EPD®
THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM
EPD
VERIFIED

	A	B	P	c	d	e	f	g	h máx.	i	w min.
Mín. (mm)	820	2000	450	115	455	527	30	328	2580	80	1050
Máx. (mm)	4000	4000							4480		4230

Inkema

Environmental Product Declaration.

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

PR - Rolling High-speed Door.

EPD of multiple products, based on worst-case results.
All the PR family is covered.

from Inkema Sistemas, S.L.

Programme: The international EPD® System, www.environdec.com
Programme operator: EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information.

Progamme information.

The International EPD® System - EPD International AB Box 210 60 - SE-100 31 Stockholm
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Accountabilities for PCR, LCA and independent, third-party verification.

Product Category Rules (PCR).

- CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
- Product Category Rules (PCR):PCR 2019:14 Construction products (EN 15804:2012+A2:2019/A-C:2021) Version 1.3.4
- PCR review was conducted by: The Technical Comitee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via Secretariat www.environdec.com/contact.

Life Cycle Assessment (LCA).

LCA accountability: APPLUS - LGAI Technological Center S.A

Third-party verification.

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by individual verifier
Third-party verifier: Marcel Gómez Ferrer | Marcel Gómez Consultoría Ambiental, S.L.
info@marcelgomez.com
Approved by: The International EPD® System

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. 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 functional/declared unit); 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 characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information.

Owner of the EPD: INKEMA SISTEMAS, S.L.
Contact mail: inkema@inkema.com
Carretera de Cardedeu C-251, Km.3
08520 – Les Franqueses del Vallès (Barcelona) Spain

Description of the organization:

With over four decades of dedicated expertise, Inkema Sistemas stands as a prominent leader in the field of providing comprehensive solutions for the efficient and secure handling of goods, alongside ensuring stringent access control through advanced industrial enclosures. Since its inception, Inkema has ceaselessly demonstrated a commitment to excellence, establishing itself as a trusted partner for businesses seeking top-tier solutions in the logistics and materials handling industry.

Boasting a rich history, Inkema has garnered a wealth of experience that forms the bedrock of their exceptional services. This extensive knowledge base empowers Inkema to craft, produce, and install a wide spectrum of products, all meticulously designed to enhance operational efficiency and safety across various industrial sectors.

Among the impressive array of offerings, Inkema's product line encompasses state-of-the-art loading bays, precision-engineered loading bridges, versatile scissor lift tables, robust industrial doors, highly secure fire doors, and high-speed doors, to name but a few. Each product is a testament to Inkema's unwavering commitment to quality, combining innovation, durability, and cutting-edge technology to meet the unique demands of modern industries.

Inkema's holistic approach to customer satisfaction extends beyond the initial installation. Their dedicated after-sales services ensure that clients receive ongoing support, maintenance, and expert advice, solidifying a lasting partnership built on trust and reliability.

As a forward-thinking industry leader, Inkema Sistemas continuously strives to push the boundaries of excellence, setting new standards in the field of goods handling and access control. Their unwavering dedication to innovation, coupled with a relentless pursuit of customer-centric solutions, has earned them a reputation as a preferred choice for businesses seeking unparalleled quality and performance.

Inkema's enduring legacy and unwavering commitment to excellence make them a true cornerstone in the logistics and materials handling industry, poised to meet the evolving needs of business to business market in an ever-changing global landscape.

Product-related or management system-related certifications:

The following European standards are applied:
The PR, Rolling High-speed Doors have been designed and manufactured in accordance with the following standards: UNE-EN 12453 and UNE-EN 13241.
The product complies the following standards and directives:

- **2006/42/CE Machinery Directive**
- **2014/30/EU Electromagnetic Compatibility**
- **2011/65/EU RoHS Directive**
- **EN 13241-1 "Industrial, commercial and garage doors and gates - Product standard - Part 1: Products without fire resistance or smoke control characteristics"**

Name and location of production site(s):

INKEMA SISTEMAS, S.L.

