

Architectural Doors

Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012

Programme:	The International EPD[®] System EPD registered through the fully aligned regional programme/hub: EPD LatinAmerica
Programme operator:	EPD International AB Regional Hub: EPD Latin America
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1. WKS DOOR SYSTEMS

WKS is a Mexican Company with more than 20 years of experience in the door industry. We can satisfy any design/engineering solution needed in the most demanding markets with architectural doors and frames, complying with European and US standards.

At WKS we believe that a door is more than a door, and we are more than just a manufacturer. We believe the quality of our products and the service of our people guarantee the complete satisfaction of our clients.

We are committed to taking care of the environment. We believe that it is necessary to protect natural resources today to ensure the quality of life of the next generations. As a company, we must quantify our environmental impacts and take action to reduce them. This Environmental Product Declaration is the first step to achieve our goal.

This Environmental Product Declaration (EPD) is in accordance with ISO 14025, for architectural doors. The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPD of construction products may not be comparable if they do not comply with EN 15804 Sustainability of Construction Works –Environmental Product Declarations – Core rules for Central Product Classification: 31600 Builders' joinery and carpentry of wood (including cellular wood panels, assembled parquet panels, shingles and shakes) Environmental product declarations within the same product category but from different programs may not be comparable.



2. General Information

Product	Architectural doors
Declaration Owner	WKS Door Systems, S.A. de C.V. Ciudad General Escobedo, Nuevo León Textil 101, Parque Industrial Escobedo C.P. 66062, Escobedo, Nuevo León. Contact person: Ana Gabriela González González
Description of the construction product:	Architectural doors manufactured by WKS® in their different core compositions: tubular, solid, mineral and sandwich core. And in their different surfaces: veneer, painted, plastic laminate.
Declared Unit: :	1 kg door manufactured by WKS.
Main product components:	Core and structural materials (High Density Fiberboard and Laminated Strand Lumber).
Life cycle stages not considered:	Distribution, use end of life.
Content of the declaration:	This EPD is based on information modules that do not cover the aspects of use and end of life of the product. It contains in detail, for Module A1, A2, and A3: • Product definition and physical data. • Information about raw materials and origin. • Specifications on manufacturing the product. • Notes on product processing. • LCA based on a declared unit, cradle-to-gate. • LCA results. • Evidence and verifications.
For more information consult:	www.wks.com.mx
Site for which this EPD is representative:	Manufacturing Plant Textil 101, Parque Industrial Escobedo C.P. 66062, Escobedo, Nuevo León.
Intended Public:	B2B (Business to Business)



3. Product Description

WKS® produces architectural doors with different structural and surface characteristics, which provide the necessary features for different applications.



Hotels:

Meets aesthetic, safety, fire and functionality requirements.



Hospitals and Clinics:

Meets hygienic, operative and durability needs of hospitals, clinics and doctor's offices.



Residential:

Meets personalized needs, elegance, luxury, and security in residences.



Corporate:

Meets aesthetic, acoustic and security needs in offices and corporations.



Education:

Meets acoustic necessities, high traffic, and functionality of schools, administrative offices, common areas and daycares.



Government:

We help to satisfy the security necessities, guarantees and special hardware of administrative offices.

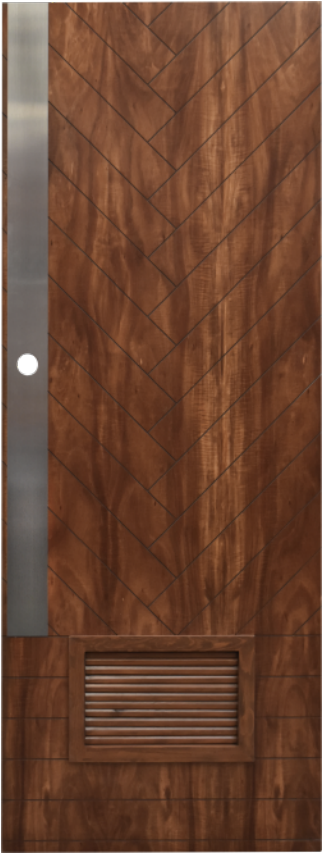
3.1 Technical specifications

The architectural doors included in this document are described in Table 1:

Table 1. Doors manufactured by WKS® included in this study

Door core	Surface Material	Certifications
Particleboard (Tubular)	Veener	Standard 20 min
	Plastic laminate	
	Painted	
Particleboard (Solid)	Veener	20 min
	Plastic laminate	30 min
	Painted	60 min
Fire-Resistant Composite (Mineral)	Veener	45 min
	Plastic laminate	60 min
	Painted	90 min
Acoustic Core	Veener	30 min
	Plastic laminate	
	Painted	

The 1.22 x 2.13 m (4'x7') doors were used as a representative reference for all types doors.



3.1 Technical specifications

International Certifications

AMERICAN FIRE RATED DOOR CERTIFICATIONS

20 min Particle Core
20 min Tubular core
45 up to 90 min Mineral Core
20 min up to 90 min Wood Composite
Frames

EUROPEAN FIRE RATED DOOR CERTIFICATION

30 min Particle Core and Sandwich Core.
60 min Particle Core.
European Frames Certification: 30 up to
60 min Timber Frames*.

*Certified Wood Frames should be in an opening door system (Door + Frame).

SUSTAINABILITY

FSC certification guarantees the product has come from a forest and supply chain that is managed responsibly. This certification assist our clients achieving LEED credits as well as environment taking care.



4. Content declaration

The architectural doors are manufactured from wood structural components, main differences are the surface finish materials and core. The door typical composition by type is presented below.

According to EN15804 declaration of material content in Table 2 is showed the substances that compose the WKS Doors and are listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization. (ECHA, 2019)

Table 2. Typical content of Tubular core Door manufactured by WKS.

