Fire Core Door

VT Industries



Environmental Product Declaration

EPD Registration Number:	EPD11380
Version Date:	2026-11-05
Validity Date:	2031-11-05

Product Category Rule

ISO 21930:2017

In accordance with ISO 14025

EPD of a specific product as an average of several manufacturing plants with additional results for product variations.

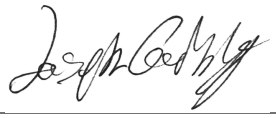
Program

Program: NSF Certification LLC
www.nsf.org

This EPD was not written to support comparative assertions. EPDs based on different PCRs or different calculation models may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results due to and not limited to the practitioner's assumptions, the source of the data used in the study and the software tool used to conduct the study.

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

General Information

Program Operator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Manufacturer Name and Address	VT Industries 1000 Industrial Park Holstein, IA 51025
EPD Registration Number	EPD11380
Declared Product and Functional/Declared Unit	1 single door leaf measuring 1.95m^2 at nominal 44.45 mm thickness
Reference PCR and Version Number	NSF/ASTM Interior Architectural Wood Door Leaves v6
Product's Intended Application and Use	Interior areas where extra protection is needed against constant wear and traffic and aesthetics are important.
Product RSL	N/A
Markets of Applicability	North America
Version Date	2026-11-05
Period of Validity	5 years from date of issue
EPD Type	EPD of a specific product as an average of several manufacturing plants with additional results for product variations.
Intended Audience	Business-to-Business
EPD Scope	Cradle to gate
Year of Reported Manufacturer Primary Data	2025
LCA Software and Version Number	Sphera LCA FE (fka GaBi) 10.9.0.31
LCI Database and Version Number	Sphera Managed LCA Content (fka GaBi) 2025.2
LCIA Methodology and Version Number	TRACI 2.1, CML2001-Jan 2016, IPCC AR5
The sub-category PCR review was Conducted by:	Dr. Thomas Gloria, PhD – Industrial Ecology Consultants Dr. Michael Overcash – Environmental Clarity Dr. Bill Stough – Bill Stough, LLC
Independent, third-party verification of the declaration and data, according to ISO 14040 (2006), ISO 14044 (2006), 14025 (2006), ISO 21930, and PCF NSF/ASTM Architectural Wood Door Leaves PCR (2022) which serves as the core PCR.	Joseph Geibig – Ecoform joseph@ecoform.com 
This life cycle assessment was conducted in accordance with ISO 14044, ISO 21930, and the reference PCR by:	Alana Brittin (info@wapsustainability.com) at WAP Sustainability (1701 Market St, Chattanooga, TN 37408) commissioned by VT Industries
Procedure for follow-up of data during EPD validity involves third-party verifier	☐ Yes ☒ No

Limitations: Environmental declarations from different programs (ISO 14025) may not be comparable.

Comparison: This EPD meets all comparability requirements stated in ISO 14025:2006. However, differences in certain assumptions, data quality, and variability between LCA data sets may still exist. As such, caution should be exercised when evaluating EPDs from different manufacturers or programs, as the EPD results may not be entirely comparable. Any EPD comparison must be carried out at the construction works level per ISO 21930:2017 guidelines. The results of this EPD reflect an average performance by the product and its actual impacts may vary on a case-to-case basis.

This EPD is intended to primarily be used for business to business (B2B) communication. Further explanatory material can be obtained supporting this EPD by reaching out to VT associates.

This EPD is an average EPD intended to represent similar products made across multiple manufacturing facilities. Results could vary for any of the underlying products included in the average.

Information about EPD owner

EPD Owner & Contact

VT Industries, Eric Hanson (EQHanson@vtindustries.com)

Description of the organization

VT Industries commissioned this LCA study. Primary data were provided by VT Industries associates from the Holstein, Neenah, and Two Rivers facilities in which the products are produced. WAP Sustainability was contracted to develop the LCA model and complete this background report. Alana Brittin of WAP Sustainability served as the project manager. Chandler Jacobsen of WAP Sustainability was the lead LCA practitioner. Primary data were collected, and quality assured through efforts of both WAP Sustainability and VT Industries.

