

The results of the declared product are equally applicable to all multiple products included in this EPD®, as the variation of the main environmental impacts is always under 10% over modules A-C.

## Declaration of the main product components and/or materials

Description of the main components and/or materials for 1 unit disc **Norton® “Travaux Extrêmes” Blue Pro Multi Materials 125 x 1,6 mm (66252849869)** sold in a set of 4 pieces and its packaging, alongside the range of variation of weights for other products covered by the EPD®.

Product components	Weight, declared product [g / disc]	Range of weight for other included products [g / disc]	Post-consumer recycled material*, weight-% of product	Biogenic C [g C / disc]
Abrasive mix	33,0	24,0 – 33,0	0%	0
Glass cloth	2,9	2,5 – 2,9	0%	0
Paper blotter	0,7	0,6 – 0,7	0%	0,3
Steel ring	0,9	0,9	<1%	0
<b>Sum</b>	<b>37,5</b>	<b>28,0 – 37,5</b>	<b>&lt;1%</b>	<b>0,3</b>
Packaging materials	Weight, declared product [g / disc]	Range of weight for other included products [g / disc]	weight-% versus the product	Biogenic C [g C / disc]
Paper label	0,3	0 – 0,3	0,7%	0,1
PE film	0,3	0 – 0,3	0,7%	0

\*More information on recycled content in “Additional Environmental Information” section

At the date of issue of this declaration, there is no “Substance of Very High Concern” (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

## Assessment of the technical performance

As required by c-PCR 030 Abrasive Products, this section will describe the application setting and results considered for the use stage scenario.

**This table relates to the testing of 66252849869 (125 x 1,6 mm). All other products covered by the EPD® were also tested.**

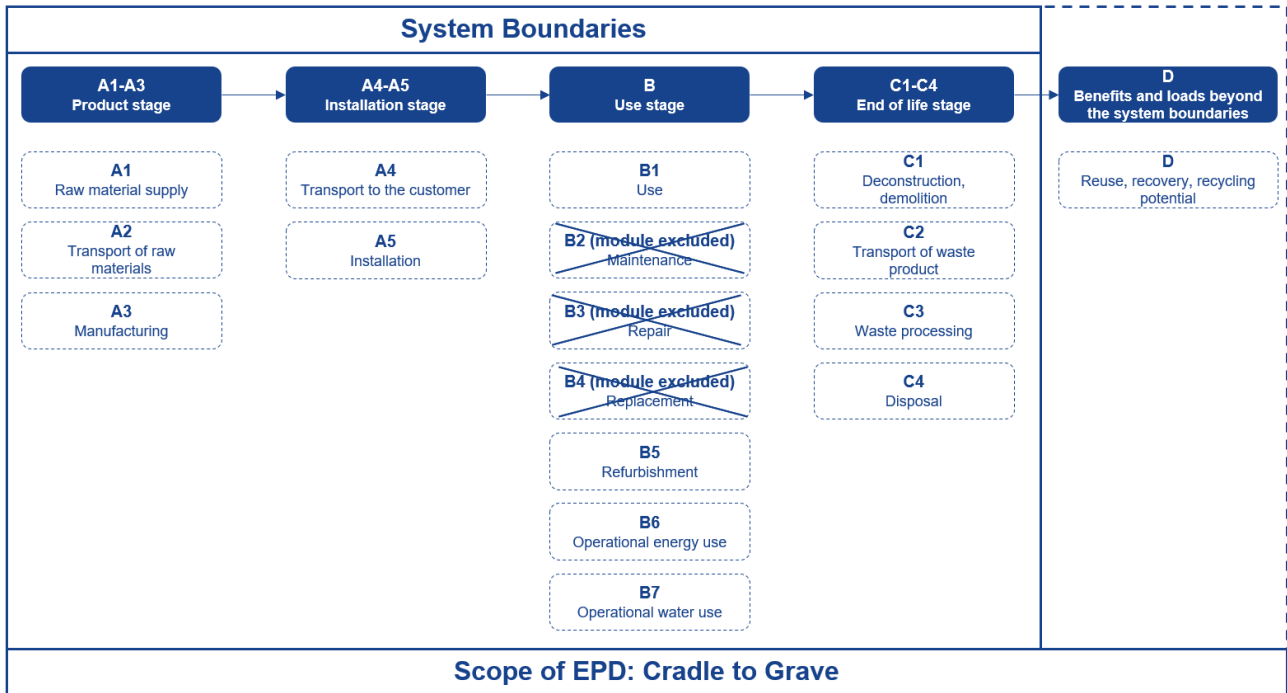
<b>Workpiece material</b>	<b>Stainless steel plates – Grade 304 L</b>
<b>Workpiece dimensions</b>	6 mm x 100 mm Section of cut = 0,0006 m <sup>2</sup> <b>Surface area generated = 0,0012 m<sup>2</sup> per cut (2 sides)</b>
<b>Grinding machine type</b>	<b>Bosch – Electrical corded</b>
<b>Grinding machine power</b>	<b>1700 W</b>
<b>Angle</b>	90°
<b>Average number of cuts per disc</b>	<b>4 cuts per disc</b>
<b>Average time per cut</b>	13,5 seconds per cut
<b>Diameter of the product after testing</b>	Around 70 mm (due to the protective cover on the machine)