Homogeneous Material or Chemical Substances	Chemical Substances	Weight (%)	CAS Number	Function of Chemical Substance	Health class
High Pressure Laminate (HPL)	High Pressure Laminate	7.0	9004-34-6	Surface finish	Exempt
Wood Sheet	Wood Sheet	6.7	Not assigned	Surface finish	Not listed
Wood Edgeband	Wood Edgeband	0.2	Not assigned	Surface finish	Not listed
Tubular Core	Tubular core	58.1 -62.8	Not assigned	Structural	Not listed
Laminated Strand Lumber	Laminated Strand Lumber	10.9 -11.3	Not assigned	Structural	Not listed
High Density Fiberboard	Ligno-celulosic Materials	22.7 -24.3	Not assigned	Structural	Not listed
	Urea Formaldehyde Resin		25036-13-9		Not listed
	Wax Paraffin		8002-74-2		Not listed
	Melamine Content		108-78-1		Not listed
	Formaldehyde Content		50-00-0		Not listed
Assembly and cold press adhesive	PVA Waterresistant assembly and cold press adhesive	0.9 - 1	9003-20-7	Assembly	Not listed
			7732-18-5		Exempt
			7446-70-0		Not listed
Hot Melt Adhesive	EVA Hot Melt Adhesive	0.1	24937-78-8	Assembly	Not listed
UV Acrylic Laquer	Methylisobutylketone	0.1	108-10-1	Surface finish	Not listed
	Toluene		108-88-3		Listed
	Isobutyl Acetate		110-19-0		Not listed
	Xilene, Mixed xylene isomers		1330-20-7		Not listed
	Ethyl acetate		141-78-6		Not listed
	2-hydroxy-2-methylpropiophenone (Photoinitiator 1173)		7473-98-5		Not listed
	Benzophenone		119-61-9		Not listed
	Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide		75980-60-8		Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	Hexamethylene diacrylate		13048-33-4		Not listed
	Butyl acetate		123-86-4		Not listed
	Aromatic naphtha, type I		64742-95-6		Not listed
UV Acrylic stucco	Styrene	0.2	100-42-5	Surface finish	Not listed
	Butylated hydroxytoluene		128-37- 0		Not listed
	Talc		14807-96-6		Not listed
	Tripropylene glycol diacrylate		42978-66-5		Not listed
	1-Propanone, 2-hydroxy-2-methyl-1-phenyl-		7473-98-5		Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed
UV Acrylic Laquer	Aromatic naphtha, type I	0.1	64742-95-6	Surface finish	Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed

Table 3. Typical content of Solid core Door manufactured by WKS

Homogeneous Material or Chemical Substances	Chemical Substances	Weight (%)	CAS Number	Function of Chemical Substance	Health class
High Pressure Laminate (HPL)	High Pressure Laminate	5.1	9004-34-6	Surface finish	Exempt
Wood Sheet	Wood Sheet	3.0	Not assigned	Surface finish	Not listed
Wood Edgeband	Wood Edgeband	0.1	Not assigned	Surface finish	Not listed
Sandwich Core	Sandwich Core		Not assigned	Structural	Not listed
Laminated Strand Lumber	Laminated Strand Lumber	6.7 -40.2	Not assigned	Structural	Not listed
High Density Fiberboard	Ligno-celulosic Materials	8.3 -13.5	Not assigned	Structural	Not listed
	Urea Formaldehyde Resin		25036-13-9		Not listed
	Wax Paraffin		8002-74-2		Not listed
	Melamine Content		108-78-1		Not listed
	Formaldehyde Content		50-00-0		Not listed
Assembly and cold press adhesive	PVA Waterresistant assembly and cold press adhesive	0.5 -0.6	9003-20-7	Assembly	Not listed
			7732-18-5		Exempt
			7446-70-0		Not listed
Hot Melt Adhesive	EVA Hot Melt Adhesive	0.1	24937-78-8	Assembly	Not listed
UV Acrylic Laquer	Methylisobutylketone	0.1	108-10-1	Surface finish	Not listed
	Toluene		108-88-3		Listed
	Isobutyl Acetate		110-19-0		Not listed
	Xilene, Mixed xylene isomers		1330-20-7		Not listed
	Ethyl acetate		141-78-6		Not listed
	2-hydroxy-2-methylpropiophenone (Photoinitiator 1173)		7473-98-5		Not listed
	Benzophenone		119-61-9		Not listed
	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		75980-60-8		Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	Hexamethylene diacrylate		13048-33-4		Not listed
	Butyl acetate		123-86-4		Not listed
	Aromatic naphtha, type I		64742-95-6		Not listed
UV Acrylic stucco	Styrene	0.1	100-42-5	Surface finish	Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	Talc		14807-96-6		Not listed
	Tripropylene glycol diacrylate		42978-66-5		Not listed
	1-Propanone, 2-hydroxy-2-methyl-1-phenyl-		7473-98-5		Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed
UV Acrylic Laquer	Aromatic naphtha, type I	0.1	64742-95-6	Surface finish	Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed

Table 4. Typical content of Mineral core Door manufactured by WKS

Homogeneous Material or Chemical Substances	Chemical Substances	Weight (%)	CAS Number	Function of Chemical Substance	Health class
High Pressure Laminate (HPL)	High Pressure Laminate	3.7	9004-34-6	Surface finish	Exempt
Wood Sheet	Wood Sheet	3.8	Not assigned	Surface finish	Not listed
Wood Edgeband	Wood Edgeband	0.1	Not assigned	Surface finish	Not listed
Mineral core & lipping	High-alumina Cement	83.4 -86.8	65997-16-2	Structural	Not listed
	Diatomaceous earth		61790-53-2		Not listed
	Continuous Filament glass fiber, non-respirable		65997-17-3		Not listed
	Cellulose pulp		65996-61-4		Not listed
High Density Fiberboard	Ligno-celulosic Materials	11.9 -12.4	Not assigned	Structural	Not listed
	Urea Formaldehyde Resin		25036-13-9		Not listed
	Wax Paraffin		8002-74-2		Not listed
	Melamine Content		108-78-1		Not listed
	Formaldehyde Content		50-00-0		Not listed
Assembly and cold press adhesive	PVA Waterresistant assembly and cold press adhesive	0.5	9003-20-7	Assembly	Not listed
			7732-18-5		Exempt
			7446-70-0		Not listed
Hot Melt Adhesive	EVA Hot Melt Adhesive	0.0	24937-78-8	Assembly	Not listed
UV Acrylic Laquer	Methylisobutylketone	0.1	108-10-1	Surface finish	Not listed
	Toluene		108-88-3		Listed
	Isobutyl Acetate		110-19-0		Not listed
	Xilene, Mixed xylene isomers		1330-20-7		Not listed
	Ethyl acetate		141-78-6		Not listed
	2-hydroxy-2-methylpropiophenone (Photoinitiator 1173)		7473-98-5		Not listed
	Benzophenone		119-61-9		Not listed
	Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide		75980-60-8		Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	Hexamethylene diacrylate		13048-33-4		Not listed
	Butyl acetate		123-86-4		Not listed
	Aromatic naphtha, type I		64742-95-6		Not listed
UV Acrylic stucco	Styrene	0.1	100-42-5	Surface finish	Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	Talc		14807-96-6		Not listed
	Tripropylene glycol diacrylate		42978-66-5		Not listed
	1-Propanone, 2-hydroxy-2-methyl-1-phenyl-		7473-98-5		Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed
UV Acrylic Laquer	Aromatic naphtha, type I	0.1	64742-95-6	Surface finish	Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed

Table 5. Typical content of Acoustic core Door manufactured by WKS

Homogeneous Material or Chemical Substances	Chemical Substances	Weight (%)	CAS Number	Function of Chemical Substance	Health class
Wood Sheet	Wood Sheet	5.3	Not assigned	Surface finish	Not listed
Wood Edgeband	Wood Edgeband	0.2	Not assigned	Surface finish	Not listed
Sandwich Core	Sandwich Core	64.7-76	Not assigned	Structural	Not listed
Laminated Strand Lumber	Laminated Strand Lumber	6.1 -11.7	Not assigned	Structural	Not listed
High Density Fiberboard	Ligno-celulosic Materials	16.6	Not assigned	Structural	Not listed
	Urea Formaldehyde Resin		25036-13-9		Not listed
	Wax Paraffin		8002-74-2		Not listed
	Melamine Content		108-78-1		Not listed
	Formaldehyde Content		50-00-0		Not listed
Assembly and cold press adhesive	PVA Waterresistant assembly and cold press adhesive	0.8 -1	9003-20-7	Assembly	Not listed
			7732-18-5		Exempt
			7446-70-0		Not listed
Hot Melt Adhesive	EVA Hot Melt Adhesive	0.1	24937-78-8	Assembly	Not listed
UV Acrylic Laquer	Methylisobutylketone	0.1	108-10-1	Surface finish	Not listed
	Toluene		108-88-3		Listed
	Isobutyl Acetate		110-19-0		Not listed
	Xilene, Mixed xylene isomers		1330-20-7		Not listed
	Ethyl acetate		141-78-6		Not listed
	2-hydroxy-2-methylpropiophenone (Photoinitiator 1173)		7473-98-5		Not listed
	Benzophenone		119-61-9		Not listed
	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		75980-60-8		Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	Hexamethylene diacrylate		13048-33-4		Not listed
	Butyl acetate		123-86-4		Not listed
	Aromatic naphtha, type I		64742-95-6		Not listed
UV Acrylic stucco	Styrene	0.2	100-42-5	Surface finish	Not listed
	Butylated hydroxytoluene		128-37- 0		Not listed
	Talc		14807-96-6		Not listed
	Tripropylene glycol diacrylate		42978-66-5		Not listed
	1-Propanone, 2-hydroxy-2-methyl-1-phenyl-		7473-98-5		Not listed
	Butylated hydroxytoluene		128-37-0		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed
UV Acrylic Laquer	Aromatic naphtha, type I	0.1	64742-95-6	Surface finish	Not listed
	Oxybis(methyl-2,1-ethanediyl) diacrylate		57472-68-1		Not listed
	1,6-Hexanediol diacrylate		13048-33-4		Not listed

5. LCA Rules

This EPD is in accordance with ISO 14025:2006, EN 15804:2012 and PCR 2012:01 Construction products and construction services Version 2.3 (2018-11-15).

Environmental potential impacts were calculated through Life Cycle Assessment (LCA) methodology according to ISO 14040:2006 and ISO 14044:2006. An external third-party verification process of the EPD was conducted according to General Programme Instructions for the International EPD® System Version 3.0. Verification includes a documental review and a validation of both the underlying LCA study and documents describing additional environmental information that justify data provided in the EPD.

5.1 Declared unit

One kilogram of door manufactured by WKS

5.2 System boundary

The declared EPD is a "Cradle-to gate EPD" in line with ISO 14025:2006. Description of the system boundary is in Table 6.



Table 6. Architectural doors manufactured by WKS product system

Life cycle environmental information of architectural doors manufactured by WKS®							Other environmental information
A1 - A3			A4 - A5		B1 - B7	C1 - C4	D
Product stage			Construction process stage		Use stage	End of life stage	Reuse recovery stage
A1	A2	A3	A4	A5	B1 - B7	C1 - C4	
Production of structural, assembly and finishing raw materials Electricity generation and production and processing of natural gas used during manufacturing	Raw materials and auxiliary inputs transport. Natural gas transport	Auxiliary inputs consumption. Transport and waste treatment. Air emissions produced during manufacture.	Product distribution	Construction and installation	Use, maintenance, repair, replacement, refurbishment, operational energy use, operational water use	De-construction, demolition, transport, waste processing, disposal	Re-use- Recovery- Recycling-potential
X	X	X	MND	MND	MND	MDN	MND
Cradle-to-gate Declared unit			These stages are not considered in the present study that allows the scope to be from cradle to grave				

**Included = X *MND = Module Not Declared*

An information modules description is included in Table 7.