Name and location of production sites

Two Rivers, One Eggers Drive, Two Rivers, WI, 54241

Neenah, 164 North Lake Street, Neenah, WI, 54956

Holstein, 1000 Industrial Park, Holstein, IA, 51025

Product Information

Product name

VT Industries Fire Core Door, with Wood Veneer, High Impact Vinyl, Medium Density Overlay (MDO), High Pressure Decorative Laminate (HPDL), High Density Fiberboard (HDF), Engineered Veneer, or Bamboo facing with or without lead lining 1/8" thick or 1/16" thick



Figure 1: Product Image

UN CPC code: 31600

Product description

This Environmental Product Declaration covers the following products from CSI division 08 14 00 and 08 15 00:

- Fire Core

All fire core doors are fire rated. Additionally, these core types can be used with seven different facing types listed below:

- Wood Veneer
- High Impact Vinyl
- Medium Density Overlay (MDO)
- High Pressure Decorative Laminate (HPDL)
- High Density Fiberboard (HDF)
- Engineered Veneer
- Bamboo

In addition to the seven facing options, the doors can be optionally lead lined. The lead lining can be 1/8" thick or 1/16" inch thick.

The reference product in this EPD is the fire-rated particleboard core variation with a wood veneer facing and no lead lining. Results for all other particleboard core variations can be found in Appendix A.

Table 1: Technical Specifications for Fire Core Doors

Technical Specifications	Standard
ANSI/WDMA I.S. 1A	Industry Standard for Interior Architectural Wood Flush Doors
ANSI/WDMA I.S. 6A	Industry Standards for Interior Architectural Stile & Rail Doors

Applicability

VT Industry doors are highly versatile, custom-engineered architectural wood doors that are designed for commercial applications like healthcare, hospitality, education, and government.

Manufacturing description

The doors are manufactured to order in highly automated facilities using hot-press technology. The cores are cut to sizes, the inner stiles are rails are bonded to the core, the crossbands are applied to both faces, the edge materials are adhered and trimmed, the face materials are individually pressed, the doors are machined to exacting tolerances to accept hardware, the doors are factory finished using UV cured stains and sealants and the doors are individually poly-bagged and packaged for shipment.

Content declaration

The composition of the product is provided below, with a total product weight of 233.0 kg.

Table 2: Weight and percent composition of reference product.

Product components	[kg]	[%]	Biogenic carbon content [kg CO2/kg product]
Product			
Core	1.88E+02	80.6%	7.50E-02
Crossbands	1.89E+01	8.1%	3.48E+00
Stiles	1.57E+01	6.7%	1.64E+00
Rails	3.27E+00	1.4%	1.64E+00
Veneer	2.31E+00	1.0%	1.64E+00
Adhesive/Glue	2.74E+00	1.2%	N/A
Wood Edge	1.72E+00	0.6%	3.67E+00
Intumescent	1.85E-01	0.1%	N/A
Other materials	4.38E-01	>1%	N/A
Packaging			
Plastic film	1.81E-01	0.1%	N/A
Plastic strapping	4.69E-02	>0.0%	N/A
Pallet	9.90E+00	4.3%	4.95E+00
Styrofoam	5.60E-03	>0.0%	N/A
Particleboard	7.17E+00	3.1%	3.01E+00
Cardboard	5.75E-01	0.2%	2.47E-01

No hazardous materials were identified in the product.

LCA Information

Declared Unit

The declared unit is 1 single door leaf measuring 1.95m^2 at nominal 44.45 mm thickness. For an average EPD for declared unit of 1 single door leaf measuring 1.95m^2 at nominal 44.45 mm thickness, the representativeness of the average EPD could be descripted by relevant technical properties such as product mass. Data were provided for door leaves at standard size and nominal thickness. The ratio of standard door is 1. The average product grouping ranges from 231 – 235 kg.

Table 3: Functional unit details for reference product.

Declared Unit Information	Unit	Value
Declared Unit	m^2	1.95
Thickness	mm	44.45
Product Mass	kg	233.0

System Boundary

The scope of the EPD is cradle-to-gate. Production of capital goods, infrastructure (except for electricity and heat, end of life, and as included in other datasets), and personnel-related activities are excluded, as are long-term emissions. Impacts from waste treatment are accounted for in the module where generated.

