

ENVIRONMENTAL PRODUCT DECLARATION

NATIONAL GUARD PRODUCTS

LITE KITS AND LOUVERS



NATIONAL GUARD
PRODUCTS

At NGP, we are committed to providing products and services that are environmentally sound throughout the entire production process and the product life cycle.

Our environmental policy states:

#1 - We meet or exceed legal requirements and act with integrity, honesty, and transparency in everything we do.

#2 - We develop strategies to reduce consumption of resources, prevent pollution by understanding how our decisions and actions affect the continued long-term success of the company.

#3 - We continuously seek ways to improve the environment and to reduce risks that can cause accidents and pollution and expect the same of our suppliers.

#4 - We engage in open communication of sustainability programs with our stakeholders and adapt to the needs of our customers, associates, suppliers and vendors.



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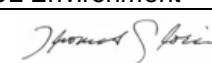


Lite Kits and Louvers

According to ISO 14025

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.



PROGRAM OPERATOR	UL Environment
DECLARATION HOLDER	National Guard Products
DECLARATION NUMBER	4786853254.103.1
DECLARED PRODUCT	Lite Kits and Louvers
REFERENCE PCR	PCRs for Building-Related Products and Services- Part A: Calculation Rules for the LCA and Requirements Project Report, (IBU/UL, V1.3, 06.19.2014), Part B: requirements on the EPD for windows and doors (IBU, V1.7, 06.11.2014), Part B Addendum: IBU PCR for Windows and Door (UL, V1.0 Oct. 2015)
DATE OF ISSUE	November 16, 2015
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications
The PCR review was conducted by:	IBU The Independent Expert Committee
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories	 Wade Stout, UL Environment
<input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	 Thomas Gloria, Industrial Ecology Consultants

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Product

Company Description

National Guard Products is known as a leading manufacturer of weather-stripping, thresholds, lite kits, louvers and glass for commercial wood and steel doors. Founded in 1935 NGP has become an ever advancing industry innovator, manufacturing a complete line of door seals, door thresholds, gasketing, intumescent fire seals, smoke seals, sound seals, door sweeps, door shoes, automatic door bottoms, lite kits, louvers, metal edges, astragals and finger guard products.

Product Description

Lite Kits

Lite kits are best described as window frames installed into a door body. They allow light to pass through the door and allow visibility from one side of the door to the other without the door having to be opened up.

National Guard Products offers a variety of options to customers with their lite kit purchases. These options include powder coating and glass installation. The underlying LCA considers the impacts of powder coating but does not include the installation of optional glass. Lite kits can be ordered in Cold Rolled Steel, Galvanized Steel or Stainless Steel. The LCA considers a hypothetical product made up of an average of those three steel types.

Louvers

Similar to Lite Kits, Louvers are installed into the door body with the purposes of allowing light to pass through. However, due to the evenly spaced blades of the Louvers, visibility is not a function of the project. However, air flow between one side of the door to the other is an added function of the Louver over the Lite Kit.

National Guard Products offers optional powder coating to customers with their louver purchases. The underlying LCA considers the impacts of powder coating. Unlike Lite Kits, glass installation is not applicable to Louvers. Louvers can be ordered in Cold Rolled Steel, Galvanized Steel or Aluminum. This LCA considers a hypothetical product made up of an average of those three material types.

Reported products are an average product from a single manufacturing site. All products are produced at the National Guard Products factory at *4985 East Raines Rd | Memphis, TN 38118*.

Application

Production is designed for commercial applications.

Note: not all products are have been certified to the standards listed above. Please see catalog for details.

Technical Data

The technical data presented in section 2.3 of the PCR is not relevant to Lite Kits and Louvers.

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Delivery Status

The product is provided to the customer through a fax, phone or email ordering system. The product is shipped directly to customers in packaging material that includes cardboard box, shipping labels and plastic materials. The amount of packaging materials is dependent on the size of the customer's order. Installation instructional sheets are provided. Accessory materials, such as installation screws are provided with the product.

The dimension and quantities of the product are dependent on the requirements of the customer. NGP products are manufactured to customer specifications. For the purposes of this EPD it is assumed that the customer orders are equivalent to the sizes in the Declared Unit section above.

Base Materials / Ancillary Materials

Specific material composition is dependent on customer-defined orders. NGP offers their products in a variety of base materials to meet the needs of their customers.

Lite kits can be ordered in Cold Rolled Steel, Galvanized Steel or Stainless Steel.

Louvers can be ordered in Cold Rolled Steel, Galvanized Steel or Aluminum.

Powder coat is applied at an average thickness of 3.5 mil. It is standard on most products and available on stainless steel products upon request.

Manufacture

All manufacturing occurs at NGP's Memphis location. Production is typically a manual process that includes the loading of pre-extruded aluminum and roll-formed steel onto equipment that cuts, bends, and hole punches to product specification. For products that are a combination of several parts, employees weld the parts together. If customers order specific finish options, employees load parts onto equipment that applies the finishing. Once completed all products are manually packaged by employees. Pallets of packaged products are mechanically wrapped and are staged for shipping by forklifts.

Electricity is the primary energy source utilized during manufacturing, although some natural gas is utilized. Water is utilized in small quantities.

Environment and Health During Manufacturing

NGP meets all federal and state standards related to the Environment and Health during manufacturing. Additionally National Guard Products employs a strict waste minimization and recycling program that reduces and recycles waste produced in the manufacturing process.

Beyond what is regulated, there are no additional environment and health considerations during the production of goods.

Production Processing/Installation

The vast majority of Lite Kits and Louvers are installed with #6 and # 8 sheet metal screws.

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Packaging

Packaging is dependent on the size of the customer's order. Packaging typically includes cardboard, paper packing list and plastic protective plastic wrap. Wooden pallet skids are utilized when customer order is large enough to warrant its use. All materials are recyclable at the site of installation.

Environment and Health During Use

There are not environmental or health considerations during the use of the product.

Reference Service Life (RSL)

Use phase impacts (i.e. modules B1-B7) are not declared. Thus, a RSL is not required.