Carretera de Cardedeu C-251, Km.3 - 08520

Les Franqueses del Vallès (Barcelona) Spain

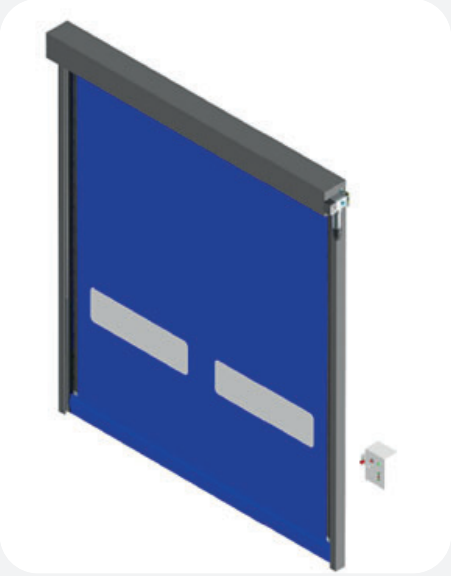
Product Information:

Product Name: PR Rolling High-speed door

Product Identification: Motorised high-speed rolling door with a metallic structure for installation in indoor areas. Designed and manufactured in accordance with the following standards: UNE-EN 12453 and UNE-EN 13241

Product Description: The product studied in this EPD is a High-speed Door.

"Motorised high-speed rolling door with a metallic structure for installation in indoor areas."



Inkema has a varied range of High-speed Doors which are designed as dividing elements for areas with continuous and heavy traffic, in all cases ensuring the correct insulation.

Inkema High-speed Doors have been designed for its use in warehouses, logistic centres, stores and any kind of productive plant with an intense traffic of goods, always ensuring a high level of airtightness.

Inkema has a wide range of High-speed Doors:

- **PR10: Rolling High-speed Door**
- **PR11: Self-repairable High-speed Internal Door**
- **PR13: Self-repairable High-speed Door**
- **PR17: Self-repairable High-speed Door**

All the Inkema High-speed Doors are made of the best materials swing to the large number of manoeuvres they make. They have been designed and manufactured in accordance with the European directives and standards.

Inkema´s PR Rolling High-speed Door is composed by a PVC canvas with internal reinforcements, attached to a metal frame which incorporates a motor-reducer driven by a control panel.

It has been designed for use in warehouses, logistics and any type of production plant which processes a lot of goods.

This fast-acting door is designed especially for heavy duty indoor applications. It facilitates a fluid traffic thanks to its high speed of opening and closing. As a result, it also saves energy and improves efficiency.

The PR family has a width variety of combinations, that is why a result of $2^{\wedge 4}$ or 16 combinations can be present with the dimensions stated bellow.

All the product combinations from the PR family are included between the worst-case scenario (Declared unit) and te minimum dimensions available; (1600 × 2400) mm.

PR (mm)	A	B	P	c	d	e	f	g	h	I	W
Min	1600	2400	450	115	455	527	30	328	2580	80	1050
Max	4000	4000							4480		4230

PR10, PR11, PR13 and **PR17 Rolling High-speed doors** can be found in different proportions and dimensions, depending on the demand. The following table exemplifies the different product characteristics that can be found under Inkema´s portfolio:

TECHNICAL CHARACTERISTICS AND PERFORMANCE

· Application:	Indoor
· Max. size:	4000 x 4000 mm (height x width)
· Material (structure):	Metallic Frame
·Máx.Speed:	Opening: (~1,0m/s) Closing: (~1,0m/s)
· Colours (Canvas-frame)	10 colours available (white, cream, yellow, orange, red, light blue, dark blue, green, grey anf black).
· Material-canvas:	High strength PVC (900g/m²)
· Safety:	Light Curtain (standard) Soft, flexible lower edge
· Life Cycle:	100.000 cycles.

SERVICES

In addition to the standard technical specifications of the high-speed doors, other options are also available*:

Features	Standard	Optional
Light curtain	●	
Frequency shifter		o
Uninterruptible Power Supply (UPS)		o
Extra safety photocell		o
Extra opening options		o
Motor cover		o
Front motor		o
A row of small windows	●	
Second row of small windows		o
Additional push button panel		o
Middle stop		o

Standard feature ●
Optional feature o

*For other options, consult Customer Service.

The product is following Machinery Directive 2006/42/EC and standards; UNE-EN 12453 and UNE-EN 13241

UN CPC code: 4212 Doors, windows and their frames and thresholds for doors, of iron, steel or aluminium. According to the Statistical document "Central Product Classification (CPC) Series M No. 77, Ver.2.1.