## LCA calculation information

Type of EPD®	Type “c” EPD® – Cradle to Grave and module D.
Functional unit	Create 1m <sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.
System boundaries	Mandatory stages = A1-A3; A4-A5; B1; B5-B7; C1-C4 and D. The polluter pays, as well the modularity principles have been followed.
Technical Service Life (TSL)	Abrasive products do not have a time-based Reference Service Life (RSL), but a Technical Service Life (TSL), which expresses how much abrasive was necessary to provide the service described by the Functional Unit (FU). <b>TSL 125 x 1,6 mm = 208,3 discs/FU.</b>
Cut-off rules	In case there is not enough information, process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded cannot be bigger than the 5% of the whole mass and energy used, as well as total emissions. Flows related to human activities such as employee transport are excluded. Capital goods are excluded since the related flows are supposed to be negligible compared to the products.
Allocation procedures	Allocation has been avoided when possible and when not possible an allocation by mass (kg) was applied.
Geographical coverage and time period	The geographical scope of the EPD® is France. This EPD® is valid for products manufactured in the factory of Amboise (France), and manufacturing data is representative of the year 2023.
Background data source	Databases: Sphera 2023.2, Ecoinvent v3.9.1
Software	“LCA For Experts” provided by Sphera, version 10.9.1.17

## Declared modules

	PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE						END OF LIFE STAGE				RESOURCE RECOVERY STAGE		
	Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	Transport	Waste processing	Disposal	Reuse-Recovery Recycling	
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	MND			X	X	X	X	X	X	X	X	X
Geography	GLO	EU	FR	FR	FR	FR	MND			FR	FR	FR	FR	FR	FR	FR	FR	FR
Specific data	9%			System boundaries (X=included, MND=module not declared)														
Variation-products	-1%																	
Variation-sites	0% (only one site)																	



## A1-A3, Product stage

### A1, Raw materials supply

This module includes the extraction and transformation of raw materials such as abrasive grains, resins, fillers, etc.