To account for the wide variety of sizes of NGP Lite Kits and Louvers offered to customers, results will be declared for an average sized product. A range of results will also be presented using the smallest and largest custom sizes available. These specific sizes are outlined in the tables in the declared unit section below.

Extraordinary Effects

Fire

Certified by UL to ANSI/UL10C; complies with IBC, NFPA 80 and NFPA 252 for use on Hollow metal fire doors rated up to 3 hours and Wood fire doors rated up to 90 minutes (some ratings vary, see catalog for specifics).

Certified by UL to CAN/ULC-S104 and ANSI/UL10B; complies with NFPA 80 and NFPA 252 for use on Hollow metal fire doors rated up to 3 hours and Wood fire doors rated up to 90 minutes (some ratings vary, see catalog for specifics).

Water

Not Applicable.

Mechanical Destruction

Not Applicable.

Re-Use Phase

National Guard Products offers an end-of-use recycling program. Contact us regarding our end-of-use product recycling program.

Disposal

Although NGP recommends that products are recycled at the end of their useful life, Lite Kits and Louvers can be disposed of in common municipal landfills without additional requirements.

Further Information

Other NGP EPDs, as well as the company's Sustainability Report and HPDs, can be found at www.ngpinc.com.

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LCA Calculation Rules

Declared Unit

NGP offers a variety of sizes for both Lite Kits and Louvers. As such, this EPD presents a range of results based on the lowest weight product and the highest weight product. An average weight product is also presented. The declared units for both the Lite Kits and the Louvers are presented below.

Declared Unit: Lite Kits

Name	Value (low)	Value (Average)	Value (High)	Unit
Lite Kits	6 x 4 .15 x .10	25 x 25 .635 x .635	36 x 72 .91 x 1.82	Inches Meters
Weight per Declared Unit, excluding fasteners	1.45 .66	7.25 3.29	15.66 7.10	Lbs Kg
Fasteners (pieces x weight/piece)	.06 .03	.21 .09	.38 .17	Lbs Kgs
Declared Unit	1.51 .69	7.46 3.38	16.04 7.27	Lbs Kgs

Declared Unit: Louvers

Name	Value (low)	Value (Average)	Value (High)	Unit
Louvers	6 x 4 .15 x .10	25 x 25 .635 x .635	36 x 72 .91 x 1.82	Inches Meters
Weight per Declared Unit, excluding fasteners	3.49 1.6	17.45 7.92	37.69 17.10	Lbs Kgs

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Fasteners (pieces x weight/piece)	.05 .02	.2 .09	.38 .17	Lbs Kgs
Declared Unit	3.54 1.62	17.85 8.01	38.07 17.27	Lbs Kgs

Additionally, for compliance to the IBU Windows and Doors PCR, results for a declared unit equivalent to a 1.23mx1.48m (4.04'x 4.86') window must be declared.

Name	Value	Unit
Declared Unit (Lite Kits)	1	Reference window 1.23m x 1.48m
Weight of Declared Unit	15.47	Kg
Conversion factor to 1 kg (Lite Kits)	.065	-
Declared Unit (Louvers)	1	Reference window 1.23m x 1.48m
Weight of Declared Unit	37.23	Kg
Conversion factor to 1 kg (Louvers)	.027	-

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Life Cycle Assessment

System Boundary

A LCA for products in which a functional life is not declared can be one of three options. These option include a Cradle to Shipping Gate LCA, a Cradle to Building LCA or a Cradle to Building-with EOL stage LCA.

This particular LCA is a Cradle to Building-with EOL stage LCA.

A summary of the life cycle stages included in this LCA is presented in the following table.

Module	Description	Summary of Included Elements
A1	Product Stage: Raw Material Supply	Raw Material sourcing and processing as defined by secondary data.
A2	Product Stage: Transport	Shipping from supplier to manufacturing site. Fuel use requirements estimated based on product weights and mapped distance.
A3	Product Stage: Manufacturing	Energy, water and material inputs required for manufacturing Lite Kits and Louvers from raw materials. Packaging Materials included as well.
A4	Construction Process Stage: Transport	Shipping from manufacturing site to project site. Fuel use requirements estimated based on product weights and mapped distance.
A5	Construction Process Stage: Installation	Installation and packaging material waste.
B1	Use Stage: Use	Module Not Declared
B2	Use Stage: Maintenance	Module Not Declared
B3	Use Stage: Repair	Module Not Declared
B4	Use Stage: Replacement	Module Not Declared
B5	Use Stage: Refurbishment	Module Not Declared
C1	EOL: Deconstruction	No inputs required for deconstruction.
C2	EOL: Transport	Shipping from project site to landfill. Fuel use requirements estimated based on product weight and mapped distance.
C3	EOL: Waste Processing	Waste processing not required. All waste can be processed as is.
C4	EOL: Disposal	Assumes all products are sent to landfill. Landfill impacts modeled based on secondary data.
D	Benefits beyond system	Module not declared.

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Estimates and Assumptions

Finish options – Customers have the choice of purchasing National Guard Products' goods with a variety of finishes. Lite Kits and Louvers are powder coated except stainless steel which is a brushed finish. It was determined that a generic finish dataset could be used to represent all finish options. This was determined appropriate based on the relatively low impact of finishing compared to the sourcing of the product's main materials.

Recycled content – Aluminum and steel NGP Product's have recycled content. However, all products were modeled with virgin materials. This was considered a more conservative approach since products with recycled content were being averaged with products without recycled content.

Landfilling at End of Life – All products were considered to be landfilled at end of life. While recycling is an option, the choice of landfilling represents a conservative estimation of the end of life pathway in lieu of having actual verifiable data of end of life recycling.

The inclusion of overhead energy, water and waste data was determined appropriate due to the limited energy tracking capabilities of National Guard Products.

Cut-off Criteria

All inputs in which data was available were included.

Material inputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight of the functional unit.