Geographical scope: Global coverage for Stages of Raw material production and transportation (A1-A2), coverage of Spanish technologies and processes during the Product Manufacturing Stage (A3) and Europe coverage during Transport, Usage, End of Life Stage and Resource Recovery State (A4, A5, C1 to C4 and D).

LCA information.

Declared unit: In the present study, the declared unit is considered being 1 piece of Rolling High speed rolls, having a total weight of 296.584 kg as the `worst-case results´. Which is manufactured in Spain and can be sold to Europe.

The dimensions used for the EPD are, the "Máx. (mm)" in all dimensions (sizes).

According to PCR 2019:14 v1.3.4. The reference unit to express environmental information is an element (piece).

- **Reference service life:** The RSL used in this EPD is 15 years of standard daily use. This Reference Service Life is based on Inkema´s own experience over the past 20 years and is valid for the 10 main competitor´s products in the docking industry.

- **Time representativeness:** The data collected are for the year 2022, based on the production from the same year.

Database(s) and LCA software used: The LCA database profile is EcoInvent version 3.6 (September 2019) and the LCA software is SimaPro 9.1.1 with the characterization method based in EN 15804:2012 + A2:2019/AC:2021 Method v1.0. based on EF 3.0

Description of system boundaries: The scope of the Declaration and the limits of the system apply from "Cradle to gate with options" covering all information modules A1 to A5, C1 to C4 and D.

Conversion Factors:

Description:	Value:	Unit
Reference unit	1	P
Weight per reference unit	296.584	Kg
Conversion factor to 1 kg	0.003371	p

The life cycle assessment is based on the EN 15804:2012 + A2:2019/AC:2021 standard, where the following cutting criteria are applied during the LCA:

The following processes have been excluded:

- Manufacture of equipment used in production, buildings or any other capital goods;
- Transportation of personnel to the plant;
- Transportation of personnel within the plant;
- Research and development of activities;
- Long-term emissions.

PRODUCT STAGE (A1 - A3): The production stage consists of the extraction of raw materials, transportation of the raw materials, processing the raw materials into materials and the production of the product. The required energy for production, external treatments, ancillary materials, packing material and production emissions are included, energy consumed comes from an ES energy supplier and it´s specific renovable energy mix 100% Renewable energy, with a value of 0.33 kg CO2 eq/kWh.

The production process of Rolling High-speed doors consists of the following stages:

Step 1. Reception of Raw Materials:

Raw materials, such as metal sheets, electronic components, and other necessary materials, are received at the manufacturing facility.

Upon arrival, materials are inspected for quality and quantity to ensure they meet the required specifications.

Step 2.1. Electrical Assembly of Semi-Finished Materials:

The electrical components, such as motors, sensors, and control units, are assembled. This involves connecting wires, attaching electronic components, and ensuring proper functionality.

Quality checks are conducted during and after the assembly to identify and rectify any issues.

Step 2. 2. Cutting and Welding of Semi-Finished Materials

Semi-finished materials, typically metal sheets, are cut into the required shapes and sizes based on the design specifications.

Precision cutting methods, such as laser cutting or mechanical cutting, may be employed to achieve accuracy.

The cut metal pieces are welded together to form the frame and structure of the high-speed door.

Welding is a crucial step to ensure the structural integrity and strength of the door components.

Step 3. Painting Area (If Painting is Required):

If the design or customer specifications require it, the welded components from stage 2 move to the painting area.

protective coating of paint is applied to enhance durability, corrosion resistance, and provide an aesthetically pleasing finish.

Step 4. Assembly:

The various components, including the electrical assemblies and welded frames, are brought together for the final assembly of the high-speed door.

This stage involves fitting the electrical components into the frame, ensuring proper alignment, and conducting final checks on functionality.

Step 5. Packaging and Transport to Buyer's Installations:

