Legrand North America
Middle Atlantic Products
300 Fairfield Road, Fairfield, NJ 07004

1.877.BY.LEGRAND (295.3472)
www.legrand.us

Product Environmental Profile

Middle Atlantic Products® D2 Storage Drawers & Lockboxes

LEGRAND'S ENVIRONMENTAL COMMITMENTS

• Incorporate environmental management into our industrial sites

Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).

• Offer our customers environmentally friendly solutions

Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.

• Involve the environment in product design and provide informations in compliance with ISO 14025

Reduce the environmental impact of products over their whole life cycle.
Provide our customers with all relevant information (composition, consumption, end of life, etc.).

For more information on Legrand's PEPs and other sustainability initiatives, visit www.legrand.us/about-us/csr/circular-economy

REFERENCE PRODUCT

Function	Protect persons during 20 years against direct contact with live parts and allow grouping monintoring, control and protection devices in a single enclosure or a cabinet having the following dimensions 48.26x35.56x7.52 cm.
Reference Product	
	Part Number: D2
	Full extension rackmount drawer with ball bearing slides.

PRODUCTS CONCERNED

The environmental data is representative of the following products:

D
TD
UD
LBX
CH
EC

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PEP ecopassport®

CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It respects the restrictions on use of hazardous substances as defined in the RoHS directive 2011/65/EU amended by delegated directive (EU) 2015/863, and its amendment 2017/2102/EU.

Total weight of Reference Product	**8.50 kg**

Plastics as % of weight		**Metals as % of weight**		**Others as % of weight**	
Product only: 6.91 kg					
Polyvinyl Chloride (PVC)	**3.60%**	Steel	**77.1%**		
Acrylonitrile butadiene styrene (ABS)	**0.30%**	Aluminium	**0.30%**		
Silicon Rubber	**0.10%**				
Packaging only: 1.59 kg					
PE-LD	**0.20%**			Cardboard	**18.5%**
Total plastics	**4.10%**	**Total metals**	**77.4%**	**Total others**	**18.5%**

MANUFACTURING

This Reference Product comes from sites that have received ISO 14001 certification.

DISTRIBUTION

Products are distributed from logistics centers located to optimize transport efficiency using EPA SmartWay® certified carriers to reduce greenhouse gases emissions. Information on the distance of distribution is not available so the PCR hypothesis for "Intracontinental transport", 2175 miles (3500 km) by heavy truck, was used. This represents transportation of the Reference Product from our warehouse to the local point of distribution in the North American market.

INSTALLATION

The installation stage produces packaging wastes whose treatment was modelled accordingly to the PCR-ed4-EN-2021 09 06. The packaging wastes treatment is representative of a European end-of-life as there is no United States module available. Indeed, the modules used contain the electric mix of Europe.

The installation stage also requires bolts and washers:

- The manufacturing of 4 bolts and washers was modelled.
- The transport of the bolts and washers were modelled by an intracontinental transport.

USE

Under normal conditions of use, this product requires no servicing, no maintenance or additional products.

END OF LIFE

The end of life of the product was modelled according to the table G.4 of the EN 50693, following the PCR-ed.4 rules.

ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end of life. It is representative of products marketed and used in North America.

For each stage, the following modelling elements were taken into account at each life cycle stage (and module):

System Boundary	**Manufacturing (A1-A3)**	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
	Distribution (A4)	Transport between the last distribution center and an average delivery point in the sales area.
	Installation (A5)	The end of life of the packaging (1.59 kg) and its transport to end of life treatment is taken into account at this phase.
	Use (B1-B7)	• Product category: Enclosure • Energy model: This product does not use electricity.
	End of life (C1-C4)	The default end of life scenario modelled maximizes the environmental impact using the PCR hypothesis for "Local transport": 621 miles (1000 km) by heavy truck and landfilling.
Benefits & Loads (Module D)		The recycling benefits occurring throughout the life cycle [A4-B7]* and [C1-C4] have been considered in the module D, according to the requirements of the PCR ed.4 (cf §1.1.3) methodology. These benefits correspond to the avoided impacts related to the material recycling. The impacts generated by the production of primary material are counted negatively. *The manufacturing wastes must be considered as co-products. The net benefits and loads (Module D) allocated to the co-products must not be taken into consideration. Therefore, the net benefits and loads related to the manufacturing wastes must not be added for the modules [A1-A3]
Software and database used		EIME V6 and its CODDE-2023-02 database