List of excluded materials and energy inputs include:

- There were no excluded material and energy inputs in primary data. This was achieved due to the relative simplicity of the products supplied by National Guard Products.
- Some material and energy inputs may have been excluded within the GaBi datasets used for this project. All Gabi datasets have been critically reviewed and conform to the exclusion requirement of the PCRs.

No hazardous and toxic releases, which are mandatory to be monitored and reported to the U.S TRI, are released from the facility.

Background Data

All background data was sourced from GaBi databases. GaBi version 6.4.1.20 was used to complete the assessment.

Data Quality

Geographical Coverage

The geographical scope of the manufacturing portion of the life cycle is Memphis, TN. This is National Guard Products' only manufacturing facility. All primary data were collected from this location. The geographic coverage of primary data is considered excellent.

The geographical scope of the raw material acquisition, customer distribution, site installation and use portions of the life cycle is the United States of America. Locations and shipping distance values were determined through the

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analysis of purchasing and sales data using GIS mapping software. This data is considered very good.

Disposal and end-of-life geographic coverage (i.e. site of disposal location) was assumed based on research relating to the average distance an American lives from a landfill. This data is considered good.

Time Coverage

Primary data were provided by National Guard Products' associates and represent calendar year 2013. Calendar year 2013 was the most recently completed 12-month period year at the beginning of the study. Using 2013 data meets the PCR requirement that manufacturer specific data be within the last 5 years. Time coverage of this data is considered very good.

Data necessary to model cradle-to-gate unit processes was sourced from GaBi LCI datasets. Time coverage of the GaBi datasets varies from approximately 2002 to present. All datasets rely on at least one 1-year average data. Overall time coverage of the datasets is considered good and meets the requirement of the PCR that all data be updated within a 10-year period.

Technological Coverage

Primary data provided by National Guard Products is specific to the technology that NGP uses in manufacturing their product. It is site specific and considered of good quality. It is worth noting that the energy and water used in manufacturing the product includes overhead energy such as lighting, heating and sanitary use of water. Sub-metering was not available to extract process only energy and water use from the total energy use. Sub-metering would improve the technological coverage of data quality.

Data necessary to model cradle-to-gate unit processes was sourced from GaBi LCI datasets. Technological coverage of the datasets is considered good relative to the actual supply chain of National Guard Products. While improved life cycle data from suppliers would improve technological coverage, the use of lower quality generic datasets does meet the goal of this LCA.

Period Under Review

Primary data were provided by National Guard Products' associates and represent calendar year 2013.

Allocation Procedures

General principles of allocation were based on ISO14044. Where possible, allocation was avoided. When allocation was necessary it was done on a physical mass basis.

Comparability

Results presented in this EPD are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

Results are not intended to be used to determine superiority of one product over another.

Environmental declarations from different programs may not be comparable.

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LCA Scenarios and Additional Technical Information

According to the PCR, the following information is necessary for the declared modules.

Transport to the Building Site (A4)

Name	Value	Unit
Liters of Fuel	38.43	l/100 km
Transport Distance	1,154	km
Capacity Utilization (including empty runs)	65	%
Gross density of product transported	8.45	Kg/m ³
Capacity Utilization Volume Factor	100	-

Installation (A5)

Name	Value	Unit
Auxillary	0.09	kg
Water Consumption	0	m ³
Other Resources	0	kg
Electricity Consumption	0	kWh
Other Energy Carriers	0	MJ
Material Loss	0	kg
Output Substances following waste Treatment on site	.46	kg
Dust in Air	0	kg
VOC in Air	0	kg

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Use Phase (B1-B7)

Use phase impacts are not declared. Scenarios not required.

End of Life (C1-C4)

Name	Value	Unit
Collected Separately Waste Type	0	kg
Collected as mixed construction waste	3.29	kg
Reuse	0	kg
Recycling	0	kg
Energy Recovery	0	kg
Landfilling	3.29	kg

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LCA Results: Lite Kits (Based on Harmonized Declared Units)

TRACI 2.1, Lite Kits (Based on Harmonized Declared Units)

TRACI							
		Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential of Fossil Resources
		GWP	ODP	AP	EP	POCP	ADPE
		kg CO ₂ eq.	kg CFC 11 eq	kg SO ₂ eq.	kg N eq.	kg O ₃ eq.	MJ Surplus Energy
A1	Max	1.91E+01	2.68E-08	1.13E-01	4.00E-03	8.54E+00	1.37E+02
	Average	1.04E+01	1.46E-08	6.19E-02	2.19E-03	4.67E+00	7.46E+01
	Min	1.77E+00	2.48E-09	1.05E-02	3.71E-04	7.91E-01	1.26E+01
A2	Max	7.17E-01	6.14E-12	3.04E-03	2.89E-04	9.43E-02	1.36E+00
	Average	3.92E-01	3.35E-12	1.66E-03	1.58E-04	5.15E-02	7.44E-01
	Min	6.64E-02	5.68E-13	2.82E-04	2.67E-05	8.73E-03	1.26E-01
A3	Max	4.53E+00	3.44E-09	9.56E-03	3.67E-01	1.40E-01	8.39E+00
	Average	4.53E+00	3.44E-09	9.56E-03	3.67E-01	1.40E-01	8.39E+00
	Min	4.53E+00	3.44E-09	9.56E-03	3.67E-01	1.40E-01	8.39E+00
A4	Max	6.68E-01	5.72E-12	2.84E-03	2.69E-04	8.79E-02	1.27E+00
	Average	3.65E-01	3.13E-12	1.55E-03	1.47E-04	4.80E-02	6.94E-01
	Min	6.19E-02	5.30E-13	2.63E-04	2.49E-05	8.14E-03	1.18E-01
A5	Max	1.73E-01	5.01E-13	1.35E-03	5.23E-04	3.71E-03	4.12E-02
	Average	1.73E-01	5.01E-13	1.35E-03	5.23E-04	3.71E-03	4.12E-02
	Min	1.73E-01	5.01E-13	1.35E-03	5.23E-04	3.71E-03	4.12E-02
B1-7	Max	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	9.32E-02	7.98E-13	3.96E-04	3.75E-05	1.23E-02	1.77E-01
	Average	5.09E-02	4.36E-13	2.16E-04	2.05E-05	6.70E-03	9.68E-02
	Min	8.63E-03	7.39E-14	3.66E-05	3.48E-06	1.14E-03	1.64E-02
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	2.66E+00	7.72E-12	2.08E-02	8.06E-03	5.72E-02	6.35E-01
	Average	1.45E+00	4.21E-12	1.14E-02	4.40E-03	3.12E-02	3.47E-01
	Min	2.46E-01	7.14E-13	1.93E-03	7.46E-04	5.29E-03	5.88E-02
D	Max	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND

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CML 2001-April 2013, Lite Kits (Based on Harmonized Declared Units)

CML								
		Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential for Non-Fossil Resources	Abiotic Depletion Potential of Fossil Resources
		GWP	ODP	AP	EP	POCP	ADPE	ADPE
		kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg (PO ⁴) ³⁻ eq.	kg ethane eq.	kg Sb Eq.	MJ Surplus Energy
A1	Max	1.91E+01	2.57E-08	1.19E-01	6.98E-03	9.45E-03	2.67E-03	2.15E+02
	Average	1.04E+01	1.41E-08	6.51E-02	3.81E-03	5.16E-03	1.46E-03	1.17E+02
	Min	1.77E+00	2.38E-09	1.10E-02	6.46E-04	8.75E-04	2.47E-04	1.99E+01
A2	Max	7.28E-01	5.77E-12	6.13E-04	5.94E-04	2.85E-04	9.43E-08	1.01E+01
	Average	3.98E-01	3.15E-12	3.35E-04	3.25E-04	1.56E-04	5.15E-08	5.49E+00
	Min	6.74E-02	5.34E-13	5.68E-05	5.50E-05	2.64E-05	8.73E-09	9.31E-01
A3	Max	4.53E+00	3.17E-09	9.21E-03	1.13E-03	8.53E-04	2.56E-05	6.78E+01
	Average	4.53E+00	3.17E-09	9.21E-03	1.13E-03	8.53E-04	2.56E-05	6.78E+01
	Min	4.53E+00	3.17E-09	9.21E-03	1.13E-03	8.53E-04	2.56E-05	6.78E+01
A4	Max	6.79E-01	5.38E-12	5.72E-04	5.54E-04	2.66E-04	8.79E-08	9.38E+00
	Average	3.71E-01	2.94E-12	3.12E-04	3.03E-04	1.45E-04	4.80E-08	5.12E+00
	Min	6.29E-02	4.98E-13	5.29E-05	5.13E-05	2.46E-05	8.14E-09	8.68E-01
A5	Max	1.73E-01	4.71E-13	4.91E-04	5.78E-04	1.41E-04	8.07E-09	3.20E-01
	Average	1.73E-01	4.71E-13	4.91E-04	5.78E-04	1.41E-04	8.07E-09	3.20E-01
	Min	1.73E-01	4.71E-13	4.91E-04	5.78E-04	1.41E-04	8.07E-09	3.20E-01
B1-7	Max	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	9.47E-02	7.50E-13	7.97E-05	7.73E-05	3.71E-05	1.23E-08	1.31E+00
	Average	5.17E-02	4.10E-13	4.36E-05	4.22E-05	2.02E-05	6.70E-09	7.15E-01
	Min	8.77E-03	6.95E-14	7.38E-06	7.16E-06	3.43E-06	1.14E-09	1.21E-01
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	2.66E+00	7.26E-12	7.56E-03	8.90E-03	2.18E-03	1.24E-07	4.92E+00
	Average	1.45E+00	3.96E-12	4.13E-03	4.86E-03	1.19E-03	6.80E-08	2.69E+00
	Min	2.46E-01	6.72E-13	7.00E-04	8.24E-04	2.02E-04	1.15E-08	4.56E-01
D	Max	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Resource Use, Lite Kits (Based on Harmonized Declared Units)