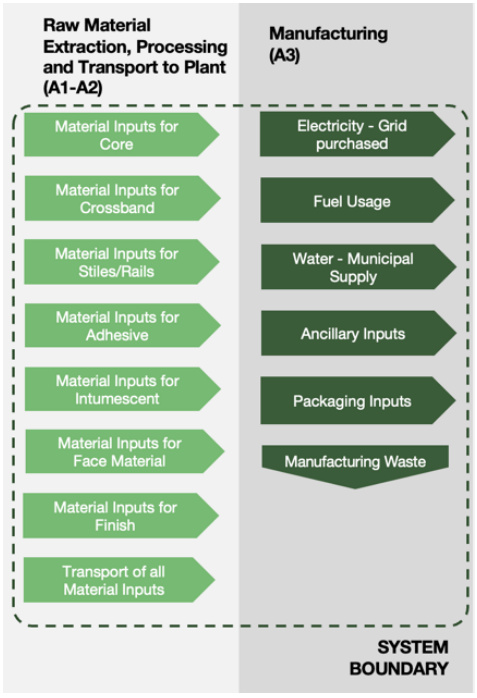


Figure 2: System Diagram

Table 4: Modules Declared and Data Variation

	Production			Construction		Use							End of Life				Benefits & Loads Beyond System Boundary
	Raw Material Supply	Transport	Manufacturing	Transport to Site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction	Transport	Waste Processing	Disposal	Reuse, Recovery, Recycling Potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geography	US	US	US	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Allocation

There are no products other than the product under study that are produced as part of the specific manufacturing processes under study. There are, however, other products produced at the manufacturing facility. To derive a per-unit value for manufacturing inputs such as electricity, thermal energy and water, allocation based on total production by mass was adopted. As a default, secondary MLC datasets use a physical basis for allocation.

Throughout the study recycled materials were accounted for via the cut-off method. Under this method, impacts and benefits associated with the previous life of a raw material from recycled stock are excluded from the system boundary. Additionally, impacts and benefits associated with secondary functions of materials at end of life are also excluded (i.e., production into a third life or energy generation from the incineration plant). The study does include the impacts associated with reprocessing and preparation of recycled materials that are part of the bill of materials of the products under study.

Cut-off rules

Inputs or outputs 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 and impact of the functional unit. Some material inputs may have been excluded within the MLC datasets used for this project. More details on material and energy input inclusion/exclusion can be found in the MLC LCA Databases Modeling Principles 2025 available here: https://lcadatabase.sphera.com/dataset-documentation-download/. All MLC datasets have been critically reviewed and conform to the exclusion requirements of the PCR.

Period Under Review

Data were collected for January through December 2025.

Comparability and Benchmarking

This LCA study supporting this EPD was not completed with the intent that comparative assertions with external objects or public disclosures (i.e., comparative marketing claims) would be made. EPDs are, however, often compared to inform procurement decisions. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact

assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see ISO 14025.

Estimates and Assumptions

The upstream raw materials go through some level of processing, e.g., rolling, stamping and bending, etc. but the exact processing details, including energy use and scrap rates are not known. MLC datasets are used to represent these processes, including default loss rates. It is estimated that this may slightly overestimate or underestimate impacts, but within a small range, +/- 5%, based on typical scrap rates and the minimal amount of energy used compared to upstream raw material production.

The inclusion of overhead energy data was determined appropriate due to the inability to sub-meter and isolate manufacturing energy from overhead energy.

Significant data limitations currently exist within the LCI data used to generate waste metrics for Life Cycle Assessments and Environmental Product Declarations. The waste metrics were calculated in a way conformant with the requirements of ISO 21930:2017, but these values represent rough estimates and are for informational purposes only. As such, no decisions regarding actual cradle-gate waste performance between products should be derived from these reported values.

Units

All data and results are presented using SI units.

Data Quality Assessment

The assessed data quality for each data point utilized within the study can be viewed in the LCA Report. Overall data quality is considered good. Improvements can be made through the modification of datasets to incorporate more regional specificity, both in terms of energy and technology. However, the data were considered appropriate in relation to the goal, scope, and budget of the project.