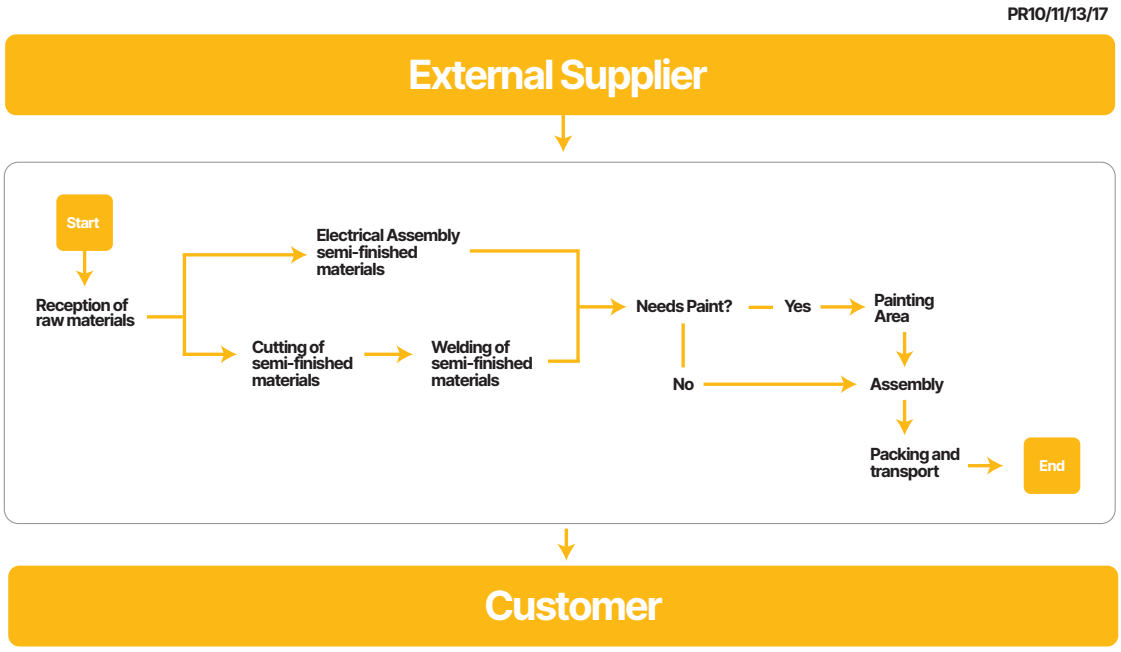
Once the high-speed doors are fully assembled and inspected, they are packaged securely for transportation.

Packaging is designed to protect the product during transit and delivery.

The packaged doors are then transported to the buyer's installations, ready for installation at the intended location.

In summary, Inkema's production process for the Rolling High-speed Doors involves receiving raw materials, welding metal parts, painting the logo, assembling the components, and finally, packing and transporting the product to the customer for installation on their premises.

The production process is represented in the following system diagram:



Construction Process Stage (A4 - A5): This stage consists of transporting the product from Inkema´s production plant to an average distance of their buyers during the 2022. It also includes the loss of material during construction. This includes additional production required, transportation, and end-of-life material lost during construction.

SCENARIO INFORMATION	VALUE/DESCRIPTION
Type of vehicle used for transport Vehicle lead capacity	Lorry (Truck) > 32, EURO5 > 32 Ton
Fuel type and consumption	Diesel: 30L/100km
Distance to the site	578 km
Capacity of utilization (including empty returns)	Default value form Ecoinvent 3.6
Bulk density of transported products	-
Volume capacity utilization factor	1

It also includes the end of the useful life of the packaging material until the end of the state of disposal or final waste disposal. Installation of the product, including manufacturing, transportation, and end-of-life of auxiliary materials and any use of energy or water necessary for the installation or operation of the product construction works are considered.

The installation process of the Rolling high speed doors includes the following stages:

Stage 1: Component Verification. Check that all necessary components for the door assembly are present in the packaging.

Stage 2: Preparation for Assembly. Remove the packaging material and take off the "Embellecedoras" covers from the door to facilitate chassis assembly.

Stage 3: Assembly of Guides and Header: Assemble the side guides to the door header using bolts.

Stage 4: Connection of Header and Guides: With the assembly still on the ground, connect all connectors from the header to those of the guides. Pass the cables through the indicated places and secure them with ties.

Stage 5: Door Elevation: Lift the door with a forklift or lift from the header to the vertical position. Support it on the wall and fasten it with the screws provided for the guides and the header.

Stage 6: Controlled Descent of the Curtain: Once supported, manually lower the curtain with the help of the crank. Insert the curtain zipper into the side guides.

Stage 7: Installation of the Frame on the Wall. Install the frame on the wall at a height of approximately 1200 mm from the ground. Wire all components to the frame following the provided diagram.

Stage 8: Verification of Anchors and Level. Before starting the door, check the anchors and the level of the door.