Table 7. Modules included in this EPD.

A1) Raw materials supply	A2) Transportation	A3) Manufacturing
• Production of raw materials. • Production of packaging materials for raw materials. • Generation and distribution of the electricity consumed in manufacturing. • Generation of the natural gas consumed in manufacturing.	• Raw materials transportation • Auxiliary inputs transportation • Natural gas transportation	• Production and consumption of auxiliary materials. • Production and consumption of packaging materials (final product). • Waste generation and waste management processes, and transport associated to. • Air emissions

5.3 Description of the manufacturing process
The manufacturing process is described in Figure 1:

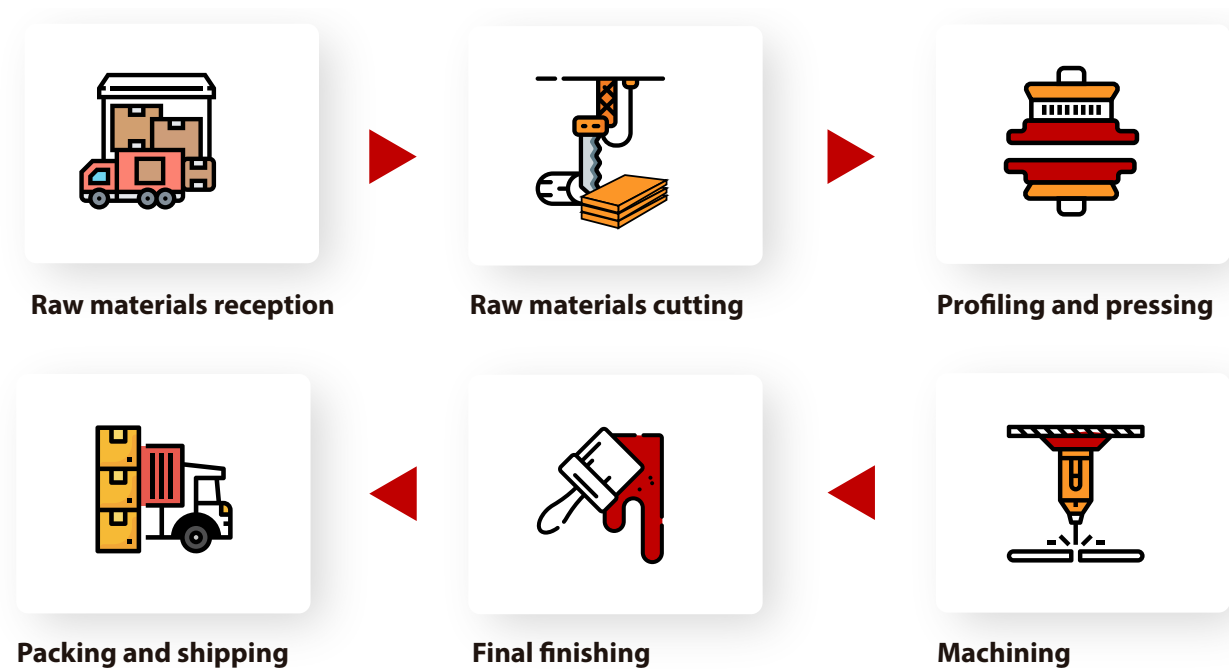


Figure. 1. Flow diagram of WKS Doors manufacture process

5.4 Assumptions

The packaging of raw materials is manufactured in the same place of origin of the raw material. The transport distance of natural gas (national average) is 791 km.

- Acetone density after use is the same.
- All the veneers and edges are made of red oak wood and their density is 780 kg/m³.
- The plastic film has a weight of 4kg and can be used to protect 590 kg.

5.5 Cut-off criteria

Company infrastructure, employee's transportation and administrative were kept out of the scope of the LCA.

5.6 Allocation

Allocation of inputs and outputs of the product system was based on a mass relation, considering the quantity produced per year of each product at the level of unit process.

For generic data Mexicanium and Ecoinvent 3.3 (Allocation - Recycled Content version) databases were used.

5.7 Time representativeness

Direct data obtained from WKS is representative for 2018.

5.8 Data quality assessment

Data quality assessment per information module is provided in Tables 8, 9 and 10.



Table 8. Raw material supply module data quality assessment

Data	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Raw materials and auxiliary inputs consumption for doors manufacture	2018	Mexico	Modern	WKS	M
Raw materials production	2018	World average	Modern	Ecoinvent 3.3	E
Energy consumption during the door manufacturing process	2018	Mexico	Modern	WKS	M
Natural gas consumption during the door manufacturing process	2018	Mexico	Modern	WKS	M
Fuel consumption and emissions related to Mexican electricity generation and distribution	2018	Mexico	Mexican technology mix	Mexicanuih	M&E
Energy consumption and emissions related to Mexican natural gas production	2018-	Mexico	Mexican technology mix	Mexicanuih	M&E

M&E: Measured and Estimated, M: Measured, E: Estimated

Table 9. Transportation module data quality assessment

Data	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Raw materials and auxiliary inputs transport distance	2018	Mexico	N/A	WKS	M
Natural gas transport distance	2018	Mexico	N/A	Google maps	E
Auxiliary inputs transport distance	2018	Mexico	N/A	WKS	M

