



### PANEL WITH POLYISOCYANURATE (POLYURETHANE) CORE


Norex® architectural panels are high-energy-efficient insulated panels designed for building envelopes.

High-performance Norex® responds to more specific needs and is offered in three configurations: Norex®-L, Norex®-H, Norex®-S.

### VALIDATED ECO-DECLARATION

### Product's contribution to LEED® v4

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PRODUCT SPECIFICATIONS	ENVIRONMENTAL IMPACTS	PRODUCT SPECIFICATIONS
<b>References</b> Norex®-L, Norex®-H, Norex®-S	<b>Life Cycle Assessment</b> -	<b>Performance tests</b> See page 5
<b>Final manufacturing location</b> Saint-Hyacinthe, QC J2S 8A2 CANADA	<b>Product's carbon footprint</b> -	<b>Expected life</b> -
<b>Composition</b> Pre-painted galvanized steel, polyurethane foam, sealants.	<b>Environmental Product Declaration</b> - ISO 14025:2006	<b>MANUFACTURER'S ENVIRONMENTAL MANAGEMENT</b>
<b>ATTRIBUTES</b>	<b>INGREDIENTS AND EMISSIONS</b>	<b>ISO 14001 Certification</b> -
<b>Recycled Content</b> Pre-consumer: 20.2% - 20.6% Post-consumer: 32.7% - 33.2%	<b>Declaration of chemical ingredients</b> 1,000 ppm	<b>Extended Producer Responsibility</b> - (Take Back Program)
<b>Sourcing of raw materials</b> The extraction locations of raw materials have been documented for 53.0% to 53.8% of the final product components, based on weight ratio.	<b>Type of declaration</b> HPD® version 2.0 Health Product Declaration®	<b>Corporate Sustainability Report</b> - (CSR : GRI, ISO 26000, BNQ 21000 or other)
<b>FSC® Certification</b> N/A	<b>Emission test</b> -	<b>CERTIFICATIONS AND CONFORMITIES</b>
<b>Rapidly renewable materials</b> N/A	<b>VOCs</b> 0 g/L - 49 g/L Depending on product used (Sealants applied in-house or on-site)	
<b>Biobased materials</b> N/A	<b>Formaldehyde</b> None	
	<b>Others</b> -	

For over 35 years, the Norbec Group has been offering innovative, value-added solutions to its customers' needs. With the introduction in 2008 of the Norex® and Noroc® lines, Norbec Architectural now offers a complete range of solutions for building envelopes that combine advances in insulation with construction expertise.

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MasterFormat®: 07 42 43

Validated Eco-Declaration:

**VED17-1061-01**

Original issue date: 2012/11

Period of validity: 2018/09 to 2019/09



# ENVIRONMENTAL DATA SHEET

NOREX®



Norbec Architectural Inc.



SPECIFICATIONS	Norex®-H	Norex®-L	Norex®-S
<b>Description</b>	Horizontal & vertical mounting Joint with concealed fasteners Deep fluting 3/8 W. x 3/4 D. (9,5 X 19 mm) or 3/4 W. x 3/4 D. (19 X19 mm) Different architectural arrangements Applications: outdoor wall	Vertical mounting Joint with concealed fasteners Applications: outdoor wall, indoor ceilings	Vertical mounting with straight joint Applications: interior partitions
<b>Width</b>	24, 30, 36 or 41½ inches	24, 30, 36 or 42 ½ inches	44 inches
<b>Thickness</b>	2, 3 & 4 inches	2, 3, 4, 5 & 6 inches	2, 3, 4 & 5 inches
<b>Length</b>	7 to 52 feet		
<b>Insulation Value</b>	R-7,41 per inch		
<b>Steel Inner face</b>	0,019 inch (0,483 mm) standard thickness – 26 Gauge 0,023 inch (0,584 mm) optional – 24 Gauge		
<b>Steel Outer face</b>	0,0285 inch (0,724 mm) standard thickness – 22 Gauge 0,019 inch (0,483 mm) optional – 26 Gauge	0,019 inch (0,483 mm) standard thickness – 26 Gauge 0,0285 inch (0,724 mm) optional – 22 Gauge	

## ATTRIBUTES

### RECYCLED CONTENT

Final products	Weight ratio	Pre-consumer	Post-consumer
Norex®-H (width 41½ inches) *	100%	20.6%	33.2%
Norex®-L (width 42½ inches) *	100%	20.2%	32.7%
Norex®-S (width 44 inches) *	100%	20.2%	32.7%
Components (with recycled content)	Weight ratio	Pre-consumer	Post-consumer
Pre-painted galvanized steel	69.0% - 70.7% *	27.0%	42.0%
Foam polyurethane	29.3% - 31.0% *	5.0%	12.0%

\* The results presented above are specific to panels with the following dimensions: length of 8 feet, width of 41½ inches or 44 inches (depending on the product), 26 gauge steel (inside and outside faces) and 4 inches thick insulating foam. However, Norbec Architectural Inc can provide the results for all of the different configurations.