Environmental Performance Results

Table 5: LCIA Indicators, Carbon Emissions and Removals, Resource Use, waste, and Output Flow Indicators

Abbreviation	Long Description	Unit
IPCC AR5		
GWPi	Global warming potential (100 years, including biogenic CO_2)	kg CO_2 eq
GWPe	Global warming potential (100 years, excluding biogenic CO_2)	kg CO_2 eq
TRACI 2.1		
AP	Acidification potential of soil and water	kg SO_2 eq
EP	Eutrophication potential	kg N eq
ODP	Depletion of stratospheric ozone layer	kg CFC 11 eq
SFP	Smog formation potential	kg O_3 eq
CML-baseline, v4.7 August 2016		
ADPf	Abiotic depletion potential for fossil resources	MJ
Resource Use Parameters		
RPR_E	Use of renewable primary energy excl. renewable primary energy resources used as raw materials	MJ, net calorific value (LHV)
RPR_M	Use of renewable primary energy resources used as raw materials	MJ, net calorific value
$NRPR_E$	Use of non-renewable primary energy excl. non-renewable primary energy resources used as raw materials	MJ, net calorific value
$NRPR_M$	Use of non-renewable primary energy resources used as raw materials	MJ, net calorific value
SM	Use of secondary materials	kg
RSF	Use of renewable secondary fuels	MJ, net calorific value
NRSF	Use of non-renewable secondary fuels	MJ, net calorific value
RE	Recovered energy	MJ, net calorific value
FW	Net use of fresh water	m^3
Waste Parameters and Output Flows		
HWD	Disposed-of-hazardous waste	kg
NHWD	Disposed-of non-hazardous waste	kg
HLRW	High-level radioactive waste, conditioned, to final repository	kg
ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository	kg
CRU	Components for reuse	kg
MR	Materials for recycling	kg
MER	Materials for energy recovery	kg
EEE	Exported electrical energy	MJ
Carbon Emissions and Removals		
BCRP	Biogenic Carbon Removal from Product	kg CO_2
BCEP	Biogenic Carbon Emission from Product	kg CO_2
BCRK	Biogenic Carbon Removal from Packaging	kg CO_2
BCEK	Biogenic Carbon Emission from Packaging	kg CO_2
BCEW	Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg CO_2
CCE	Calcination Carbon Emissions	kg CO_2
CCR	Carbonation Carbon Removals	kg CO_2
CWNR	Carbon Emissions from Combustion of Waste from Non- Renewable Sources used in Production Processes	kg CO_2

Table 6: LCIA Indicator, Carbon Emissions and Removals, and Resource Use, Waste, and Output Flow Indicators

Impact	Unit	Total	A1	A2	A3
IPCC					
GWPi	kg CO2 eq	2.45E+02	1.41E+02	5.31E+00	9.82E+01
GWPe	kg CO2 eq	2.62E+02	1.58E+02	5.26E+00	9.84E+01
CML					
ADPF	MJ	2.85E+03	1.66E+03	6.67E+01	1.13E+03
TRACI					
AP	kg SO2 eq	3.89E-01	2.50E-01	2.83E-02	1.11E-01
EP	kg N eq	5.06E-02	3.04E-02	7.24E-03	1.30E-02
ODP	kg CFC 11 eq	3.70E-08	3.67E-08	2.35E-13	2.38E-10
SFP	kg O3 eq	3.89E-01	2.50E-01	2.83E-02	1.11E-01
Resource Use Parameters					
RPRE	MJ	1.26E+03	7.07E+02	2.80E+00	5.55E+02
RPRM	MJ	2.42E+02	2.41E+02	0.00E+00	1.02E+00
NRPRE	MJ	3.12E+03	1.80E+03	6.73E+01	1.25E+03
NRPRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SM	kg	9.78E+00	9.78E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	6.24E-01	3.36E-01	3.02E-03	2.86E-01
Waste Parameters and Output Flows					
HWD	kg	4.01E-02	3.28E-05	1.12E-08	4.01E-02
NHWD	kg	2.42E+01	2.17E+01	6.88E-03	2.52E+00
HLRW	kg	9.96E-05	4.65E-05	2.75E-07	5.28E-05
ILLRW	kg	8.88E-02	4.44E-02	2.31E-04	4.42E-02
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Emissions and Removals					
BCRP	kg CO2	2.64E+01	2.63E+01	0.00E+00	1.07E-01
BCEP	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK	kg CO2	1.19E-01	0.00E+00	0.00E+00	1.19E-01
BCEK	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	kg CO2	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Biogenic Carbon