Resource Use											
	RENEWABLE primary energy excluding the RENEWABLE primary energy used as raw materials	Use of RENEWABLE primary energy resources used as raw materials		Total use of RENEWABLE primary energy	Use of NON-RENEWABLE primary energy excluding the NON-RENEWABLE primary energy resources used as raw materials	Use of NON-RENEWABLE primary energy resources used as raw materials	Total use of NON-RENEWABLE primary energy (primary energy and NON-RENEWABLE primary energy resources used as raw materials)	Use of SECONDARY MATERIALS	Use of RENEWABLE SECONDARY FUELS	Use of NON-RENEWABLE SECONDARY FUELS	Use of FRESH WATER resources
		PERE	PERM								
		MJ	MJ		MJ	MJ	MJ	KG	MJ	MJ	M ³
A1	Max	2.02E+01	0.00E+00	2.02E+01	2.39E+02	0.00E+00	2.39E+02	0.00E+00	0.00E+00	0.00E+00	2.41E+01
	Average	1.10E+01	0.00E+00	1.10E+01	1.30E+02	0.00E+00	1.30E+02	0.00E+00	0.00E+00	0.00E+00	1.31E+01
	Min	1.87E+00	0.00E+00	1.87E+00	2.21E+01	0.00E+00	2.21E+01	0.00E+00	0.00E+00	0.00E+00	2.23E+00
A2	Max	1.59E-01	0.00E+00	1.59E-01	1.01E+01	0.00E+00	1.01E+01	0.00E+00	0.00E+00	0.00E+00	3.29E-02
	Average	8.68E-02	0.00E+00	8.68E-02	5.53E+00	0.00E+00	5.53E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-02
	Min	1.47E-02	0.00E+00	1.47E-02	9.37E-01	0.00E+00	9.37E-01	0.00E+00	0.00E+00	0.00E+00	3.04E-03
A3	Max	9.19E+00	0.00E+00	9.19E+00	7.53E+01	0.00E+00	7.53E+01	0.00E+00	0.00E+00	0.00E+00	1.49E+00
	Average	9.19E+00	0.00E+00	9.19E+00	7.53E+01	0.00E+00	7.53E+01	0.00E+00	0.00E+00	0.00E+00	1.49E+00
	Min	9.19E+00	0.00E+00	9.19E+00	7.53E+01	0.00E+00	7.53E+01	0.00E+00	0.00E+00	0.00E+00	1.49E+00
A4	Max	1.48E-01	0.00E+00	1.48E-01	9.43E+00	0.00E+00	9.43E+00	0.00E+00	0.00E+00	0.00E+00	3.07E-02
	Average	8.10E-02	0.00E+00	8.10E-02	5.15E+00	0.00E+00	5.15E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-02
	Min	1.37E-02	0.00E+00	1.37E-02	8.73E-01	0.00E+00	8.73E-01	0.00E+00	0.00E+00	0.00E+00	2.84E-03
A5	Max	1.79E-02	0.00E+00	1.79E-02	3.29E+00	0.00E+00	3.29E+00	0.00E+00	0.00E+00	0.00E+00	9.33E-03
	Average	1.79E-02	0.00E+00	1.79E-02	3.29E+00	0.00E+00	3.29E+00	0.00E+00	0.00E+00	0.00E+00	9.33E-03
	Min	1.79E-02	0.00E+00	1.79E-02	3.29E+00	0.00E+00	3.29E+00	0.00E+00	0.00E+00	0.00E+00	9.33E-03
B1-7	Max	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	2.07E-02	0.00E+00	2.07E-02	1.32E+00	0.00E+00	1.32E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-03
	Average	1.13E-02	0.00E+00	1.13E-02	7.19E-01	0.00E+00	7.19E-01	0.00E+00	0.00E+00	0.00E+00	2.34E-03
	Min	1.91E-03	0.00E+00	1.91E-03	1.22E-01	0.00E+00	1.22E-01	0.00E+00	0.00E+00	0.00E+00	3.96E-04
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	2.76E-01	0.00E+00	2.76E-01	5.07E+01	0.00E+00	5.07E+01	0.00E+00	0.00E+00	0.00E+00	1.44E-01
	Average	1.51E-01	0.00E+00	1.51E-01	2.77E+01	0.00E+00	2.77E+01	0.00E+00	0.00E+00	0.00E+00	7.85E-02
	Min	2.55E-02	0.00E+00	2.55E-02	4.70E+00	0.00E+00	4.70E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-02
D	Max	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environment



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Outputs and Waste, Lite Kits (Based on Harmonized Declared Units)

Outputs and Waste									
		Disposed-of-hazardous WASTE	Disposed-of non-hazardous WASTE	Disposed-of Radioactive WASTE	Components for reuse	Materials for recycling	Materials for energy recovery	Exported electrical energy	Exported thermal energy
		HWD	NHWD	RWD	CRU	MFR	MET	EEE	EET
		KG	KG	KG	KG	KG	KG	MJ	MJ
A1	Max	0.00E+00	1.01E+02	3.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	5.51E+01	1.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	9.33E+00	3.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A2	Max	0.00E+00	9.39E-02	2.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	5.13E-02	1.15E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	8.70E-03	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A3	Max	0.00E+00	3.58E+00	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	3.58E+00	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	3.58E+00	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A4	Max	0.00E+00	8.76E-02	1.96E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	4.78E-02	1.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	8.11E-03	1.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5	Max	0.00E+00	4.30E-01	3.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	4.30E-01	3.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	4.30E-01	3.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B1-7	Max	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	0.00E+00	1.22E-02	2.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	6.67E-03	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	1.13E-03	2.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	0.00E+00	6.62E+00	5.64E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	3.62E+00	3.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	6.13E-01	5.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D	Max	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

LCA Results: Louvers (Based on Harmonized Declared Units)

TRACI 2.1, Louvers (Based on Harmonized Declared Units)

TRACI							
		Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential of Fossil Resources
		GWP	ODP	AP	EP	POCP	ADPE
		kg CO ₂ eq.	kg CFC 11 eq	kg SO ₂ eq.	kg N eq.	kg O ₃ eq.	MJ Surplus Energy
A1	Max	1.15E+02	6.56E-08	5.83E-01	1.49E-02	6.27E+00	1.00E+02
	Average	6.26E+01	3.58E-08	3.18E-01	8.14E-03	3.43E+00	5.48E+01
	Min	1.06E+01	6.07E-09	5.40E-02	1.38E-03	5.81E-01	9.29E+00
A2	Max	1.72E+00	1.48E-11	7.32E-03	6.95E-04	2.27E-01	3.28E+00
	Average	9.42E-01	8.07E-12	4.00E-03	3.80E-04	1.24E-01	1.79E+00
	Min	1.60E-01	1.37E-12	6.78E-04	6.43E-05	2.10E-02	3.04E-01
A3	Max	4.24E+00	1.12E-09	8.43E-03	8.23E-02	1.25E-01	7.78E+00
	Average	4.24E+00	1.12E-09	8.43E-03	8.23E-02	1.25E-01	7.78E+00
	Min	4.24E+00	1.12E-09	8.43E-03	8.23E-02	1.25E-01	7.78E+00
A4	Max	1.61E+00	1.38E-11	6.83E-03	6.48E-04	2.12E-01	3.06E+00
	Average	8.79E-01	7.52E-12	3.73E-03	3.54E-04	1.16E-01	1.67E+00
	Min	1.49E-01	1.27E-12	6.32E-04	6.00E-05	1.96E-02	2.83E-01
A5	Max	1.70E-01	4.94E-13	1.33E-03	5.16E-04	3.66E-03	4.06E-02
	Average	1.70E-01	4.94E-13	1.33E-03	5.16E-04	3.66E-03	4.06E-02
	Min	1.70E-01	4.94E-13	1.33E-03	5.16E-04	3.66E-03	4.06E-02
B1-7	Max	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	2.24E-01	1.92E-12	9.52E-04	9.03E-05	2.95E-02	4.26E-01
	Average	1.23E-01	1.05E-12	5.20E-04	4.94E-05	1.61E-02	2.33E-01
	Min	2.08E-02	1.78E-13	8.82E-05	8.37E-06	2.73E-03	3.95E-02
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	6.40E+00	1.86E-11	5.01E-02	1.94E-02	1.38E-01	1.53E+00
	Average	3.50E+00	1.01E-11	2.74E-02	1.06E-02	7.52E-02	8.34E-01
	Min	5.93E-01	1.72E-12	4.64E-03	1.80E-03	1.27E-02	1.41E-01
D	Max	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