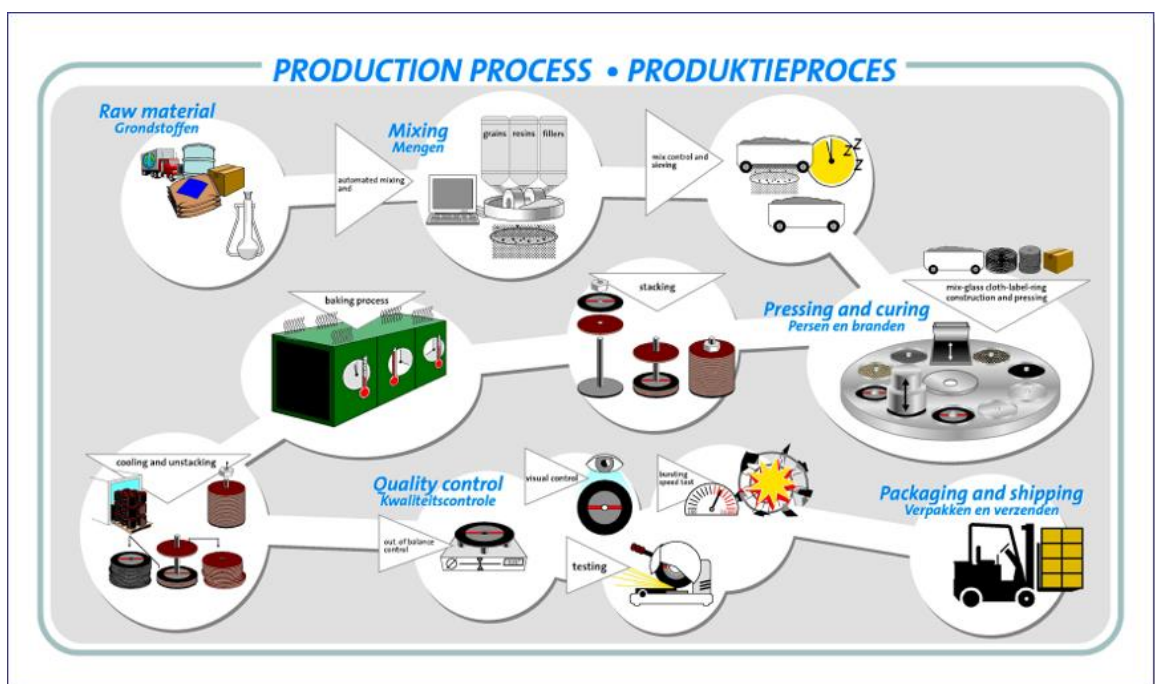
### A2, Transport to the manufacturer

This module includes boat and road transport of raw materials to the manufacturing site.

### A3, Manufacturing

This module includes the manufacture of products. The processing of any waste arising from this stage is also included.

Electricity consumption for the manufacturing and curing processes are accounted in this module, as well as industrial water usage.



## A4-A5, Installation process stage

**A4, Transport to the customer's site:** This module includes transport from the production gate to the customer. Transport is calculated based on a scenario with the parameters described in the following table.

PARAMETER	VALUE/DESCRIPTION
Fuel type and consumption of vehicle or vehicle type used for transport e.g., long distance truck, boat, etc.	Freight truck, load of 24 t and consumption of 0,38 litres per km. Container ship, load of 52 134 t, and consumption of 2,83e-6 kg HFO per km
Distance	500 km by truck
Capacity utilization (including empty returns)	85% (30% empty returns)
Bulk density of transported products	2000 kg/m <sup>3</sup>
Volume capacity utilization factor	1

**A5, Installation of the product:** This module includes packaging disposal. The declared product is not considered to require energy or ancillaries for installation (installed manually). The following table quantifies the parameters for installing the product at the customer's site. All installation materials and their waste processing are included.

PARAMETER	VALUE/DESCRIPTION
Ancillaries and other resource use	None
Output materials as results of waste processing at the building site	Plastic film (LDPE) to landfill: 0,04 kg/FU Paper to landfill: 0,04 kg/FU
Direct emissions to ambient air, soil, and water	None

## B1-B7 Use Stage

**B1, Use:** Impacts related to the use of the product (lubricants for grinding machine, etc.). Not applicable in this case as the angle grinder considered are lubricated for their lifetime.

**B2, Maintenance:** Excluded, not applicable for abrasive products, as per c-PCR 030.

**B3, Repair:** Excluded, not applicable for abrasive products, as per c-PCR 030.

**B4, Replacement:** Excluded, not applicable for abrasive products, as per c-PCR 030.

**B5, Refurbishment:** This module accounts for any operation happening during the service life of product and aiming at restoring an abrasive to a functional state, from a non-functional state. Not applicable in this case.