M&E: Measured and Estimated, M: Measured, E: Estimated

Table 10. Manufacture module data quality assessment

Data	Time related coverage	Geographic coverage	Technological coverage	Data source	Measured or estimated
Production yield	2018	Mexico	Modern	WKS	E
Auxiliary inputs consumption during manufacture	2018	Mexico	Modern	WKS	M
Energy and materials consumption for auxiliary inputs manufacturing	1990 - 2017	Worldwide average without Europe	Worldwide average without Europe	Ecoinvent 3.3	E
Waste generation during manufacture	2018	Mexico	Modern	WKS	M
Processes of waste treatment, consumptions of materials and related energy.	1990 - 2017	Worldwide average without Europe	Worldwide average without Europe	Ecoinvent 3.3	M&E
Air and water emissions during manufacture	2018	Mexico	Modern	WKS	M
Waste transport distance	2018	Mexico	Modern	WKS / Google Maps	M
Consumption of materials and energy and emissions related to waste transport requirements	1992-2014	Worldwide average without Europe	Worldwide average without Europe	Ecoinvent 3.3	M&E

M&E: Measured and Estimated, M: Measured, E: Estimated

6. Environmental performance

SimaPro 8.4 was used for Life Cycle Impact Assessment

6.1 Use of resources

Parameters describing resource use were evaluated with the Cumulated Energy Demand method version 1.09 (Frischknecht et al. 2007) except for the indicator of use of net fresh water that was evaluated with Recipe 2016 Midpoint (H) version 1.00 (Huijbregts et al. 2017).

The detailed description of the use of resources is provided in Table 11, 12, 13 y 14.

Table 11. Resource Indicators per architectural door kilogram manufactured by WKS: Module A1

Parameter	Architectural Doors										
	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)	0.57	0.59	2.21	0.74	0.45	1.77	6.52	6.04	7.63	0.50	0.71
Use of renewable primary energy as raw materials (MJ)	32.74	29.27	28.99	46.09	21.46	22.90	6.39	3.15	3.15	12.52	8.91
Total use of renewable primary energy resources (MJ)	33.31	29.86	31.20	46.83	21.91	24.67	12.91	9.19	10.78	13.02	9.62
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)	28.94	28.89	33.98	36.54	22.11	27.17	93.19	81.14	96.95	15.06	18.75
Use of non-renewable primary energy used as raw materials (MJ)	0	0	0	0.00	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (MJ)	28.94	28.89	33.98	36.54	22.11	27.17	93.19	81.14	96.95	15.06	18.75
Use of secondary material (kg)	0.27	0.27	0.29	0.00	0.37	0.02	0.00	0.00	0.02	0.27	0.29
Use of renewable secondary fuels (MJ)	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (MJ)	0	0	0	0	0	0	0	0	0	0	0
Net use of fresh water (m³)	0.028	0.030	0.041	0.029	0.003	0.062	0.085	0.082	0.029	0.029	0.013

Table 12. Resource Indicators per architectural door kilogram manufactured by WKS: Module A2

Parameter	Architectural Doors										
	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)	0.11	0.06	0.09	0.19	0.09	0.11	0.21	0.35	0.18	0.09	0.09
Use of renewable primary energy as raw materials (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of renewable primary energy resources (MJ)	0.11	0.06	0.09	0.19	0.09	0.11	0.21	0.35	0.18	0.09	0.09
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)	7.67	3.87	6.04	14.12	5.78	6.75	16.28	27.49	13.96	5.92	5.51
Use of non-renewable primary energy used as raw materials (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Total use of non-renewable primary energy resources (MJ)	7.67	3.87	6.04	14.12	5.78	6.75	16.28	27.49	13.96	5.92	5.51
Use of secondary material (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Use of renewable secondary fuels (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Use of non-renewable secondary fuels (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Net use of fresh water (m³)	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.00	0.00	0.011

Table 13. Resource Indicators per architectural door kilogram manufactured by WKS: Module A3

Parameter	Architectural Doors										
	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)	2.38	2.42	2.38	2.40	2.39	2.38	3.06	2.40	2.40	2.38	3.04
Use of renewable primary energy as raw materials (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total use of renewable primary energy resources (MJ)	2.38	2.42	2.38	2.40	2.39	2.38	3.06	2.40	2.40	2.38	3.04
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)	3.55	4.03	3.55	3.85	3.54	3.56	6.05	4.21	3.84	3.46	5.57
Use of non-renewable primary energy used as raw materials (MJ)	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0
Total use of non-renewable primary energy resources (MJ)	3.55	4.03	3.55	3.85	3.54	3.56	6.05	4.21	3.84	3.46	5.57
Use of secondary material (kg)	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0
Use of renewable secondary fuels (MJ)	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0
Use of non-renewable secondary fuels (MJ)	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0
Net use of fresh water (m ³)	0.00	0.00	0.00	0.15	0.122	0.00	0.15	0.14	0.00	0.00	0.115

Table 14. Resource Indicators per architectural door kilogram manufactured by WKS: Module A1-A3

Parameter	Architectural Doors										
	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)	3.07	3.07	4.69	3.33	2.93	4.26	9.78	8.80	10.21	2.98	3.84
Use of renewable primary energy as raw materials (MJ)	32.74	29.27	28.99	46.09	21.46	22.90	6.39	3.15	3.15	12.52	8.91
Total use of renewable primary energy resources (MJ)	35.81	32.34	33.67	49.42	24.39	27.16	16.18	11.94	13.35	15.49	12.75
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)	40.16	36.78	43.57	54.50	31.43	37.49	115.52	112.85	114.75	24.45	29.83
Use of non-renewable primary energy used as raw materials (MJ)	0	0	0	0.00	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (MJ)	40.16	36.78	43.57	54.50	31.43	37.49	115.52	112.85	114.75	24.45	29.83
Use of secondary material (kg)	0.27	0.27	0.29	0.00	0.37	0.02	0.00	0.00	0.02	0.27	0.29
Use of renewable secondary fuels (MJ)	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (MJ)	0	0	0	0	0	0	0	0	0	0	0
Net use of fresh water (m ³)	0.032	0.034	0.046	0.188	0.136	0.070	0.249	0.243	0.035	0.035	0.140

6.2 Potential environmental impact

All information modules are reported and assessed separately. However, this EPD shows the total impact across all stages.