CML 2001-April 2013, Louvers (Based on Harmonized Declared Units)

CML								
		Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential for Non-Fossil Resources	Abiotic Depletion Potential of Fossil Resources
		GWP	ODP	AP	EP	POCP	ADPE	ADPE
		kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg (PO ⁴) ³⁻ eq.	kg ethane eq.	kg Sb Eq.	MJ Surplus Energy
A1	Max	1.14E+02	6.09E-08	6.09E-01	3.48E-02	3.99E-02	4.22E-05	1.19E+03
	Average	6.24E+01	3.33E-08	3.33E-01	1.90E-02	2.18E-02	2.30E-05	6.51E+02
	Min	1.06E+01	5.64E-09	5.64E-02	3.22E-03	3.69E-03	3.90E-06	1.10E+02
A2	Max	1.75E+00	1.39E-11	1.48E-03	1.43E-03	6.86E-04	2.27E-07	2.42E+01
	Average	9.57E-01	7.58E-12	8.06E-04	7.81E-04	3.75E-04	1.24E-07	1.32E+01
	Min	1.62E-01	1.29E-12	1.37E-04	1.32E-04	6.35E-05	2.10E-08	2.24E+00
A3	Max	4.25E+00	1.04E-09	8.08E-03	1.01E-03	7.52E-04	7.41E-06	6.29E+01
	Average	4.25E+00	1.04E-09	8.08E-03	1.01E-03	7.52E-04	7.41E-06	6.29E+01
	Min	4.25E+00	1.04E-09	8.08E-03	1.01E-03	7.52E-04	7.41E-06	6.29E+01
A4	Max	1.63E+00	1.29E-11	1.38E-03	1.33E-03	6.40E-04	2.12E-07	2.26E+01
	Average	8.93E-01	7.07E-12	7.52E-04	7.29E-04	3.49E-04	1.16E-07	1.23E+01
	Min	1.51E-01	1.20E-12	1.27E-04	1.23E-04	5.92E-05	1.96E-08	2.09E+00
A5	Max	1.70E-01	4.64E-13	4.84E-04	5.70E-04	1.39E-04	7.96E-09	3.15E-01
	Average	1.70E-01	4.64E-13	4.84E-04	5.70E-04	1.39E-04	7.96E-09	3.15E-01
	Min	1.70E-01	4.64E-13	4.84E-04	5.70E-04	1.39E-04	7.96E-09	3.15E-01
B1-7	Max	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	2.28E-01	1.81E-12	1.92E-04	1.86E-04	8.92E-05	2.95E-08	3.15E+00
	Average	1.25E-01	9.86E-13	1.05E-04	1.02E-04	4.87E-05	1.61E-08	1.72E+00
	Min	2.11E-02	1.67E-13	1.78E-05	1.72E-05	8.26E-06	2.73E-09	2.91E-01
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	6.40E+00	1.75E-11	1.82E-02	2.14E-02	5.24E-03	2.99E-07	1.19E+01
	Average	3.50E+00	9.54E-12	9.94E-03	1.17E-02	2.86E-03	1.64E-07	6.47E+00
	Min	5.93E-01	1.62E-12	1.69E-03	1.98E-03	4.85E-04	2.77E-08	1.10E+00
D	Max	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products

According to ISO 14025

Resource Use, Louvers (Based on Harmonized Declared Units)



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Outputs and Waste, Louvers (Based on Harmonized Declared Units)

Outputs and Waste									
		Disposed-of-hazardous WASTE	Disposed-of non-hazardous WASTE	Disposed-of Radioactive WASTE	Components for reuse	Materials for recycling	Materials for energy recovery	Exported electrical energy	Exported thermal energy
		HWD	NHWD	RWD	CRU	MFR	MET	EEE	EET
		KG	KG	KG	KG	KG	KG	MJ	MJ
A1	Max	0.00E+00	2.73E+02	9.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	1.49E+02	4.95E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	2.53E+01	8.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A2	Max	0.00E+00	2.26E-01	5.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	1.23E-01	2.77E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	2.09E-02	4.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A3	Max	0.00E+00	2.88E+00	1.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	2.88E+00	1.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	2.88E+00	1.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A4	Max	0.00E+00	2.11E-01	4.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	1.15E-01	2.58E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	1.95E-02	4.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5	Max	0.00E+00	4.24E-01	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	4.24E-01	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	4.24E-01	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B1-7	Max	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND
C1	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	Max	0.00E+00	2.94E-02	6.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	1.61E-02	3.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	2.72E-03	6.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C3	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	Max	0.00E+00	1.59E+01	1.36E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Average	0.00E+00	8.71E+00	7.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Min	0.00E+00	1.48E+00	1.26E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D	Max	MND	MND	MND	MND	MND	MND	MND	MND
	Average	MND	MND	MND	MND	MND	MND	MND	MND
	Min	MND	MND	MND	MND	MND	MND	MND	MND

Environment



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

LCA Results: Lite Kits (Based on IBU PCR Required Declared Unit)

TRACI 2.1, Lite Kits (Based on IBU PCR Required Declared Unit)

	Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential of Fossil Resources
	GWP	ODP	AP	EP	POCP	ADPE
	kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg N eq.	kg O ₃ eq.	MJ Surplus Energy
A1	1.89E+01	2.64E-08	1.12E-01	3.96E-03	8.44E+00	1.35E+02
A2	7.08E-01	6.06E-12	3.01E-03	2.85E-04	9.31E-02	1.35E+00
A3	4.53E+00	3.44E-09	9.56E-03	3.67E-01	1.40E-01	8.39E+00
A4	6.60E-01	5.65E-12	2.80E-03	2.66E-04	8.68E-02	1.25E+00
A5	1.73E-01	5.01E-13	1.35E-03	5.23E-04	3.71E-03	4.12E-02
B1-7	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	9.21E-02	7.88E-13	3.91E-04	3.71E-05	1.21E-02	1.75E-01
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	2.63E+00	7.62E-12	2.06E-02	7.96E-03	5.65E-02	6.27E-01
D	MND	MND	MND	MND	MND	MND