Validated Eco-Declaration – Recycled Content

Methodology: on-site audit, supply chain evaluation, analysis and validation of the recycled content data according to the weight ratio of each of the components used in manufacturing the final product.

Vertima's procedure: VERT-032008-01, Second Edition.

### SOURCING OF RAW MATERIALS

Weight ratio	Final manufacturing location
100%	Saint-Hyacinthe, QC J2S 8A2 CANADA

Validated Eco-Declaration – Sourcing of raw materials

Methodology: on-site audit, supply chain evaluation, analysis and validation of the sourcing of raw materials data according to the weight ratio of each of the components used in manufacturing the final product.

Vertima's procedure: VERT-032008-02, Second Edition.

Components	Weight ratio	Extraction locations	Transportation
Pre-painted galvanized steel (recycled)	47.6% - 48.8% *	Hamilton (ON)	Truck
Foam polyurethane	24.3% - 25.7% *	N/A	N/A
Pre-painted galvanized steel	21.4% - 21.9% *	N/A	N/A
Foam polyurethane (recycled)	5.0% - 5.3% *	Mississauga (ON)	Truck
Sealant 1 and/or Sealant 2	0% - 1.0% *	N/A	N/A

\* The results presented above are specific to panels with the following dimensions: length of 8 feet, width of 41½ inches or 44 inches (depending on the product), 26 gauge steel (inside and outside faces) and 4 inches thick insulating foam. However, Norbec Architectural Inc can provide the results for all of the different configurations.

The extraction locations of raw materials have been documented for 53.0% to 53.8% of the final product components, based on weight ratio.

The data included in this Environmental Data Sheet has been provided by the client and the suppliers, who are responsible for its veracity and its integrity. Vertima follows a rigorous protocol, including an on-site audit of the factory, an audit of the manufacturer's supply chain documentation, and the analysis and validation of all supporting documents. However, Vertima cannot be held responsible for false or misleading information that may cause any loss or damage suffered, in all or in part, caused by errors and omissions relative to the data collection, compilation and/or interpretation. The analysis protocol used by Vertima is available on request.

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## ATTRIBUTES (CONTINUED)

### SOURCING OF RAW MATERIALS (CONTINUED)



**1. EXTRACTION LOCATION OF RECYCLED STEEL:** (Details available upon request)

**Canada:** Hamilton (Ontario)

**2. EXTRACTION LOCATION OF RECYCLED INSULATION:** (Details available upon request)

**Canada:** Mississauga (Ontario)

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## INGREDIENTS AND EMISSIONS

### DECLARATION OF CHEMICAL INGREDIENTS



**Type of declaration:** Health Product Declaration® (HPD®) version 2.0

**Period of validity:** June 22, 2017 to June 22, 2020

Summary of product contents and results from screening individual chemical substances against HPD Priority Lists<sup>1</sup> and the GreenScreen for Safer Chemicals®<sup>2</sup>.

**Health Product Declaration® URL:** <http://www.hpd-collaborative.org/hpd-public-repository/>

The Health Product Declaration® and logo is owned by the Health Product Declaration® Collaborative and is used with permission.

**Declaration:** Prepared by Vertima  Self-declared  Third party

**Ingredients inventory threshold:** 1,000 ppm

**Full disclosure of intentional ingredients:** Yes

**Full disclosure of known hazards:** Yes

#### Hazards associated with the product ingredients:

This HPD Standard describes a declaration of product content and direct health hazards associated with exposure to its individual contents. The Declaration is not an assessment of risks associated with actual use of the product. It does not address the potential health impacts of substances used or created during manufacture that do not appear in the final product as residuals, nor substances created during combustion or other degradation processes.

