



PANEL WITH POLYURETHANE CORE


The Norbec panel is a High-efficiency insulated panel Intended for the manufacture of walk-in coolers or and freezers. The Norbec panels offers many different applications such as cold storage, processing plants, labs, controlled atmosphere rooms and more.

All combinations are possible.

VALIDATED ECO-DECLARATION

Product's contribution to LEED® v4

©Copyright 2016 Vertima inc.

PRODUCT SPECIFICATIONS	ENVIRONMENTAL IMPACTS	PRODUCT SPECIFICATIONS
Reference Norbec® panel	Life Cycle Assessment -	Performance tests See page 5
Final manufacturing location Boucherville (Québec) J4B 1K7 CANADA	Product's carbon footprint -	Expected life -
Composition Pre-painted galvanized steel, polyurethane foam, sealants.	Environmental Product Declaration ISO 14025:2006 -	MANUFACTURER'S ENVIRONMENTAL MANAGEMENT
ATTRIBUTES	INGREDIENTS AND EMISSIONS	ISO 14001 Certification -
Recycled Content Pre-consumer: 20.5% Post-consumer: 28.9%	Declaration of chemical ingredients 1,000 ppm	Extended Producer Responsibility - (Take Back Program)
Sourcing of raw materials The extraction locations of raw materials have been documented for 49.4% of the final product components, based on weight ratio.	Type of declaration HPD® version 2.0 Health Product Declaration®	Corporate Sustainability Report - (CSR : GRI, ISO 26000, BNQ 21000 or other)
FSC® Certification N/A	Test d'émission -	CERTIFICATIONS AND CONFORMITIES
Rapidly renewable materials N/A	VOCs 49 g/L (Sealant applied in-house or on-site)	
Biobased materials N/A	Formaldehyde None	
	Others -	

Founded in 1982, NORBEC has continued to grow and develop year after year. Specialist in the manufacture of Modular insulated panels, NORBEC has earned an enviable reputation In many sectors: supermarkets, restaurants, Food processing, refrigerated warehouses, hospitals and Research centers.

97, rue de Vaudreuil, Boucherville (Québec) J4B 1K7 CANADA
norbecsystem.com

MasterFormat®: 11 41 23/26
 and 13 21 13/26

Validated Eco-Declaration:
EDV17-1061-04

Original issue date: 2012/11

Period of validity: 2018/09 to 2019/09



ENVIRONMENTAL DATA SHEET

NORBEC® PANEL



Norbec Systems Inc.



SPECIFICATIONS	Norbec®panel
Description	Vertical mounting Usage: interior walls & ceilings The composition of the closed-cell polyurethane eliminates any possibility of moisture accumulation. The highly resistant camlocks allow fast and easy assembly and installation.
Width	6 to 47 inches
Thickness	3, 4, & 5 inches
Length	6 to 18 feet
Insulation Value	R-6,75 per inch
Steel Inner face & Outer face	Pre-coated galvanized steel 26 Gauge Pre-coated galvanized steel 24 Gauge Pre-coated galvanized steel with laminated PVC Advantica finish Stainless steel 22 Gauge, type 304, finish #2B (matte) Stainless steel 20 Gauge, type 304, finish #4 (brushed)

ATTRIBUTES

RECYCLED CONTENT

Final product	Weight ratio	Pre-consumer	Post-consumer
Norbec® panel *	100%	20.5%	28.9%
Components (with recycled content)	Weight ratio	Pre-consumer	Post-consumer
Pre-painted galvanized steel	68.1% *	27.0%	42.0%
Polyurethane foam	31.9% *	6.5%	0.9%

* The results presented above are specific to panels with the following dimensions: length of 8 feet, width of 47 inches, 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%	Boucherville, QC J4B 1K7 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)	47.0% *	Hamilton (ON)	Truck
Polyurethane foam	29.5% *	N/A	N/A
Pre-painted galvanized steel	21.1% *	N/A	N/A
Polyurethane foam (recycled)	2.4% *	Central (South Carolina) / USA	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 47 inches, 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 49.4% 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.