**B6, Operational energy use:** This module accounts for energy consumptions during usage. In this case, it accounts for the electricity consumption of the grinding machine (angle grinder).

PARAMETER	VALUE/DESCRIPTION
Electricity consumption of angle grinder	5,3 kWh/FU

**B7, Operational water use:** This module accounts for water consumption and treatment during usage, such as wet cutting. Not applicable in this case.

## C1-C4, End of Life Stage

**C1:** Deconstruction, demolition, dismantling: The dismantling of the product is manual and does not generate environmental impacts.

**C2:** Transport to waste processing site. The product is transported over 100 km by truck.

**C3:** Waste processing for reuse, recovery and/or recycling.

**C4:** Disposal, including provision and all transport, provision of all materials, products and related energy and water use. Product is assumed to be sent to landfill.

PARAMETER	VALUE/DESCRIPTION
Collection process specified by type	100% of waste collected and sent to landfill
Disposal specified by type	0,34 kg/FU to landfill – Organic matter (resins, etc.) 2,00 kg/FU to landfill – Inert matter (grains, steel ring, etc.)
Assumptions for scenario development (e.g. transportation)	Abrasive waste is transported over 100 km by truck from customer's site to landfill

## D, Reuse/recovery/recycling potential

100% of the waste is assumed to be landfilled, without accounting for any energy recovery through landfill gas valorisation.

There is no reuse nor recovery nor recycling considered for this product.

Hence, no recycling benefits or charges are reported on stage D.

## LCA results

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product-Category Rules, the environmental impacts are declared and reported using the baseline characterization factors from the “EN15804+A2 (based on EF 3.1)” characterization method. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

All emissions to air, water, and soil, and all materials and energy used have been included.

Foreground modelling of infrastructures is excluded, but infrastructures are still included in used datasets.

The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, noncancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

This EPD including module C, we strongly advise against using the results of modules A1-A3 without considering the results of module C.

**The following results do not refer to a product unit (1 disc, 1 set, etc.).**








**All values refer to the functional unit “create 1m<sup>2</sup> of new surface area on a workpiece”, using a 125 x 1,6 mm Norton® “Travaux Extrêmes” Blue Pro Multi Materials cutting disc (66252849869).**

The following results are similarly valid, and can be reused as they are, for all other products covered by this EPD®:

- 66252849862 – 115 x 1,6 mm (TSL = 277,8 discs/FU)
- 66252849868 – 115 x 1,6 mm (TSL = 277,8 discs/FU)
- 66252849863 – 125 x 1,6 mm (TSL = 208,3 discs/FU)

# Environmental Impacts – Norton® “Travaux Extrêmes” Blue Pro Multi Materials











Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.