**Highest concern GreenScreen® Benchmark:** Benchmark 1<sup>3</sup>

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> PBT (Persistent, Bioaccumulative, Toxic) | <input checked="" type="checkbox"/> Respiratory      | <input checked="" type="checkbox"/> Physical hazard |
| <input checked="" type="checkbox"/> Cancer                                   | <input type="checkbox"/> Neurotoxicity               | <input type="checkbox"/> Global warming             |
| <input checked="" type="checkbox"/> Gene Mutation                            | <input checked="" type="checkbox"/> Mammal           | <input type="checkbox"/> Ozone depletion            |
| <input checked="" type="checkbox"/> Development                              | <input type="checkbox"/> Land toxicity               | <input checked="" type="checkbox"/> Multiple        |
| <input checked="" type="checkbox"/> Reproductive                             | <input checked="" type="checkbox"/> Aquatic toxicity | <input type="checkbox"/> Unknown                    |
| <input checked="" type="checkbox"/> Endocrine                                | <input checked="" type="checkbox"/> Skin or eye      |   |

<sup>1</sup>Please refer to Annex D of HPD® Open Standard Version 2.0, September 10th 2015. <http://www.hpd-collaborative.org>

<sup>2</sup>GreenScreen for Safer Chemicals® method: <http://www.greenscreenchemicals.org/>

<sup>3</sup>GreenScreen (GS) Benchmark scores of chemical ingredients: Benchmark 1 (Avoid, chemical of high concern), Benchmark 2 (Use but search for safer substitutes), Benchmark 3 (Use but still opportunity for improvement), Benchmark 4 (Prefer, safer chemical).

### TABLE OF INGREDIENTS

Name	Role	Weight ratio	CAS <sup>1</sup>	GreenScreen® <sup>2</sup>	Note(s) (For more details refer to the HPD®)
Pre-painted galvanized steel	Main component	69.0% - 70.7%	Multiple	LT-1	LT-P1 and LT-UNK scores also present
Polyurethane foam	Insulation	29.3% - 31.0%	109-66-0 103-83-3	LT-P1	LT-UNK, BM-U and BM-4 scores also present
Sealant 1	Joint	0% - 1.0%	Undisclosed	LT-P1	LT-UNK and BM-2 scores also present
Sealant 2	Joint	0% - 1.0%	2224-33-1 556-67-2	BM-1	LT-1, LT-P1 and LT-UNK scores also present

<sup>1</sup>Only the CAS numbers with the score of highest concern are listed. The complete list of substances can be found in the HPD®.

<sup>2</sup>GS List Translator (LT) scores of chemical ingredients: LT-1, likely GS Benchmark 1; LT-P1, possible GS Benchmark 1; LT-U or LT-UNK, present on GS Specified Lists but there is insufficient information to classify the hazards as LT-1 or LT-P1 (does not mean the chemical is safe).

Validated Eco-Declaration – Declaration of chemical ingredients

Methodology: validation of the documentation confirming the methodology and reporting of chemical ingredients.

Vertima's procedure: VERT-032009-01, Second Edition.

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# ENVIRONMENTAL DATA SHEET

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## INGREDIENTS AND EMISSIONS (CONTINUED)

### VOLATILE ORGANIC COMPOUNDS (VOCs)

Sealants are applied during the manufacturing of Norex® architectural panel or during installation at the project site. In the category of products presented below, the values refers to the VOC content of sealants in their liquid state.

#### SEALANT PRODUCTS

Manufacturer	Type	Product name	VOC Content
Adfast	Sealant	Adseal 4550	49 g/L
Sika	Sealant	Lastomer 511	0 g/L

Validated Eco-Declaration – Emissions and Volatile Organic Compounds (VOCs)  
Methodology: validation of documents attesting VOCs emissions.  
Vertima's procedure: VERT-032009-02, Second Edition.

## TECHNICAL PERFORMANCES

### PERFORMANCE TESTS

Non-exhaustive list of performance tests. See the Norex® architectural panel specifications sheet for more details.

- CAN / ULC – S101 : Standard Test Methods for fire endurance for building construction and materials
- CAN / ULC – S102 - M07 : Standard Test Methods for surface burning characteristics of building materials and Assemblies
- ASTM-E84 : Surface burning characteristics of building materials  
Results : Flame spread < 25 min / Smoke developed < 450 min
- FM 4880 : Resistance against fire rating of insulated wall, ceiling and roof panels – Approved product class 1
- R-Value: 7,41 (ft². °F. h / BTU) per polyurethane inch

### WARRANTY

Norbec Architectural Inc., as a manufacturer, assures that the product subject to this licence is free from defects and manufacturing defects, including delamination for a period of five (5) years from the date of the installation of the product or after 45 days of delivery, whichever is earlier.

For full details, please see the full warranty.

## MANUFACTURER'S ENVIRONMENTAL MANAGEMENT PROGRAM

### MANUFACTURER'S COMMITMENT

Norbec Architectural Inc. attribute great importance on building sustainable and eco-responsible buildings.

Norbec Architectural Inc. relies on recycling and contributing on reducing raw materials and waste by reusing plastic packaging, wood, cardboard and paper. The steel used in the panels is 100% reusable.

Norbec Architectural Inc. recycles panels from waste (colour varied, varied sizes, minimal defects, etc.) in offering a line of quality B panels.