Stage 9: Start-up and Programming. Start the door and program the encoder for the door's end positions.

Stage 10 (Final): Attachment of "Embellecedoras" Covers. Place the "Embellecedoras" covers and screw them in place to secure them.

SCENARIO INFORMATION	VALUE/DESCRIPTION
Auxiliary materials for installation:	Drill + wrench & lifting platform: 1 unit per product
Water use:	0.22 m^3
Use of the other resources.	None
Quantitative description of the type of energy (regional mix) and consumption during installation process	Energy from European mix. Drill consumption: 500W x 0.5h Wrench & lifting platform: 3300 W x 0.5h Total energy consumption: 1.9 kWh Energy mix: 0.532 kg CO_2 eq/kWh
Waste of materials onsite prior to waste treatment, generated by the installation of the product. Packaging materials:	Cardboard: 1.5 kg Wood: 50 kg PET: 0.007 kg
Output of materials as a result of waste treatment on the building plot; e.g. Collection for recycling, energy recovery, disposal (specified by route)	Cardboard: Incineration 25%; Recycling 75% Wood: Landfill 5%; Incineration 80%; Recycling 10%; Re-use 5% PET: Landfill 20%; Incineration 80%
Direct emissions to ambient, air, soil and water	None

END OF LIFE STAGE (C1 - C4): When the end of the product life stage is reached, the deconstruction begins. This EPD includes deconstruction (C1), including dismantling of the product, necessary transportation (C2) from the deconstruction site to the sorting location and the distance to final disposal. The end of life stage includes final landfill disposal (C4), where the waste is disposed of, which includes physical pre-treatment and management at the disposal site, waste processing (C3), being the incineration and necessary recycling processes to the final point of disposal.

SCENARIO INFORMATION	VALUE/DESCRIPTION			
Collection process specified by type	Steel (i.a. metals): 207.116 kg			
	PVC (i.a. Polyvinylchloride): 50.08 kg			
	Electrical components: 29.478 kg			
	Paint (i.a. Paint, highsolid): 5 kg			
	Steel with Zn coating: 1 kg			
Recover system specified by type	Steel	Incineration 10.35 kg	Recycling 186.40 kg	Re-use 0 kg
	PVC	Incineration 10 kg	Recycling 35.05 kg	Re- use 0 kg
	Electrical Components	Incineration 0 kg	Recycling 25.64 kg	Re- use 3.53 kg
	Paint	Incineration 5 kg	Recycling 0 kg	Re- use 0 kg
	Steel with Zn coating	Incineration 0 kg	Recycling 0.95 kg	Re- use 0 kg
Elimination specified by type	Steel: 10.35 kg disposal to landfill			
	PVC: 5 kg disposal to landfill			
	Electrical components: 0.29 kg to landfill			
	Paint: 0 kg to landfill			
	Steel with Zn coating: 0.05 kg to landfill			
Assumptions for scenario development (e.g. transport)	Lorry (Truck), unspecified (default) | market group (GLO) Distance to landfill			

BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D): This stage contains the potential loads and benefits of recycling and re-use of raw materials/products. The loads contain the needed recycling processes from end-of-waste point up to the point-of-equivalence of the substituted primary raw material and a load for secondary material that will be lost at the end-of-life stage.

The loads and benefits of recycling and reuse are included in this module. The benefits are calculated based on the primary content and the primary equivalent.

In addition, the benefits of energy recovery are granted at this stage. The amount of avoided energy is based on the Lower Heating Values of the materials and the efficiencies of the incinerators as mentioned in the NMD Determination method v1.0 or EcoInvent 3.6 (2019).

Therefore, it will be considered that in this EPD, of all the previously declared cut criteria, only modules "A1-A5"; "C1-C4" and "D" are declared; being one of the options proposed by the EN 15804:2012 + A2:2019/AC:2021 standard.

- **Data quality:** All process-specific data was collected for the 2022 operating year and is therefore up-to-date. The data is obtained from the company and verified by **APPLUS - LGAI Technological Center S.A.**

  The generic data were taken from the database EcoInvent (version 3.6). The data quality assessment covers geography representativeness, technology representativeness and time representativeness, and is based on the data quality criteria from the Annex E, Table E.2 of EN 15804:2012 + A2:2019/AC:2021.