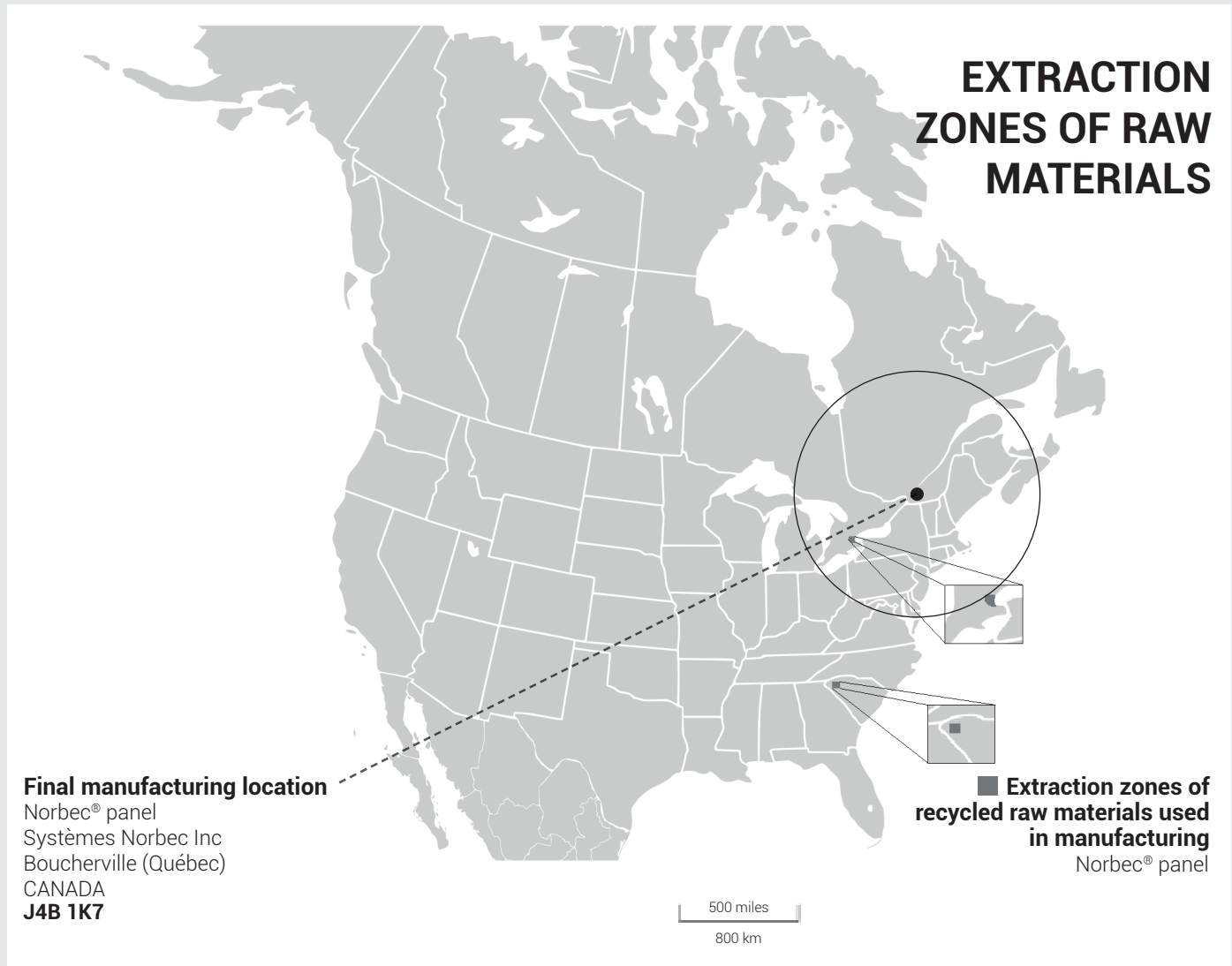
Copyright® 2016 by Vertima inc.