Parameters describing environmental potential impacts were calculated using CML-IA method version 3.04 (Guinee et al. 2001; Huijbregts et al. 2003; Wegener et al. 2008) as implemented in SimaPro 8.4. Water scarcity potential was calculated using AWARE method (Boulay et al. 2018).

Below, the potential environmental impact indicators are shown per module (A1,A2,A3, A1-A3) in Tables 15-22.

Table 15. Potential environmental impact indicators per architectural door kilogram manufactured by WKS: Module A1

Parameter	Architectural Doors											
	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Abiotic depletion	kg Sb eq	4.43E-06	4.30E-06	5.92E-06	4.28E-06	3.15E-06	4.45E-06	1.00E-05	9.90E-06	1.14E-05	1.57E-06	1.44E-06
	%	73%	82%	82%	60%	72%	76%	72%	59%	76%	54%	58%
Abiotic depletion (fossil fuels)	MJ	2.73E+01	2.66E+01	3.22E+01	3.44E+01	2.08E+01	2.57E+01	7.36E+01	7.29E+01	8.74E+01	1.41E+01	1.28E+01
	%	72%	78%	78%	66%	70%	72%	80%	70%	83%	61%	62%
Global warming (GWP100a)	kg CO ₂ eq	1.63E+00	1.58E+00	1.87E+00	2.45E+00	1.21E+00	1.51E+00	5.13E+00	5.08E+00	5.68E+00	8.53E-01	7.40E-01
	%	68%	74%	73%	61%	66%	67%	75%	68%	78%	61%	61%
Ozone layer depletion (ODP)	kg CFC-11 eq	1.65E-07	1.60E-07	1.98E-07	1.94E-07	1.26E-07	1.60E-07	4.55E-07	4.50E-07	4.89E-07	8.50E-08	7.83E-08
	%	64%	76%	73%	53%	64%	66%	72%	59%	75%	54%	56%
Photochemical oxidation	kg C ₂ H ₄ eq	8.95E-04	8.55E-04	9.75E-04	1.25E-03	6.68E-04	7.99E-04	1.96E-03	1.92E-03	2.10E-03	4.98E-04	4.35E-04
	%	74%	76%	76%	72%	69%	71%	81%	77%	83%	65%	63%
Acidification	kg SO ₂ eq	1.24E-02	1.20E-02	1.41E-02	1.75E-02	9.62E-03	1.17E-02	3.51E-02	3.48E-02	3.79E-02	7.31E-03	6.58E-03
	%	74%	79%	78%	74%	70%	73%	88%	81%	89%	67%	65%
Eutrophication	kgPO ₄ eq	2.29E-03	2.20E-03	2.65E-03	3.66E-03	1.59E-03	2.08E-03	1.02E-02	1.02E-02	1.08E-02	1.02E-03	8.24E-04
	%	63%	66%	68%	52%	58%	60%	74%	72%	77%	61%	57%
Water scarcity potential	m ³ H ₂ Oeq	3.04E-02	2.67E-02	7.93E-02	2.93E-02	2.82E-03	6.17E-02	8.51E-02	8.19E-02	1.32E-01	1.68E-02	1.35E-02
	%	18%	16%	37%	16%	2%	88%	34%	34%	45%	12%	10%

Table 16. Potential environmental impact indicators per architectural door kilogram manufactured by WKS: Module A2

Parameter	Architectural Doors											
	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Abiotic depletion	kg Sb eq	1.41E-06	6.75E-07	1.05E-06	2.57E-06	9.73E-07	1.19E-06	3.57E-06	6.67E-06	3.35E-06	1.08E-06	8.20E-07
	%	23%	13%	15%	36%	22%	20%	26%	40%	22%	37%	33%
Abiotic depletion (fossil fuels)	MJ	7.52E+00	3.78E+00	5.91E+00	1.39E+01	5.65E+00	6.61E+00	1.47E+01	2.71E+01	1.38E+01	5.80E+00	4.77E+00
	%	20%	11%	14%	27%	19%	19%	16%	26%	13%	25%	23%
Global warming (GWP100a)	kg CO ₂ eq	4.87E-01	2.48E-01	3.85E-01	8.87E-01	3.70E-01	4.31E-01	9.40E-01	1.73E+00	8.81E-01	3.77E-01	3.12E-01
	%	20%	12%	15%	22%	20%	19%	14%	23%	12%	27%	26%
Ozone layer depletion (ODP)	kg CFC-11 eq	8.50E-08	4.24E-08	6.67E-08	1.58E-07	6.36E-08	7.46E-08	1.66E-07	3.07E-07	1.56E-07	6.55E-08	5.37E-08
	%	33%	20%	24%	44%	32%	31%	26%	40%	24%	42%	39%
Photochemical oxidation	kg C ₂ H ₄ eq	1.42E-04	8.89E-05	1.24E-04	2.14E-04	1.27E-04	1.37E-04	1.81E-04	3.18E-04	1.70E-04	1.14E-04	1.09E-04
	%	12%	8%	10%	12%	13%	12%	7%	13%	7%	15%	16%
Acidification	kg SO ₂ eq	3.64E-03	2.30E-03	3.24E-03	5.38E-03	3.38E-03	3.58E-03	4.09E-03	7.17E-03	3.84E-03	2.93E-03	2.88E-03
	%	22%	15%	18%	23%	25%	22%	10%	17%	9%	27%	28%
Eutrophication	kgPO ₄ eq	5.75E-04	3.31E-04	4.84E-04	9.47E-04	4.84E-04	5.37E-04	8.83E-04	1.59E-03	8.29E-04	4.55E-04	4.12E-04
	%	16%	10%	12%	13%	18%	16%	6%	11%	6%	27%	28%
Water scarcity potential	m ³ H ₂ Oeq	1.18E-02	1.13E-02	1.18E-02	1.34E-02	1.14E-02	5.84E-03	1.44E-02	1.69E-02	1.40E-02	1.16E-02	1.13E-02
	%	7%	7%	6%	7%	8%	8%	6%	7%	5%	8%	8%