Biogenic carbon plays a significant role in the LCA results for these products. As a cradle-to-gate LCA, this shows the impacts of biogenic carbon only up to the factory gate. Given that biogenic carbon is an inherent property of a material, the result of this LCA scope is that this study only shows the uptake of carbon in the product and packaging. The emission of this biogenic carbon occurs outside of the scope of this study; however, per ISO 21930, the flows of biogenic carbon leaving the system boundary must be reported. Below, Table 7 illustrate the flow of biogenic carbon through this product system from cradle-to-grave. Module A5 (Installation) illustrates the emission of biogenic carbon from the disposal of packaging. Modules C3/C4 (Waste Processing/Disposal) illustrate the emissions from the product at end of life under the assumption of 100% emission. Note that for modules A5 and C3/C4 illustrate only the emissions of biogenic carbon and do not reflect any other activities or impacts.

Table 7: Carbon Emissions and Removals

Impact Categories	A1	A2	A3	A1-A3	A5	C3/C4
Biogenic Carbon Indicators						
BCRP [kg CO2]	2.63E+01	0.00E+00	1.07E-01	2.64E+01	0.00E+00	0.00E+00
BCEP [kg CO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E+01
BCRK [kg CO2]	0.00E+00	0.00E+00	1.19E-01	1.19E-01	0.00E+00	0.00E+00
BCEK [kg CO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01	0.00E+00

List of Abbreviations

CAS Chemical Abstracts Service

CPC Central Product Classification

EPD Environmental Product Declaration

IPCC Intergovernmental Panel on Climate Change

ISO International Organization for Standardization

LCA Life Cycle Assessment

LCI Life Cycle Inventory

LCIA Life Cycle Impact Assessment

MLC Managed Lifecycle Content (Sphera database)

N/A Not Applicable

ND Not Declared

PCR Product Category Rule

TRACI Tool for Reduction and Assessment of Chemicals and Other Environmental Impacts

US United States

VOC Volatile Organic Compound

References

1. ISO 14040: 2006/ Amd 1:2020: Environmental Management – Life cycle assessment – Requirements and Guidelines.
2. ISO 14044: 2006/ Amd 1:2017/ Amd 2:2020: Environmental Management – Life cycle assessment – Requirements and Guidelines – Amendment 1.
3. ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and Procedures.
4. ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.
5. IPCC. (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.
6. TRACI: The Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts. Version 2.1 – User Guide - https://nepis.epa.gov/Adobe/PDF/P100HN53.pdf.

Appendix A – Additional Results for Product Variations

Results reported in this section are A1-A3 total averages across all VT Industries manufacturing facilities that are intended to be representative for a specific product type. Further detail on variations between manufacturing facilities can be found in the LCA report upon request. Note that for BCRP, BCEP, and BCRK A5 impacts are zero for all products and that for BCRP, BCRK, and BCEK C3/C4 impacts are zero for all products. The declared unit according to the PCR is 1 single door leaf measuring 1.95m^2 at nominal 44.45 mm thickness. Data were provided for door leaves at standard size and nominal thickness. The ratio of standard door is 1.