Environmental indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE			BENEFITS AND LOADS BEYOND LIFE CYCLE	
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 Climate Change - total [kg CO2 eq.]	3,6E+01	2,9E-01	1,1E-01	0	0	0	0	0	4,0E-01	0	0	1,7E-02	0	3,3E-01	0
Climate Change - fossil [kg CO2 eq.]	3,6E+01	2,8E-01	6,0E-03	0	0	0	0	0	4,0E-01	0	0	1,6E-02	0	5,3E-02	0
Climate Change - biogenic [kg CO2 eq.]	-2,0E-01	8,3E-04	1,1E-01	0	0	0	0	0	4,5E-03	0	0	4,8E-05	0	2,8E-01	0
Climate Change - land use and land use change [kg CO2 eq.]	4,8E-02	2,7E-03	7,5E-06	0	0	0	0	0	5,5E-05	0	0	1,5E-04	0	1,1E-04	0
 Ozone depletion [kg CFC-11 eq.]	6,6E-07	2,5E-14	9,7E-15	0	0	0	0	0	1,7E-11	0	0	1,5E-15	0	1,2E-13	0
 Acidification [Mole of H+ eq.]	1,8E-01	3,3E-04	2,4E-05	0	0	0	0	0	9,6E-04	0	0	1,9E-05	0	2,8E-04	0
Eutrophication - freshwater [kg P eq.]	1,3E-02	1,1E-06	8,9E-07	0	0	0	0	0	2,1E-06	0	0	6,1E-08	0	4,5E-06	0
 Eutrophication - marine [kg N eq.]	3,2E-02	1,1E-04	1,1E-05	0	0	0	0	0	3,0E-04	0	0	6,6E-06	0	7,1E-05	0
Eutrophication - terrestrial [Mole of N eq.]	3,0E-01	1,4E-03	7,7E-05	0	0	0	0	0	2,9E-03	0	0	7,8E-05	0	7,8E-04	0
 Photochemical ozone formation - human health [kg NMVOC eq.]	1,1E-01	2,9E-04	3,8E-05	0	0	0	0	0	7,3E-04	0	0	1,7E-05	0	2,2E-04	0
 Resource use, minerals and metals [kg Sb eq.] <sup>1</sup>	2,0E-04	1,9E-08	1,7E-10	0	0	0	0	0	1,2E-07	0	0	1,1E-09	0	2,0E-09	0
Resource use, fossils [MJ] <sup>1</sup>	8,7E+02	3,9E+00	9,0E-02	0	0	0	0	0	4,5E+01	0	0	2,3E-01	0	7,5E-01	0
 Water use [m <sup>3</sup> world equiv.] <sup>1</sup>	1,4E+01	3,3E-03	1,7E-04	0	0	0	0	0	1,5E-01	0	0	1,9E-04	0	3,0E-03	0

<sup>1</sup>The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

## Resource Use – Norton® “Travaux Extrêmes” Blue Pro Multi Materials









Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.

Resource use indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE			BENEFITS AND LOADS BEYOND LIFE CYCLE	
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 Use of renewable primary energy (PERE) [MJ]	7,5E+01	2,8E-01	8,0E-03	0	0	0	0	0	1,1E+01	0	0	1,6E-02	0	9,6E-02	0
 Primary energy resources used as raw materials (PERM) [MJ]	3,0E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Total use of renewable primary energy resources (PERT) [MJ]	7,8E+01	2,8E-01	8,0E-03	0	0	0	0	0	1,1E+01	0	0	1,6E-02	0	9,6E-02	0
 Use of non-renewable primary energy (PENRE) [MJ]	8,7E+02	3,9E+00	9,0E-02	0	0	0	0	0	4,5E+01	0	0	2,3E-01	0	7,5E-01	0
 Non-renewable primary energy resources used as raw materials (PENRM) [MJ]	4,7E+01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Total use of non-renewable primary energy resources (PENRT) [MJ]	9,1E+02	3,9E+00	9,0E-02	0	0	0	0	0	4,5E+01	0	0	2,3E-01	0	7,5E-01	0
 Input of secondary material (SM) [kg]	1,3E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Use of net fresh water (FW) [m3]	3,6E-01	3,1E-04	6,8E-06	0	0	0	0	0	1,8E-02	0	0	1,8E-05	0	1,0E-04	0

Resource use indicators are calculated using the method presented as “option B” in Annex 3 of PCR 2019:14 “Construction Products” v1.3.4.


# Waste Category & Output flows – Norton® “Travaux Extrêmes” Blue Pro Multi Materials

Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.

Waste category & output flows	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND LIFE CYCLE
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 Hazardous waste disposed (HWD) [kg]	1,1E-09	1,5E-11	7,2E-12	0	0	0	0	0	-1,8E-09	0	0	8,4E-13	0	3,8E-11	0
 Non-hazardous waste disposed (NHWD) [kg]	4,5E-02	5,7E-04	7,2E-02	0	0	0	0	0	1,3E-02	0	0	3,3E-05	0	2,3E+00	0
 Radioactive waste disposed (RWD) [kg]	7,3E-04	5,1E-06	1,0E-06	0	0	0	0	0	1,4E-02	0	0	2,9E-07	0	8,6E-06	0
 Components for re-use (CRU) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Materials for Recycling (MFR) [kg]	8,8E-01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Additional voluntary indicators from EN 15804 – Norton® “Travaux Extrêmes” Blue Pro Multi Materials


Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.