Table 17. Potential environmental impact indicators per architectural door kilogram manufactured by WKS: Module A3

Parameter	Architectural Doors											
	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Abiotic depletion	kg Sb eq	2.51E-07	2.68E-07	2.50E-07	2.83E-07	2.48E-07	2.50E-07	2.86E-07	2.79E-07	2.83E-07	2.39E-07	2.37E-07
	%	4%	5%	3%	4%	6%	4%	2%	2%	2%	8%	9%
Abiotic depletion (fossil fuels)	MJ	3.34E+00	3.80E+00	3.34E+00	3.62E+00	3.33E+00	3.35E+00	3.67E+00	3.60E+00	3.61E+00	3.25E+00	3.24E+00
	%	9%	11%	8%	7%	11%	9%	4%	3%	3%	14%	16%
Global warming (GWP100a)	kg CO ₂ eq	2.98E-01	3.16E-01	2.91E-01	7.05E-01	2.66E-01	3.15E-01	7.67E-01	6.71E-01	6.87E-01	1.58E-01	1.60E-01
	%	12%	15%	11%	17%	14%	14%	11%	9%	9%	11%	13%
Ozone layer depletion (ODP)	kg CFC-11 eq	8.24E-09	8.93E-09	8.20E-09	1.09E-08	8.06E-09	8.28E-09	1.12E-08	1.06E-08	1.08E-08	7.35E-09	7.26E-09
	%	3%	4%	3%	3%	4%	3%	2%	1%	2%	5%	5%
Photochemical oxidation	kg C ₂ H ₄ eq	1.79E-04	1.87E-04	1.78E-04	2.67E-04	1.73E-04	1.83E-04	2.81E-04	2.60E-04	2.63E-04	1.49E-04	1.49E-04
	%	15%	17%	14%	15%	18%	16%	12%	10%	10%	20%	22%
Acidification	kg SO ₂ eq	7.55E-04	8.52E-04	7.53E-04	8.69E-04	7.51E-04	7.58E-04	8.90E-04	8.63E-04	8.65E-04	7.20E-04	7.14E-04
	%	5%	6%	4%	4%	5%	5%	2%	2%	2%	7%	7%
Eutrophication	kgPO ₄ eq	7.78E-04	7.85E-04	7.51E-04	2.42E-03	6.47E-04	8.49E-04	2.67E-03	2.28E-03	2.35E-03	2.11E-04	2.22E-04
	%	21%	24%	19%	34%	24%	25%	19%	16%	17%	12%	15%
Water scarcity potential	m ³ H ₂ Oeq	1.23E-01	1.28E-01	1.22E-01	1.46E-01	1.22E-01	2.59E-03	1.50E-01	1.44E-01	1.45E-01	1.16E-01	1.15E-01
	%	74%	77%	57%	77%	90%	4%	60%	59%	50%	80%	82%

Table 18. Potential environmental impact indicators per architectural door kilogram manufactured by WKS: Modules A1-A3

Parameter	Architectural Doors											
	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Abiotic depletion	kg Sb eq	6.08E-06	5.24E-06	7.22E-06	7.13E-06	4.37E-06	5.89E-06	1.39E-05	1.68E-05	1.50E-05	2.89E-06	2.50E-06
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Abiotic depletion (fossil fuels)	MJ	3.82E+01	3.42E+01	4.15E+01	5.19E+01	2.98E+01	3.57E+01	9.19E+01	1.04E+02	1.05E+02	2.32E+01	2.08E+01
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Global warming (GWP100a)	kg CO ₂ eq	2.42E+00	2.15E+00	2.55E+00	4.05E+00	1.84E+00	2.25E+00	6.83E+00	7.49E+00	7.25E+00	1.39E+00	1.21E+00
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Ozone layer depletion (ODP)	kg CFC-11 eq	2.59E-07	2.12E-07	2.73E-07	3.62E-07	1.98E-07	2.43E-07	6.33E-07	7.68E-07	6.55E-07	1.58E-07	1.39E-07
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Photochemical oxidation	kg C ₂ H ₄ eq	1.22E-03	1.13E-03	1.28E-03	1.73E-03	9.68E-04	1.12E-03	2.42E-03	2.50E-03	2.53E-03	7.62E-04	6.93E-04
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Acidification	kg SO ₂ eq	1.67E-02	1.52E-02	1.81E-02	2.38E-02	1.37E-02	1.60E-02	4.01E-02	4.28E-02	4.27E-02	1.10E-02	1.02E-02
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Eutrophication	kgPO ₄ eq	3.65E-03	3.32E-03	3.88E-03	7.03E-03	2.72E-03	3.46E-03	1.38E-02	1.40E-02	1.40E-02	1.69E-03	1.46E-03
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Water scarcity potential	m ³ H ₂ Oeq	1.65E-01	1.66E-01	2.13E-01	1.88E-01	1.36E-01	7.02E-02	2.49E-01	2.43E-01	2.91E-01	1.44E-01	1.40E-01
	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 19. Waste and other outputs per architectural door kilogram manufactured by WKS: Module A1

1) Raw materials supply												
Output parameter	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Hazardous waste	kg	2.6E-05	3.0E-05	3.0E-05	3.7E-05	1.9E-05	2.4E-05	8.0E-05	7.8E-05	8.3E-05	1.2E-05	1.1E-05
Non hazardous waste	kg	1.3E-01	1.5E-01	1.5E-01	1.7E-01	9.1E-02	1.1E-01	3.7E-01	3.5E-01	3.9E-01	5.3E-02	5.2E-02
Radioactive waste*	kg	6.4E-05	6.3E-05	7.5E-05	7.5E-05	4.7E-05	5.9E-05	2.0E-04	1.9E-04	2.0E-04	3.0E-05	2.9E-05
Components for reuse	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for recycling	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported heat	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

*No radioactive waste is produced during WKS operation.