Table 8: Additional Results for Bamboo and Engineered Veneer faced doors

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
Facer Type	Bamboo	Bamboo	Bamboo	Engineered Veneer	Engineered Veneer	Engineered Veneer
Lead Lining	1/16"	1/8"	No	1/16"	1/8"	No
Fire Rated	Yes	Yes	Yes	Yes	Yes	Yes
GWPi [kg CO2 eq]	3.66E+02	4.92E+02	2.40E+02	4.57E+02	6.04E+02	3.10E+02
GWPe [kg CO2 eq]	3.89E+02	5.15E+02	2.62E+02	4.74E+02	6.21E+02	3.27E+02
ODP [kg CFC 11 eq]	3.71E-08	3.71E-08	3.71E-08	3.30E-08	3.30E-08	3.30E-08
AP [kg SO2 eq]	1.04E+00	1.69E+00	3.83E-01	1.12E+00	1.80E+00	4.51E-01
EP [kg N eq]	9.84E-02	1.47E-01	5.02E-02	1.08E-01	1.58E-01	5.78E-02
SFP [kg O3 eq]	1.52E+01	2.32E+01	7.26E+00	1.64E+01	2.46E+01	8.19E+00
ADPf [MJ]	4.21E+03	5.57E+03	2.85E+03	5.20E+03	6.79E+03	3.60E+03
RPRE [MJ]	1.64E+03	2.07E+03	1.21E+03	2.11E+03	2.65E+03	1.57E+03
RPRM [MJ]	2.49E+02	2.49E+02	2.49E+02	2.30E+02	2.30E+02	2.30E+02
NRPRE [MJ]	4.63E+03	6.15E+03	3.11E+03	5.72E+03	7.50E+03	3.93E+03
NRPRM [MJ]	9.27E+01	9.27E+01	9.27E+01	9.47E+01	9.47E+01	9.47E+01
SM [kg]	9.78E+00	9.78E+00	9.78E+00	9.90E+00	9.90E+00	9.90E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m3]	1.58E+00	2.53E+00	6.26E-01	1.80E+00	2.80E+00	7.94E-01

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
HWD [kg]	5.39E-02	6.75E-02	4.03E-02	4.16E-02	5.20E-02	3.12E-02
NHWD [kg]	3.27E+02	6.29E+02	2.43E+01	3.23E+02	6.23E+02	2.28E+01
HLRW [kg]	1.57E-04	2.13E-04	1.00E-04	1.98E-04	2.65E-04	1.32E-04
ILRW [kg]	1.46E-01	2.02E-01	8.92E-02	1.81E-01	2.45E-01	1.16E-01
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRP [kgCO2]	2.71E+01	2.71E+01	2.71E+01	2.53E+01	2.53E+01	2.53E+01
BCEP [kgCO2]	2.71E+01	2.71E+01	2.71E+01	2.53E+01	2.53E+01	2.53E+01
BCRK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01
BCEK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01
BCEW [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5 BCEK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01
C3/C4 BCEP [kgCO2]	2.71E+01	2.71E+01	2.71E+01	2.53E+01	2.53E+01	2.53E+01

Table 9: Additional Results for HDF and HDPL faced doors

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
Facer Type	**HDF**	**HDF**	**HDF**	**HPDL**	**HPDL**	**HPDL**
Lead Lining	**1/16"**	**1/8"**	**No**	**1/16"**	**1/8"**	**No**
Fire Rated	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
GWPi [kg CO2 eq]	3.72E+02	4.98E+02	2.46E+02	4.64E+02	6.11E+02	3.17E+02
GWPe [kg CO2 eq]	3.89E+02	5.16E+02	2.63E+02	4.82E+02	6.30E+02	3.35E+02