The data quality overall can be classified as good. Geographically, the data from A1 and A2 stages is Global, from stage A3 is Spanish and the rest stages (A4, A5, C1, C2, C3, C4 and D) is European. Temporally the data are current, from the year 2022, but the database is EcoInvent 3.6. Therefore, classifying as ´fair´. Technically, the same manufacturing system and machinery is followed for the development of products.

With regard to the exclusion criteria for inputs and outputs (cut-off rules), what is indicated in the EN 15804:2012 + A2:2019/AC:2021 standard is considered, which indicates that If there is not enough information, the energy of the process and the materials that represent less than 1% of the total energy and mass used can be excluded (if they do not cause significant impacts). The sum of all excluded inputs and outputs cannot exceed 5% of the total mass and energy used, as well as the environmental emissions produced. With other criteria, the polluter pays principle, the principle of modularity and that it does not consider the emissions generated in the long term have been considered neither manufacture of equipment used in production, buildings or any other capital goods.

The system's LCA calculation did not consider flows related to the construction of production plants, application machines and employee transport and the study cover at least 95% of the materials and energy per module and at least 99% of the total material and energy use of each unit process.

- **Allocation:** Whenever allocations could be avoided, primary data have been used. Where this has not been possible, monetary-based physical allocations have been used. The allocation for inputs of materials, such as raw materials or packaging materials, are direct. The allocation for consumption (energy, water and steam) and waste, have been made following an economical criteria taking into consideration the different family products manufactured in the company and the amount of fabricated units produced for each family. The PR high-speed doors accounts for a 8% of overall economic income.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	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	x	X	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	Global	Global	ES	EU		-							EU				EU
Specific data used	>90% GWP			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-14.25%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%				-	-	-	-	-	-	-	-	-	-	-	-	-

Content Information:

This EPD is representative for one piece of Rolling High-speed door with the trade name PR10, PR11, PR13 and PR17 Rolling High-speed door manufactured at the production site INKEMA SISTEMAS, S.L.

The data for PR10, PR11, PR13 and PR17 has been used for the calculation as it is one of the main products manufactured by Inkema Sistemas.

The components for Inkema´s PR10, PR11, PR13 and PR17Rolling high-speed door product is detailed here and his explanation of each phase:

Products Component: Also known as raw material supply, the % for manufacturing one piece of Rolling high-speed door.

Packing Material: Includes amount of packaging materials used for one piece of the Rolling high-speed doors.

Ancillary materials: Refers to those materials used during the life cycle of a product, but which are not directly part of the final product.

Energy consumption: Refers to the energy consumed to manufacture one piece of Rolling high-speed door. From 2022 energy supplier´s ES specific renovable mix.

Product components	**Weight, %**	**Post-consumer material, weight, %**	**Biogenic material, weight, % and kg C/kg**
Steel	69.83 (69.83 – 73.69)	0	0
PVC	16.88 (6.70 - 16.88)	0	0
Electrical Components	9.93 (9.93 – 15.08)	0	0
Paint	1.68 (0 - 1.68)	0	0
Steel with Zn coating	0.62 (0.62 – 2.55)	0	0
HDPE	0.50 (0.50 – 0.76)	0	0
Aluminium	0.33 (0.33 – 0.51)	0	0
Others	1.23 (0.61 - 1.23)	0	0
TOTAL	**100 %**	**0 %**	**0 %**
Packaging materials	**Mass per declared unit (piece / Declared Unit)**	**Weight, % (versus the product)**	**Weight biogenic carbon, piece (Declared Unit)**
Cardboard	1.50E+00	0.5 (0.5 – 0.76)	0.68 kg C
Wood	5.00+01	16.85 (15.35 - 16.85)	22.72 kg C
PET	7.00E-03	0.002 (0.002 – 0.003)	0 kg C
TOTAL	**5.15E+01**	**17.35 (16.11 - 17.35) %**	**23.4 kg C**

Hazardous Materials Content:

During the life cycle of the product, no dangerous substance was included in the "List of substances candidates for authorization (SVHC)" in a percentage greater than 0.1% of the weight of the product.

Results.

Environmental Information

PR - Rolling High-speed Door

Results of the environmental performance indicators.

Classification of disclaimers to the declaration of core and additional environmental impact indicators.

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Mandatory impact category indicators according to EN 15804.