Additional voluntary indicators from EN 15804	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE			BENEFITS AND LOADS BEYOND LIFE CYCLE	
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 GWP - GHG [kg CO2 eq.] <sup>1</sup>	3,6E+01	2,9E-01	4,6E-02	0	0	0	0	0	4,0E-01	0	0	1,7E-02	0	5,3E-02	0

<sup>1</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

## Biogenic carbon content – Norton® “Travaux Extrêmes” Blue Pro Multi Materials

Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.

Biogenic carbon content		A1 / A2 / A3
 Biogenic carbon content in product [kg]	7,4E-02	
 Biogenic carbon content in packaging [kg]	1,8E-02	

*Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.*









Biogenic carbon is found in the paper used in the blotter on the product, and in the paper found in the packaging.

## LCIA indicators max. variation – Norton® “Travaux Extrêmes” Blue Pro Multi Materials

**Functional unit – Cutting: Create 1m<sup>2</sup> of new surface area on a workpiece by removal of material, considering both newly created areas.**

As per requirements of PCR 2019:14 version 1.3.4 for EPDs of multiple products, this table declares the maximum variation of environmental impact between the declared product and the product furthest away from it, on each indicator, across modules A to C.

It allows the reader to know to which extent the multiple products gathered in the same EPD have similar environmental impacts.

Maximum variation of included products vs declared product		Cradle-to-Grave (excluding module D)	
		A - C	
	Climate Change - total	- 1%	+ 0%
	Climate Change - fossil	- 1%	+ 0%
	Climate Change - biogenic	- 22%	+ 6%
	Climate Change - land use and land use change	- 1%	+ 0%
	Ozone depletion	- 2%	+ 0%
	Acidification	- 1%	+ 0%
	Eutrophication - freshwater	- 2%	+ 0%
	Eutrophication - marine	- 0%	+ 0%
	Eutrophication - terrestrial	- 0%	+ 0%
	Photochemical ozone formation - human health	- 1%	+ 0%
	Resource use, minerals and metals	- 0%	+ 8%
	Resource use, fossils	- 2%	+ 0%
	Water use	- 3%	+ 0%
	GWP-GHG	- 1%	+ 0%

In this case, as the difference of environmental impacts vs the declared product is low, the declared results can be considered valid for all included products.

## Additional environmental information:

### Recycled content according to ISO 14021

This new generation of cutting discs incorporates abrasive grains recycled from pre-consumer origin. It is eligible to recycled content claims under ISO 14021, but not under EN15804+A2, which only accounts for materials recycled from post-consumer origin.

Therefore, its recycled content under ISO 14021 cannot be declared in the EPD® in the “content declaration” section. Hence, it is shown here, for all products covered by the EPD®.

#### Recycled materials come from:

- **Abrasive grains:** 25%-weight of the total abrasive grain quantity is recycled from **pre-consumer** waste streams.
- **Steel ring:** 12%-weight of the steel ring attachment is recycled from **post-consumer** waste streams.

ISO 14021:2016 defines the recycled content<sup>1</sup>, expressed as a percentage, as follows:

$$\frac{\text{mass of pre-consumer}^2 \text{ recycled material} + \text{mass of post-consumer}^3 \text{ recycled material}}{\text{mass of the product}} \times 100$$

The following table gives the total recycled content values, including pre-consumer, according to ISO 14021, at product level:

Recycled content in <u>product</u> according to ISO 14021 (including pre-consumer)				
Dimensions	115 x 1,6 mm		125 x 1,6 mm	
Set format	<i>Unit (bulk)</i>	<i>Set (4 pieces)</i>	<i>Unit (bulk)</i>	<i>Set (4 pieces)</i>
Article code	66252849862	66252849868	66252849863	<b>66252849869</b>
Total Recycled Content, including pre-consumer, according to ISO 14021, weight-%	14%		16%	

<sup>1</sup> **Recycled content:** proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials shall be considered as recycled content.