All materials used in Norbec Architectural Inc.'s products are non-toxic and environmentally friendly.

Norbec Architectural Inc. panels are designed to contribute to reducing carbon dioxide (CO<sub>2</sub>) emissions by providing better energy efficiency and in pursuit of a sustainable development policy.

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## PRODUCT CONTRIBUTION SUMMARY

### LEED® v4 requirements for Building Design + Construction (BD+C)

New Construction, Core and Shell, School, Retail, Data Centers, Warehouse and Distribution Centers, Hospitality and Healthcare.

### LEED® v4 requirements for Interior Design + Construction (ID+C)

Commercial Interiors, Retail and Hospitality.

ENERGY AND ATMOSPHERE		PRODUCT CONTRIBUTIONS	
EA Prerequisite 2	<b>Minimum Energy Performance</b> Option 1: Whole-building energy simulation or at the scale of the rental space, according to the system Option 2: Prescriptive compliance: ASHRAE 50% Advanced Energy Design Guide Option 3: Prescriptive compliance: Advanced Buildings™ Core Performance™ Guide	Contribute	<b>TECHNICAL PERFORMANCES</b> The Norex® architectural panel contributes to this prerequisite. Its polyurethane insulation has a thermal insulation factor of R-7,41 per inch of thickness.
			<b>TECHNICAL PERFORMANCES</b> The Norex® architectural panel contributes to this credit. Its polyurethane insulation has a thermal insulation factor of R-7,41 per inch of thickness.
EA	<b>Optimize Energy Performance</b> Option 1: Whole-building energy simulation or at the scale of the rental space, according to the system BD+C (1-20 points) and ID+C (1-25 points) Option 2: Prescriptive compliance: ASHRAE Advanced Energy Design Guide BD+C (1-6 points) and ID+C (1-16 points)	Contribute	<b>TECHNICAL PERFORMANCES</b> The Norex® architectural panel contributes to this credit. Its polyurethane insulation has a thermal insulation factor of R-7,41 per inch of thickness.
			<b>TECHNICAL PERFORMANCES</b> The Norex® architectural panel contributes to this credit. Its polyurethane insulation has a thermal insulation factor of R-7,41 per inch of thickness.
MATERIALS AND RESOURCES		PRODUCT CONTRIBUTIONS	
MR	<b>Building Product Disclosure and Optimization – Sourcing of Raw Materials</b> Option 2: Leadership extraction practices (1 point) May also contribute to the location valuation factor if the product is extracted, manufactured and purchased within 160 km of the project site.	Contribute	<b>ATTRIBUTES</b> Recycled Content Pre-consumer (20.2% - 20.6%) Post-consumer (32.7% - 33.2%)
			<b>INGREDIENTS AND EMISSIONS</b> HPD® version 2.0 Health Product Declaration®
MR	<b>Building Product Disclosure and Optimization – Material Ingredients</b> Option 1: Material ingredients reporting (1 point) The Norex® architectural panel contributes with his Health Product Declarations® and is valued as 1 whole product out of the 20 needed for the purposes of credit achievement calculation.	Contribute	<b>ATTRIBUTES</b> Recycled Content Pre-consumer (20.2% - 20.6%) Post-consumer (32.7% - 33.2%)
			<b>INGREDIENTS AND EMISSIONS</b> HPD® version 2.0 Health Product Declaration®
INDOOR ENVIRONMENTAL QUALITY		PRODUCT CONTRIBUTIONS	
EQ	<b>Low-Emitting Materials</b> Option 1: Product category calculations (1-3 points) Additional conditions apply for healthcare and schools. Batt insulation products may contain no added formaldehyde, including urea formaldehyde, phenol formaldehyde, and urea-extended phenol formaldehyde.	Do not contribute <sup>1</sup>	<b>INGREDIENTS AND EMISSIONS</b> <sup>1</sup> Must be tested and determined compliant to the California Department of Public Health (CDPH) Standard Method v1.1-2010. (The Norex® architectural panel does not contain any added formaldehyde, including urea formaldehyde, phenol formaldehyde, and urea-extended phenol formaldehyde.)
			<b>INGREDIENTS AND EMISSIONS</b> <sup>1</sup> Must be tested and determined compliant to the California Department of Public Health (CDPH) Standard Method v1.1-2010. (The Norex® architectural panel does not contain any added formaldehyde, including urea formaldehyde, phenol formaldehyde, and urea-extended phenol formaldehyde.)

It is important to consider that the total amount of possible points reflects the number of achievable points in each credit category. The product itself cannot achieve this score, as defined above, but is considered as a beneficial element in order to achieve LEED® credits.

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