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Disclaimer: It is discouraged the use of the results from modules A1-A3 without taking into account the results of modules C.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety and/or risks.

Results have been obtained using the EF 3.0 method.

Results of 1 piece of Rolling high-speed door										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	4.38E+03	3.35E+01	2.32E+00	ND	8.16E-01	2.45E+00	5.33E+01	5.52E-01	-3.79E+02
GWP-biogenic	kg CO_2 eq.	-1.90E+01	0.00E+00	1.90E+01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	5.71E+00	1.17E-02	2.46E-03	ND	1.90E-03	8.98E-04	1.76E-02	5.45E-05	8.61E-02
GWP-total	kg CO_2 eq.	4.37E+03	3.35E+01	2.13+01	ND	8.18E-01	2.45E+00	5.34E+01	5.52E-01	-3.79E+02
ODP	kg CFC 11 eq.	3.57E-04	7.62E-06	3.59E-07	ND	6.87E-08	5.41E-07	4.90E-06	5.16E-08	-3.68E-05
AP	mol H^+ eq.	3.93E+01	1.37E-01	2.47E-02	ND	4.76E-03	1.42E-02	8.29E-02	1.32E-03	-1.62E+00
EP-freshwater	kg P eq.	5.51E-01	2.63E-04	1.10E-04	ND	8.71E-05	2.47E-05	6.07E-04	2.25E-06	-1.57E-02
EP-marine	kg N eq.	6.17E+00	4.07E-02	9.24E-03	ND	6.04E-04	5.01E-03	2.00E-02	5.79E-04	-3.03E-01
EP-terrestrial	mol N eq.	7.27E+01	4.50E-01	1.04E-01	ND	7.44E-03	5.52E-02	2.22E-01	5.19E-03	-3.61E+00
POCP	kg NMVOC eq.	2.36E+01	1.38E-01	2.79E-02	ND	1.89E-03	1.58E-02	6.57E-02	1.58E-03	-2.02E+00
ADP-minerals&metals*	kg Sb eq.	2.17E+00	9.08E-04	3.50E-05	ND	5.94E-06	6.21E-05	3.19E-04	1.43E-06	-1.00E-02
ADP-fossil*	MJ	5.64E+04	5.06E+02	3.77E+01	ND	1.68E+01	3.70E+01	2.19E+02	3.87E+00	-3.63E+03
WDP*	m^3	1.14E+03	1.41E+00	4.49E-01	ND	1.88E-01	1.32E-01	8.69E+00	7.11E-02	-1.41E+02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

Additional mandatory and voluntary impact category indicators

Results of 1 piece of Rolling high-speed door										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	4.36E+03	3.35E+01	2.13E+01	ND	8.16E-01	2.45E+00	5.33E+01	5.52E-01	-3.79E+02
ETP - fw	CTUe	4.16E+05	4.05E+02	3.77E+01	ND	1.15E+01	3.30E+01	1.78E+03	5.01E+01	-1.30E+04
PM	disease incidence	3.02E-04	2.34E-06	2.23E-07	ND	1.25E-08	2.21E-07	1.02E-06	2.63E-08	-2.20E-05
HTP - c	CTUh	2.41E-05	1.14E-08	1.35E-08	ND	2.97E-10	1.07E-09	3.84E-08	1.56E-10	-1.36E-07
HTP - nc	CTUh	1.86E-04	4.42E-07	6.73E-08	ND	1.01E-08	3.61E-08	6.51E-07	1.33E-08	5.71E-05
IR	kBq U235 eqv.	1.98E+02	2.21E+00	2.28E-01	ND	1.45E-01	1.55E-01	7.78E-01	1.78E-02	2.12E+00
SQP	Pt	4.31E+04	3.49E+02	2.13E+01	ND	4.10E+00	3.21E+01	1.35E+02	9.35E+00	-3.98E+03
Acronyms	**ETP-fw** = Ecotoxicity, freshwater; **PM** = Particulate Matter; **HTP-c** = Human toxicity, cancer; **HTP-nc** = Human toxicity, non-cancer; **IR** = Ionising radiation, human health; **SQP** = Land use.									

Resource use indicators.