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
ODP [kg CFC 11 eq]	4.21E-08	4.22E-08	4.21E-08	3.25E-08	3.25E-08	3.25E-08
AP [kg SO2 eq]	1.05E+00	1.70E+00	3.95E-01	1.14E+00	1.81E+00	4.61E-01
EP [kg N eq]	9.89E-02	1.47E-01	5.07E-02	1.11E-01	1.62E-01	6.09E-02
SFP [kg O3 eq]	1.53E+01	2.33E+01	7.37E+00	1.66E+01	2.48E+01	8.45E+00
ADPf [MJ]	4.23E+03	5.58E+03	2.87E+03	5.34E+03	6.94E+03	3.75E+03
RPRE [MJ]	1.70E+03	2.13E+03	1.27E+03	2.17E+03	2.70E+03	1.63E+03
RPRM [MJ]	2.50E+02	2.50E+02	2.50E+02	2.48E+02	2.48E+02	2.48E+02
NRPRE [MJ]	4.65E+03	6.17E+03	3.13E+03	5.87E+03	7.66E+03	4.09E+03
NRPRM [MJ]	9.27E+01	9.27E+01	9.27E+01	1.72E+02	1.72E+02	1.72E+02
SM [kg]	9.78E+00	9.78E+00	9.78E+00	9.90E+00	9.90E+00	9.90E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m3]	1.58E+00	2.53E+00	6.29E-01	1.83E+00	2.83E+00	8.26E-01
HWD [kg]	5.37E-02	6.73E-02	4.01E-02	4.19E-02	5.23E-02	3.15E-02
NHWD [kg]	3.27E+02	6.29E+02	2.42E+01	3.23E+02	6.23E+02	2.29E+01
HLRW [kg]	1.56E-04	2.12E-04	9.95E-05	2.01E-04	2.68E-04	1.35E-04
ILRW [kg]	1.45E-01	2.01E-01	8.87E-02	1.84E-01	2.49E-01	1.19E-01
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRP [kgCO2]	2.70E+01	2.70E+01	2.70E+01	2.63E+01	2.63E+01	2.63E+01
BCEP [kgCO2]	2.70E+01	2.70E+01	2.70E+01	2.63E+01	2.63E+01	2.63E+01
BCRK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01
BCEK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
BCEW [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5 BCEK [kgCO2]	1.19E-01	1.19E-01	1.19E-01	1.42E-01	1.42E-01	1.42E-01
C3/C4 BCEP [kgCO2]	2.70E+01	2.70E+01	2.70E+01	2.63E+01	2.63E+01	2.63E+01

Table 10: Additional Results for Laminate and MDO faced doors

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
Facer Type	Laminate	Laminate	Laminate	MDO	MDO	MDO
Lead Lining	1/16"	1/8"	No	1/16"	1/8"	No
Fire Rated	Yes	Yes	Yes	Yes	Yes	Yes
GWPi [kg CO2 eq]	2.90E+02	3.96E+02	1.85E+02	4.57E+02	6.03E+02	3.10E+02
GWPe [kg CO2 eq]	3.09E+02	4.15E+02	2.03E+02	4.74E+02	6.21E+02	3.27E+02
ODP [kg CFC 11 eq]	4.06E-08	4.06E-08	4.06E-08	3.27E-08	3.27E-08	3.27E-08
AP [kg SO2 eq]	9.72E-01	1.61E+00	3.36E-01	1.12E+00	1.80E+00	4.48E-01
EP [kg N eq]	9.26E-02	1.39E-01	4.65E-02	1.08E-01	1.58E-01	5.75E-02
SFP [kg O3 eq]	1.45E+01	2.22E+01	6.74E+00	1.64E+01	2.46E+01	8.16E+00
ADPf [MJ]	3.35E+03	4.47E+03	2.23E+03	5.20E+03	6.80E+03	3.60E+03
RPRE [MJ]	1.32E+03	1.64E+03	9.96E+02	2.10E+03	2.64E+03	1.56E+03
RPRM [MJ]	2.74E+02	2.74E+02	2.74E+02	2.40E+02	2.40E+02	2.40E+02
NRPRE [MJ]	3.68E+03	4.93E+03	2.43E+03	5.72E+03	7.50E+03	3.94E+03
NRPRM [MJ]	1.69E+02	1.69E+02	1.69E+02	9.62E+01	9.62E+01	9.62E+01
SM [kg]	9.66E+00	9.66E+00	9.66E+00	9.90E+00	9.90E+00	9.90E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m3]	1.38E+00	2.28E+00	4.83E-01	1.80E+00	2.80E+00	7.94E-01
HWD [kg]	6.68E-02	8.36E-02	5.00E-02	4.15E-02	5.18E-02	3.11E-02
NHWD [kg]	3.31E+02	6.36E+02	2.59E+01	3.23E+02	6.23E+02	2.28E+01
HLRW [kg]	1.16E-04	1.62E-04	6.98E-05	1.98E-04	2.65E-04	1.31E-04
ILRW [kg]	1.12E-01	1.60E-01	6.45E-02	1.80E-01	2.45E-01	1.15E-01
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRP [kgCO2]	2.87E+01	2.87E+01	2.87E+01	2.55E+01	2.55E+01	2.55E+01
BCEP [kgCO2]	2.87E+01	2.87E+01	2.87E+01	2.55E+01	2.55E+01	2.55E+01
BCRK [kgCO2]	9.51E-02	9.51E-02	9.51E-02	1.42E-01	1.42E-01	1.42E-01
BCEK [kgCO2]	9.51E-02	9.51E-02	9.51E-02	1.42E-01	1.42E-01	1.42E-01
BCEW [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5 BCEK [kgCO2]	9.51E-02	9.51E-02	9.51E-02	1.42E-01	1.42E-01	1.42E-01
C3/C4 BCEP [kgCO2]	2.87E+01	2.87E+01	2.87E+01	2.55E+01	2.55E+01	2.55E+01