Validated Eco-Declaration:
VED17-1061-04
Period of validity:
2018/09 to 2019/09



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)
United States: Central (South Carolina)

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.

ENVIRONMENTAL DATA SHEET

NORBEC® PANEL



Norbec Systems Inc.

INGREDIENTS AND EMISSIONS

DECLARATION OF CHEMICAL INGREDIENTS



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

Period of validity: June 28, 2017 to June 28, 2020

Summary of product contents and results from screening individual chemical substances against HPD Priority Lists¹ and the GreenScreen for Safer Chemicals®².

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 1³

- | | | |
|--|--|---|
| <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 | |

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

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

³GreenScreen (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 ¹	GreenScreen® ²	Note(s) (For more details refer to the HPD®)
Pre-painted galvanized steel	Main component	68.1%	Multiple	LT-1	LT-P1 and LT-UNK scores also present
Polyurethane foam	Insulation	31.9%	9009-54-5 460-73-1	LT-UNK	-
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

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

²GS 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.

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.

Copyright® 2016 by Vertima inc.

Validated Eco-Declaration:
VED17-1061-04
Period of validity:
2018/09 to 2019/09



ENVIRONMENTAL DATA SHEET

NORBEC® PANEL



Norbec Systems Inc.

INGREDIENTS AND EMISSIONS (CONTINUED)

VOLATILE ORGANIC COMPOUNDS (VOCs)

Sealant is applied during the manufacturing of Norbec® panel or during installation at the project site. In the category of product presented below, the value refers to the VOC content of the sealant in their liquid state.

SEALANT PRODUCTS

Manufacturer	Type	Product name	VOC Content
Adfast	Scellant	Adseal 4550	49 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 Norbec® panel specifications sheet for more details.

- CAN / ULC – S102 - M07 : Surface burning characteristics of building materials and assemblies
- S138 : Fire growth of insulated building panels in a full-scale room configuration
- ASTM-E84 : Surface burning characteristics of building materials
Results : Flame Spread < 20 min / Smoke Developed < 450 min
- R Value of insulation : 6,75 (ft². °F. h / BTU) per inch

WARRANTY

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

Norbec Systems 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 Systems 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 Systems Inc. products are non-toxic and environmentally friendly.

Norbec Systems Inc. panels are designed to contribute to reducing carbon dioxide (CO₂) emissions by providing better energy efficiency and in pursuit of a sustainable development policy.

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.

Copyright® 2016 by Vertima inc.

Validated Eco-Declaration:
VED17-1061-04
Period of validity:
2018/09 to 2019/09



ENVIRONMENTAL DATA SHEET

NORBEC® PANEL



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	Minimum Energy Performance 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	TECHNICAL PERFORMANCES The Norbec® panel contributes to this prerequisite. Its polyurethane insulation has a thermal insulation factor of R-6,75 per inch of thickness.
	Optimize Energy Performance 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)		TECHNICAL PERFORMANCES The Norbec® panel contributes to this credit. Its polyurethane insulation has a thermal insulation factor of R-6,75 per inch of thickness.
MATERIALS AND RESOURCES		PRODUCT CONTRIBUTIONS	
MR	Building Product Disclosure and Optimization – Sourcing of Raw Materials 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	ATTRIBUTES Recycled Content Pre-consumer (20.5%) Post-consumer (28.9%)
	Building Product Disclosure and Optimization – Material Ingredients Option 1: Material ingredients reporting (1 point) The Norbec® 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.		INGREDIENTS AND EMISSIONS HPD® version 2.0 Health Product Declaration®
INDOOR ENVIRONMENTAL QUALITY		PRODUCT CONTRIBUTIONS	
EQ	Low-Emitting Materials 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 ¹	INGREDIENTS AND EMISSIONS ¹ Must be tested and determined compliant to the California Department of Public Health (CDPH) Standard Method v1.1-2010. (The Norbec® 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.

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.

Copyright® 2016 by Vertima inc.

Validated Eco-Declaration:
VED17-1061-04
 Period of validity:
2018/09 to 2019/09