Results of 1 piece of Rolling high-speed door										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	8.72E+03	7.14E+00	3.68E+00	ND	3.18E+00	4.63E-01	1.63E+01	1.65E-01	-7.03E+02
PERM	MJ	7.23E+02	0.00E+00	-8.29E+01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	9.44E+03	7.14E+00	3.68E+00	ND	3.18E+00	4.63E-01	1.63E+01	1.65E-01	-7.03E+02
PENRE	MJ	6.00E+04	5.37E+02	3.98E+01	ND	1.76E+01	3.93E+01	2.33E+02	4.11E+00	-3.29E+03
PENRM	MJ	9.87E+01	0.00E+00	-7.46E+01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.08E+02
PENRT	MJ	6.00E+04	5.37E+02	3.98E+01	ND	1.76E+01	3.93E+01	2.33E+02	4.11E+00	-3.80E+03
SM	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E+02
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	ND	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	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	3.71E+01	5.33E-02	3.87E-02	ND	1.40E-02	4.50E-03	2.41E-01	4.55E-03	-2.06E+00
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Waste indicators.

Results of 1 piece of Rolling high-speed door										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.81E-01	1.33E-03	6.23E-05	ND	1.12E-05	9.37E-05	6.57E-03	5.14E-06	-2.93E-02
Non-hazardous waste disposed	kg	1.94E+03	2.42E+01	6.29E+00	ND	5.68E-02	2.35E+00	7.94E+00	1.61E+01	-3.85E+01
Radioactive waste disposed	kg	1.70E-01	3.45E-03	2.42E-04	ND	1.19E-04	2.43E-04	8.25E-04	2.47E-05	-1.03E-03

Output flow indicators.

Results of 1 piece of Rolling high-speed door										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	4.23E-01	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	3.54E+00	0.00E+00	0.00E+00
Material for recycling	kg	3.00E+01	0.00E+00	3.63E+00	ND	0.00E+00	0.00E+00	2.50E+02	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Other environmental performance indicators.

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	0.00 E+00
Biogenic carbon content in packaging	kg C	2.34 E+01

Estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

% between products.

PR (Max) vs PR (Min)		
Indicator	**Unit**	**% Variability**
GWP-fossil	kg CO_2 eq.	-14.39
GWP-biogenic	kg CO_2 eq.	-46.08
GWP-total	kg CO_2 eq.	-14.24
ODP	kg CFC 11 eq.	-23.19
EP-marine	kg N eq.	-10.09
ADP-fossil*	MJ	-15.52
WDP*	m^3	-14.26
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; ODP = Depletion potential of the stratospheric ozone layer E; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption	

PR (Max) vs PR (Min)		
Indicator	**Unit**	**% Variability**
GWP-GHG[2]	kg CO_2 eq.	-14.25
PM	disease incidence	-14.01
HTP - c	CTUh	-27.35
HTP - nc	CTUh	-10.00
IR	kBq U235 eqv.	-13.64
SQP	Pt	-17.71
Acronyms	[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.; **PM** = Particulate Matter; **HTP-c** = Human toxicity, cancer; **HTP-nc** = Human toxicity, non-cancer; **IR** = Ionising radiation, human health; **SQP** = Land use.	

PR (Max) vs PR (Min)		
Indicator	**Unit**	**% Variability**
PERE	MJ	-20.63
PERT	MJ	-38.71
PENRE	MJ	-22.02
PENRT	MJ	-15.54
FW	m^3	-13.13
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; FW = Use of net fresh water	

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

PR (Max) vs PR(Min)		
Indicator	**Unit**	**% Variability**
Non-hazardous waste disposed	kg	-25.55
Radioactive waste disposed	kg	-14.68
Material for recycling	kg	-33.03

Information related to Sector EPD

This is an individual EPD of multiple products.

Differences versus previous versions

This is the first version of the EPD.

References.

General Programme Instructions of the International EPD® System. Version 4.0

ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14040:2006

ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804+A2: 2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction product

PCR 2019:14 Construction products (EN 15804:2012 + A2:2019/AC:2021) Version 1.3.4.

UNE-EN 13241-1:2004+A1:2011 Industrial. Commercial and garage doors and gates - Products standard - Part 1: Products without fire resistance or smoke control characteristics

2006/42/EC Machinery Directive

2014/30/EU Electromagnetic Compatibility

2011/65/EU RoHS Directive

LCA report information for the environmental product declaration of PR10, PR11, PR13 & PR17 Rolling high-speed door, APPLUS – LGAI Technological Center, 54241 version 2, August 2024

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