<sup>2</sup> **Pre-consumer material:** material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

<sup>3</sup> **Post-consumer material:** material generated by households or commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose.

## Additional information:

### Electricity information

The factory of Amboise in France uses electricity purchased from the grid. Hence, the electricity mix considered for the manufacturing of the studied product is modelled using the residual mix, as modelled in Ecoinvent 3.9.1.

For electricity consumed during usage, the market mix of France was taken, as modelled in Sphera 2023.2.

Type of information	Description																																													
<b>Location</b>	France																																													
<b>Share of electricity covered by Guarantee of Origin</b>	100% of the electricity consumed is purchased from the grid																																													
<b>Energy sources for electricity</b>	<table border="1"> <thead> <tr> <th></th> <th>Residual mix AIB year 2021</th> <th>Market mix Sphera year 2020</th> </tr> </thead> <tbody> <tr> <td>RE Total</td> <td>8%</td> <td>24%</td> </tr> <tr> <td>RE unspecified</td> <td>0%</td> <td>0%</td> </tr> <tr> <td>RE biomass</td> <td>1%</td> <td>1%</td> </tr> <tr> <td>RE solar</td> <td>2%</td> <td>3%</td> </tr> <tr> <td>RE geothermal</td> <td>0%</td> <td>0%</td> </tr> <tr> <td>RE wind</td> <td>3%</td> <td>7%</td> </tr> <tr> <td>RE hydro</td> <td>2%</td> <td>13%</td> </tr> <tr> <td>Nuclear</td> <td>83%</td> <td>67%</td> </tr> <tr> <td>FO Total</td> <td>9%</td> <td>9%</td> </tr> <tr> <td>FO unspecified</td> <td>0%</td> <td>1%</td> </tr> <tr> <td>FO hard coal</td> <td>1%</td> <td>0%</td> </tr> <tr> <td>FO lignite</td> <td>0%</td> <td>0%</td> </tr> <tr> <td>FO oil</td> <td>0%</td> <td>1%</td> </tr> <tr> <td>FO gas</td> <td>8%</td> <td>7%</td> </tr> </tbody> </table>		Residual mix AIB year 2021	Market mix Sphera year 2020	RE Total	8%	24%	RE unspecified	0%	0%	RE biomass	1%	1%	RE solar	2%	3%	RE geothermal	0%	0%	RE wind	3%	7%	RE hydro	2%	13%	Nuclear	83%	67%	FO Total	9%	9%	FO unspecified	0%	1%	FO hard coal	1%	0%	FO lignite	0%	0%	FO oil	0%	1%	FO gas	8%	7%
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<b>Source</b>	AIB, 2022 Report – Residual mix composition representative of year 2021 Sphera MLC 2023.2 – FR: Electricity grid mix																																													
<b>CO<sub>2</sub> emission kg CO<sub>2</sub> eq. / kWh</b>	Residual mix: 0,082 kg of CO <sub>2</sub> eq / kWh – GWP-GHG indicator Consumer mix: 0,076 kg of CO <sub>2</sub> eq / kWh – GWP-GHG indicator																																													

### Data quality

Inventory data quality is judged by geographical, temporal, and technological representativeness. To cover these requirements and to ensure reliable results, first-hand industry data crossed with LCA background datasets were used. The data was collected from internal records. After evaluating the inventory, according to the defined ranking in the LCA report, the assessment reflects overall good inventory data quality.

## References

1. EN 15804:2012+A1:2013 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
2. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
3. EPD International. General Program Instructions (GPI) for the International EPD® System (version 4.0) [www.environdec.com](http://www.environdec.com).
4. The International EPD System PCR 2019:14 Construction products and Construction services. Version 1.3.4
5. The International EPD System c-PCR 030 Abrasive Products (c-PCR to PCR 2019:14). Version 2024-06-20.
6. European Chemical Agency, Candidate List of substances of very high concern for Authorization. <https://echa.europa.eu/candidate-list-table>
7. LCA report Thin Wheels – Saint-Gobain Surface Solutions France