Table 11: Additional Results for Vinyl faced and Wood Veneer doors

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
Facer Type	Vinyl	Vinyl	Vinyl	Wood Veneer	Wood Veneer	Wood Veneer
Lead Lining	1/16"	1/8"	No	1/16"	1/8"	No
Fire Rated	Yes	Yes	Yes	Yes	Yes	Yes

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
GWPi [kg CO2 eq]	4.61E+02	6.07E+02	3.14E+02	3.71E+02	4.97E+02	2.45E+02
GWPe [kg CO2 eq]	4.76E+02	6.23E+02	3.29E+02	3.89E+02	5.15E+02	2.62E+02
ODP [kg CFC 11 eq]	3.25E-08	3.25E-08	3.25E-08	3.70E-08	3.70E-08	3.70E-08
AP [kg SO2 eq]	1.12E+00	1.79E+00	4.46E-01	1.04E+00	1.70E+00	3.89E-01
EP [kg N eq]	1.08E-01	1.58E-01	5.74E-02	9.88E-02	1.47E-01	5.06E-02
SFP [kg O3 eq]	1.63E+01	2.45E+01	8.15E+00	1.53E+01	2.33E+01	7.36E+00
ADPf [MJ]	5.24E+03	6.84E+03	3.64E+03	4.21E+03	5.57E+03	2.85E+03
RPRE [MJ]	2.08E+03	2.62E+03	1.55E+03	1.69E+03	2.12E+03	1.26E+03
RPRM [MJ]	2.13E+02	2.13E+02	2.13E+02	2.42E+02	2.42E+02	2.42E+02
NRPRE [MJ]	5.76E+03	7.55E+03	3.98E+03	4.63E+03	6.15E+03	3.12E+03
NRPRM [MJ]	1.11E+02	1.11E+02	1.11E+02	9.27E+01	9.27E+01	9.27E+01
SM [kg]	9.90E+00	9.90E+00	9.90E+00	9.78E+00	9.78E+00	9.78E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m3]	1.81E+00	2.81E+00	8.05E-01	1.58E+00	2.53E+00	6.24E-01
HWD [kg]	4.14E-02	5.18E-02	3.10E-02	5.37E-02	6.73E-02	4.01E-02
NHWD [kg]	3.23E+02	6.23E+02	2.28E+01	3.27E+02	6.29E+02	2.42E+01
HLRW [kg]	2.00E-04	2.67E-04	1.33E-04	1.56E-04	2.13E-04	9.96E-05
ILRW [kg]	1.82E-01	2.47E-01	1.17E-01	1.45E-01	2.02E-01	8.88E-02
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRP [kgCO2]	2.34E+01	2.34E+01	2.34E+01	2.64E+01	2.64E+01	2.64E+01
BCEP [kgCO2]	2.34E+01	2.34E+01	2.34E+01	2.64E+01	2.64E+01	2.64E+01

Core Type	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite	Fire Composite
BCRK [kgCO2]	1.42E-01	1.42E-01	1.42E-01	1.19E-01	1.19E-01	1.19E-01
BCEK [kgCO2]	1.42E-01	1.42E-01	1.42E-01	1.19E-01	1.19E-01	1.19E-01
BCEW [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kgCO2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
A5 BCEK [kgCO2]	1.42E-01	1.42E-01	1.42E-01	1.19E-01	1.19E-01	1.19E-01
C3/C4 BCEP [kgCO2]	2.34E+01	2.34E+01	2.34E+01	2.64E+01	2.64E+01	2.64E+01