Table 20. Waste and other outputs per architectural door kilogram manufactured by WKS: Module A2

A2) Transportation												
Output parameter	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Hazardous waste	kg	1.1E-05	9.2E-06	1.0E-05	1.5E-05	1.0E-05	1.1E-05	1.7E-05	2.4E-05	1.5E-05	1.0E-05	9.9E-06
Non hazardous waste	kg	2.3E-01	9.4E-02	1.7E-01	5.1E-01	1.5E-01	1.9E-01	5.7E-01	9.8E-01	4.9E-01	1.7E-01	1.5E-01
Radioactive waste*	kg	4.8E-05	2.4E-05	3.8E-05	8.9E-05	3.6E-05	4.2E-05	1.0E-04	1.7E-04	8.8E-05	3.7E-05	3.4E-05
Components for reuse	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for recycling	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported heat	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

*No radioactive waste is produced during WKS operation.

Table 21. Waste and other outputs per architectural door kilogram manufactured by WKS: Module A3

A3) Manufacturing												
Output parameter	Unit	Tubular Core Door -Veener	Tubular Core Door -painted	Tubular Core Door -plastic laminate	Solid Core Door -Veener	Solid Core Door -painted	Solid Core Door -plastic laminate	Mineral Core Door -Veener	Mineral Core Door -painted	Mineral Core Door -plastic laminate	Acoustic Core Door -Veener	Acoustic Core Door -painted
Hazardous waste	kg	2.3E-02	5.6E-02	2.2E-02	2.3E-02	2.9E-02	2.2E-02	2.8E-02	2.8E-02	2.2E-02	2.8E-02	2.8E-02
Non hazardous waste	kg	2.5E-01	2.4E-01	2.4E-01	8.9E-01	2.0E-01	2.8E-01	1.2E+00	8.3E-01	8.6E-01	2.5E-02	1.5E-01
Radioactive waste*	kg	4.2E-06	4.5E-06	4.2E-06	5.8E-06	4.1E-06	4.3E-06	8.1E-06	5.7E-06	5.7E-06	3.7E-06	5.6E-06
Components for reuse	kg	8.0E-03	6.1E-03	8.2E-03	1.6E-02	1.8E-01	6.9E-03	1.2E-02	8.1E-01	8.2E-01	5.4E-03	8.0E-03
Materials for recycling	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported heat	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

*No radioactive waste is produced during WKS operation.

Table 22. Waste and other outputs per architectural door kilogram manufactured by WKS: Module A3

Total A1-A3												
Output parameter	Unit	Tubula r Core Door -Veene r	Tubula r Core Door -painte d	Tubular Core Door -plastic laminat e	Solid Core Door -Veene r	Solid Core Door -painte d	Solid Core Door -plastic laminat e	Minera l Core Door -Veene r	Minera l Core Door -painte d	Mineral Core Door -plastic laminat e	Acousti c Core Door -Veener	Acoustic Core Door -painted
Hazardous waste	kg	2.3E-02	5.6E-02	2.2E-02	2.3E-02	2.9E-02	2.2E-02	2.8E-02	2.8E-02	2.2E-02	2.8E-02	2.8E-02
Non hazardous waste	kg	6.1E-01	4.9E-01	5.6E-01	1.6E+00	4.4E-01	5.8E-01	2.1E+00	2.2E+00	1.7E+00	2.5E-01	3.5E-01
Radioactive waste*	kg	1.2E-04	9.1E-05	1.2E-04	1.7E-04	8.7E-05	1.1E-04	3.1E-04	3.7E-04	3.0E-04	7.0E-05	6.9E-05
Components for reuse	kg	8.0E-03	6.1E-03	8.2E-03	1.6E-02	1.8E-01	6.9E-03	1.2E-02	8.1E-01	8.2E-01	5.4E-03	8.0E-03
Materials for recycling	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported heat	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

*No radioactive waste is produced during WKS operation.

7. Verification and registration

CEN standard EN 15804 served as the core PCR	
Programme	International EPD® System www.environdec.com  EPD registered through the fully aligned regional programme/hub: EPD Latin America www.epdlatinamerica.com 
Programme operator	EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden EPD Latin America Chile: Alonso de Ercilla 2996, Ñuñoa, Santiago Chile. Mexico: Av. Convento de Actopan 24 Int. 7A, Colonia Jardines de Santa Mónica, Tlalnepantla de Baz, Estado de México, México, C.P. 54050
EPD registration number:	S-P-01667
Date of publication (issue):	2020-12-14
Date of validity:	2025-12-13
Date of revision:	2020-12-14
Reference year of data:	2018
Geographical scope:	Mexico
Central product classification:	31600 Builders' joinery and carpentry of wood (including cellular wood panels, assembled parquet panels, shingles and shakes)
PCR:	PCR 1212:01 construction products and construction services, Version 2.3 (2018-11-15)
PCR review was conducted by:	The Technical Committee of the International EPD® System. Chair: Massimo Marino. Contact via info@environdec.com

CEN standard EN 15804 served as the core PCR	
Independent verification of the declaration data, according to ISO 14025:2006.	☐ EPD process certification (Internal) ☒ EPD verification (External)
Third-party verifier: Approved by:	Ruben Carnerero Approved EPD verifier r.carnerero@ik-ingenieria.com The International EPD® System
Procedure for follow-up of data during EPD validity involves third-party verifier:	☐ Yes ☒ No

8. Contact information



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de Puertas Arquitectónicas WKS

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