CML 2001-April 2013, Lite Kits (Based on IBU PCR Required Declared Unit)

	Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential for Non-Fossil Resources	Abiotic Depletion Potential of Fossil Resources
	GWP	ODP	AP	EP	POCP	ADPE	ADPE
	kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg (PO ₄) ₃₋ eq.	kg ethane eq.	kg Sb Eq.	MJ Surplus Energy
A1	1.91E+01	2.57E-08	1.19E-01	6.98E-03	9.45E-03	2.67E-03	2.15E+02
A2	7.28E-01	5.77E-12	6.13E-04	5.94E-04	2.85E-04	9.43E-08	1.01E+01
A3	4.53E+00	3.17E-09	9.21E-03	1.13E-03	8.53E-04	2.56E-05	6.78E+01
A4	6.79E-01	5.38E-12	5.72E-04	5.54E-04	2.66E-04	8.79E-08	9.38E+00
A5	1.73E-01	4.71E-13	4.91E-04	5.78E-04	1.41E-04	8.07E-09	3.20E-01
B1-7	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	9.47E-02	7.50E-13	7.97E-05	7.73E-05	3.71E-05	1.23E-08	1.31E+00
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	2.66E+00	7.26E-12	7.56E-03	8.90E-03	2.18E-03	1.24E-07	4.92E+00
D	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Resource Use, Lite Kits (Based on IBU PCR Required Declared Unit)

	RENEWABLE primary energy excluding the RENEWABLE primary energy used as raw materials	Use of RENEWABLE primary energy resources used as raw materials	Total use of RENEWABLE primary energy	Use of NON-RENEWABLE primary energy excluding the NON-RENEWABLE primary energy resources used as raw materials	Use of NON-RENEWABLE primary energy resources used as raw materials	Total use of NON-RENEWABLE primary energy (primary energy and NON-RENEWABLE primary energy resources used as raw materials)	Use of SECONDARY MATERIALS	Use of RENEWABLE SECONDARY FUELS	Use of NON-RENEWABLE SECONDARY FUELS	Use of FRESH WATER resources
	PERE	PERM	PERT	PENRE	PENRM	PENRT	SM	RSF	NRSF	FW
	MJ	MJ	MJ	MJ	MJ	MJ	KG	MJ	MJ	M ³
A1	2.00E+01	0.00E+00	2.00E+01	2.36E+02	0.00E+00	2.36E+02	0.00E+00	0.00E+00	0.00E+00	2.38E+01
A2	1.57E-01	0.00E+00	1.57E-01	9.99E+00	0.00E+00	9.99E+00	0.00E+00	0.00E+00	0.00E+00	3.25E-02
A3	9.19E+00	0.00E+00	9.19E+00	7.53E+01	0.00E+00	7.53E+01	0.00E+00	0.00E+00	0.00E+00	1.49E+00
A4	1.46E-01	0.00E+00	1.46E-01	9.32E+00	0.00E+00	9.32E+00	0.00E+00	0.00E+00	0.00E+00	3.03E-02
A5	1.79E-02	0.00E+00	1.79E-02	3.29E+00	0.00E+00	3.29E+00	0.00E+00	0.00E+00	0.00E+00	9.33E-03
B1-	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	2.04E-02	0.00E+00	2.04E-02	1.30E+00	0.00E+00	1.30E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-03
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	2.72E-01	0.00E+00	2.72E-01	5.01E+01	0.00E+00	5.01E+01	0.00E+00	0.00E+00	0.00E+00	1.42E-01
D	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Outputs and Waste, Lite Kits (Based on IBU PCR Required Declared Unit)

	Disposed-of-hazardous WASTE	Disposed-of non-hazardous WASTE	Disposed-of Radioactive WASTE	Components for reuse	Materials for recycling	Materials for energy recovery	Exported electrical energy	Exported thermal energy
	HWD	NHWD	RWD	CRU	MFR	MET	EEE	EET
	KG	KG	KG	KG	KG	KG	MJ	MJ
A1	0.00E+00	9.96E+01	3.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A2	0.00E+00	9.28E-02	2.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A3	0.00E+00	3.58E+00	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A4	0.00E+00	8.65E-02	1.94E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5	0.00E+00	4.30E-01	3.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B1-	MND	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	0.00E+00	1.21E-02	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	0.00E+00	6.54E+00	5.57E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D	MND	MND	MND	MND	MND	MND	MND	MND



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

LCA Results: Louvers (Based on IBU PCR Required Declared Unit)

TRACI 2.1, Louvers (Based on IBU PCR Required Declared Unit)

	Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential of Fossil Resources
	GWP	ODP	AP	EP	POCP	ADPE
	kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg N eq.	kg O ₃ eq.	MJ Surplus Energy
A1	6.26E+01	3.58E-08	3.18E-01	8.14E-03	3.43E+00	5.48E+01
A2	9.42E-01	8.07E-12	4.00E-03	3.80E-04	1.24E-01	1.79E+00
A3	4.24E+00	1.12E-09	8.43E-03	8.23E-02	1.25E-01	7.78E+00
A4	8.79E-01	7.52E-12	3.73E-03	3.54E-04	1.16E-01	1.67E+00
A5	1.70E-01	4.94E-13	1.33E-03	5.16E-04	3.66E-03	4.06E-02
B1-7	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	1.23E-01	1.05E-12	5.20E-04	4.94E-05	1.61E-02	2.33E-01
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	3.50E+00	1.01E-11	2.74E-02	1.06E-02	7.52E-02	8.34E-01
D	MND	MND	MND	MND	MND	MND