For each stage, the energy mix modelled is based on default information integrated in the data modules used from the aforementioned database unless otherwise indicated.

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ENVIRONMENTAL IMPACTS

Environmental Impact Indicators		Total Life Cycle Impacts		Manufacturing	Distribution	Installation	Use	End of Life	Benefits & Loads
				A1-A3	A4	A5	B1-B7	C1-C4	Module D
Climate change - total	GWP	7.15E+01	kg CO_2 eq	5.08E+01	2.00E+00	2.94E+00	0,00E+00	1.57E+01	-2.39E+01
Climate change - fossil fuels	GWPf	7.11E+01	kg CO_2 eq	5.04E+01	2.00E+00	2.94E+00	0,00E+00	1.57E+01	-2.39E+01
Climate change - biogenics	GWPb	4.12E-01	kg CO_2 eq	4.12E-01	0.00E+00	-2.58E-05	0,00E+00	-6.00E-08	-6.29E-03
Climate change - land use and land use transformation	GWPlu	0.00E+00	kg CO_2 eq	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Ozone depletion	ODP	5.63E-07	kg CFC-11 eq	4.56E-07	3.06E-09	6.84E-08	0,00E+00	3.46E-08	-3.10E-08
Acidification	AP	2.48E-01	mole of H+ eq	1.72E-01	1.27E-02	9.87E-03	0,00E+00	5.36E-02	-6.30E-02
Eutrophication, freshwater	Epf	7.06E-05	kg P eq	6.17E-05	7.50E-07	2.89E-06	0,00E+00	5.27E-06	-6.88E-06
Eutrophication, marine aquatic	Epm	5.98E-02	kg of N eq	4.02E-02	5.93E-03	2.72E-03	0,00E+00	1.09E-02	-1.12E-02
Eutrophication, terrestrial	Ept	6.36E-01	mole of N eq	4.28E-01	6.51E-02	2.37E-02	0,00E+00	1.19E-01	-1.23E-01
Photochemical ozone formation	POCP	2.00E-01	kg NMVOC eq	1.36E-01	1.64E-02	7.19E-03	0,00E+00	4.12E-02	-4.71E-02
Abiotic resource depletion – elements	ADPe	2.35E-05	kg Sb eq	8.22E-06	7.87E-08	5.26E-05	0,00E+00	-3.74E-05	-7.44E-07
Abiotic resource depletion – fossil fuels	ADPf	2.92E+03	MJ	1.74E+03	2.79E+01	2.52E+01	0,00E+00	1.13E+03	-8.80E+02
Water use	WU	2.45E+01	m^3 world eq	1.64E+01	7.59E-03	2.00E+00	0,00E+00	6.08E+00	-8.75E+00

The values of the indicators defined in the PCR-ed4-EN-2021 09 06 are available in the digital database of pep-ecopassport.org website.

The environmental impact of the Reference Product is most significant during the Manufacturing stage.