CML 2001-April 2013, Louvers (Based on IBU PCR Required Declared Unit)

	Global Warming Potential	Depletion Potential of Stratospheric Ozone Layer	Acidification Potential	Eutrophication Potential	Photochemical Ozone Creation Potential	Abiotic Depletion Potential for Non-Fossil Resources	Abiotic Depletion Potential of Fossil Resources
	GWP	ODP	AP	EP	POCP	ADPE	ADPE
	kg CO ² eq.	kg CFC 11 eq	kg SO ² eq.	kg (PO ⁴) ³⁻ eq.	kg ethane eq.	kg Sb Eq.	MJ Surplus Energy
A1	6.24E+01	3.33E-08	3.33E-01	1.90E-02	2.18E-02	2.30E-05	6.51E+02
A2	9.57E-01	7.58E-12	8.06E-04	7.81E-04	3.75E-04	1.24E-07	1.32E+01
A3	4.25E+00	1.04E-09	8.08E-03	1.01E-03	7.52E-04	7.41E-06	6.29E+01
A4	8.93E-01	7.07E-12	7.52E-04	7.29E-04	3.49E-04	1.16E-07	1.23E+01
A5	1.70E-01	4.64E-13	4.84E-04	5.70E-04	1.39E-04	7.96E-09	3.15E-01
B1-7	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	1.25E-01	9.86E-13	1.05E-04	1.02E-04	4.87E-05	1.61E-08	1.72E+00
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	3.50E+00	9.54E-12	9.94E-03	1.17E-02	2.86E-03	1.64E-07	6.47E+00
D	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Resource Use, Louvers (Based on IBU PCR Required Declared Unit)

	RENEWABLE primary energy excluding the RENEWABLE primary energy used as raw materials	Use of RENEWABLE primary energy resources used as raw materials	Total use of RENEWABLE primary energy	Use of NON-RENEWABLE primary energy excluding the NON-RENEWABLE primary energy resources used as raw materials	Use of NON-RENEWABLE primary energy resources used as raw materials	Total use of NON-RENEWABLE primary energy (primary energy and NON-RENEWABLE primary energy resources used as raw materials)	Use of SECONDARY MATERIALS	Use of RENEWABLE SECONDARY FUELS	Use of NON-RENEWABLE SECONDARY FUELS	Use of FRESH WATER resources
	PERE	PERM	PERT	PENRE	PENRM	PENRT	SM	RSF	NRSF	FW
	MJ	MJ	MJ	MJ	MJ	MJ	KG	MJ	MJ	M ³
A1	3.43E+00	5.48E+01	6.24E+01	3.33E-08	3.33E-01	1.90E-02	2.18E-02	2.30E-05	6.51E+02	2.07E+02
A2	1.24E-01	1.79E+00	9.57E-01	7.58E-12	8.06E-04	7.81E-04	3.75E-04	1.24E-07	1.32E+01	2.09E-01
A3	1.25E-01	7.78E+00	4.25E+00	1.04E-09	8.08E-03	1.01E-03	7.52E-04	7.41E-06	6.29E+01	8.78E+00
A4	1.16E-01	1.67E+00	8.93E-01	7.07E-12	7.52E-04	7.29E-04	3.49E-04	1.16E-07	1.23E+01	1.95E-01
A5	3.66E-03	4.06E-02	1.70E-01	4.64E-13	4.84E-04	5.70E-04	1.39E-04	7.96E-09	3.15E-01	1.76E-02
B1-	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	1.61E-02	2.33E-01	1.25E-01	9.86E-13	1.05E-04	1.02E-04	4.87E-05	1.61E-08	1.72E+00	2.72E-02
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	7.52E-02	8.34E-01	3.50E+00	9.54E-12	9.94E-03	1.17E-02	2.86E-03	1.64E-07	6.47E+00	3.62E-01
D	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Outputs and Waste, Louvers (Based on IBU PCR Required Declared Unit)

	Disposed-of-hazardous WASTE	Disposed-of non-hazardous WASTE	Disposed-of Radioactive WASTE	Components for reuse	Materials for recycling	Materials for energy recovery	Exported electrical energy	Exported thermal energy
	HWD	NHWD	RWD	CRU	MFR	MET	EEE	EET
	KG	KG	KG	KG	KG	KG	MJ	MJ
A1	2.07E+02	0.00E+00	2.07E+02	7.88E+02	0.00E+00	7.88E+02	0.00E+00	0.00E+00
A2	2.09E-01	0.00E+00	2.09E-01	1.33E+01	0.00E+00	1.33E+01	0.00E+00	0.00E+00
A3	8.78E+00	0.00E+00	8.78E+00	6.99E+01	0.00E+00	6.99E+01	0.00E+00	0.00E+00
A4	1.95E-01	0.00E+00	1.95E-01	1.24E+01	0.00E+00	1.24E+01	0.00E+00	0.00E+00
A5	1.76E-02	0.00E+00	1.76E-02	3.25E+00	0.00E+00	3.25E+00	0.00E+00	0.00E+00
B1-	MND	MND	MND	MND	MND	MND	MND	MND
C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C2	2.72E-02	0.00E+00	2.72E-02	1.73E+00	0.00E+00	1.73E+00	0.00E+00	0.00E+00
C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C4	3.62E-01	0.00E+00	3.62E-01	6.67E+01	0.00E+00	6.67E+01	0.00E+00	0.00E+00
D	MND	MND	MND	MND	MND	MND	MND	MND



ENVIRONMENTAL PRODUCT DECLARATION



National Guard Products
Lite Kits and Louvers

According to ISO 14025

Life Cycle Assessment Interpretation

A dominance analysis evaluates each life cycle stage and compares the impacts from that stage to the sum of the impacts calculated for all declared modules. A Dominance Analysis was completed for the TRACI results for both the Lite Kits and Louver products.

For both Lite Kits and Louvers, the A1 life cycle stage (extraction, processing and sourcing of raw material) is responsible for the vast majority of impacts (50-90%) across all impact categories. The A3 stage (manufacturing) is the second most impactful life cycle stage.