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ENVIRONMENTAL IMPACTS

Inventory Flow Indicators		Total Life Cycle Impacts		Manufacturing	Distribution	Installation	Use	End of Life	Benefits & Loads
				A1-A3	A4	A5	B1-B7	C1-C4	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	ERP	2.07E+00	MJ	-3.85E+00	3.72E-02	1.73E+00	0.00E+00	1.51E-02	-1.58E-01
Use of renewable primary energy resources used as raw materials	ERM	2.82E+01	MJ	2.82E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources	ER	2.62E+01	MJ	2.44E+01	3.72E-02	1.73E+00	0,00E+00	1.51E-02	-1.58E-01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	ENRP	2.91E+03	MJ	1.73E+03	2.79E+01	2.52E+01	0,00E+00	1.13E+03	-8.80E+02
Use of non-renewable primary energy resources used as raw materials	ENRM	8.19E+00	MJ	8.19E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1.77E-01
Total use of non-renewable primary energy resources	ENR	2.92E+03	MJ	1.74E+03	2.79E+01	2.52E+01	0,00E+00	1.13E+03	-8.80E+02
Use of secondary materials	USM	0,00E+00	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	URSF	0,00E+00	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	UNRSF	0,00E+00	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	NUFW	5.71E-01	m^3	3.83E-01	1.77E-04	4.66E-02	0,00E+00	1.42E-01	-2.04E-01
Hazardous waste disposed	HWD	-2.39E-01	kg	1.99E-01	0,00E+00	2.21E-01	0,00E+00	-6.59E-01	-1.75E-02
Non-hazardous waste disposed	NHWD	5.08E+01	kg	4.77E+01	7.02E-02	4.07E+00	0,00E+00	-1.00E+00	-4.00E-01
Radioactive waste disposed	RWD	5.06E-03	kg	3.55E-03	5.00E-05	9.39E-04	0,00E+00	5.19E-04	-3.21E-04
Components for re-use	CRU	0,00E+00	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	MRE	7.38E+00	kg	1.97E+00	0,00E+00	1.54E-07	0,00E+00	5.41E+00	0,00E+00
Materials for energy recovery	MER	0,00E+00	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	EE	4.63E-02	MJ	4.63E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon content of the product	BCpdt	0,00E+00	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Biogenic carbon content of the associated packaging	BCpkg	0,00E+00	kg C	4.40E-01	0,00E+00	-4.40E-01	0,00E+00	0,00E+00	0,00E+00

In accordance with the PCR, the "Benefits & Loads" are beyond the system boundary and are thus not included in the results of "Total Life Cycle Impacts".

The values of the indicators defined in the PCR-ed4-EN-2021 09 06 are available in the digital database of pep-ecopassport.org website.

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ENVIRONMENTAL IMPACTS

For the products of the series covered by the D2 reference, the environmental impacts can be determined for each life cycle by multiplying the reference product impacts by the factors listed below given by Legrand.

Factor	Ratio to calculate factor
A	Total mass of product with packaging/Total mass of reference product with packaging
B	Mass of product without packaging/Mass of reference product without packaging
C	Mass of product packaging/Mass of reference product packaging
1	Use phase is the same for all product

PART NUMBER	MANUFACTURING	DISTRIBUTION	INSTALLATION	USE	END OF LIFE
SERIES: TD, UD, LBX, CH, EC	A	B	C	1	A

Registration number: **LGRP-00330-V02.01-EN**	Drafting rules: **"PEP-PCR-ed4-EN-2021 09 06"** Supplemented by **"PSR-0005-ed2-EN-2016 03 29"**
Verifier accreditation number: **VH39**	Information and reference documents: **www.pep-ecopassport.org**
Date of issue : **04-2023**	Validity period : **5 years**
Independent verification of the declaration and data in compliance with ISO 14025:2006 Internal ☐ External ☒	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)	
PEP compliant with XP C08-100-1:2016 or EN 50693:2019 The content of this PEP cannot be compared with content from any other program.	
PEP compliant with ISO 14025:2006: "Environmental labels and declarations - Type III environmental declarations"	

LCA compliant with ISO 14040:2006: "Environmental management – LCA – Principles and framework"
LCA compliant with ISO 14044:2006: "Environmental management – LCA – Requirements and guidelines"
Environmental data in alignment with EN 15804:2012 + A2:2019: "Sustainability of construction works - EPD's - Core rules for the product category of construction products"