Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3025829 - PP Bracket GY 40 BC
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.18E-2	6.39E-4	1.45E-4	3.26E-2	3.16E-4	5.16E-2	1.48E-4	-2.74E-2	5.72E-2
GWP-f	kg CO2 eq	6.49E-2	6.39E-4	1.46E-4	6.56E-2	3.16E-4	1.79E-2	1.48E-4	-2.84E-2	5.55E-2
GWP-b	kg CO2 eq	-3.31E-2	3.88E-7	-1.54E-6	-3.31E-2	1.92E-7	3.38E-2	1.26E-7	1.03E-3	1.69E-3
GWP-luluc	kg CO2 eq	5.83E-5	2.26E-7	1.49E-7	5.86E-5	1.12E-7	2.10E-6	3.05E-9	-2.42E-5	3.67E-5
ODP	kg CFC11 eq	3.59E-9	1.47E-10	8.26E-12	3.74E-9	7.28E-11	3.47E-10	3.77E-12	-2.79E-9	1.37E-9
AP	mol H+ eq	3.25E-4	3.64E-6	1.47E-6	3.30E-4	1.80E-6	1.48E-5	9.21E-8	-9.69E-5	2.50E-4
EP-fw	kg P eq	2.04E-6	5.26E-9	8.24E-9	2.06E-6	2.60E-9	6.49E-8	1.32E-10	-6.71E-7	1.45E-6
EP-m	kg N eq	5.79E-5	1.30E-6	1.55E-7	5.94E-5	6.44E-7	4.60E-6	5.46E-8	-2.08E-5	4.38E-5
EP-T	mol N eq	6.62E-4	1.43E-5	1.85E-6	6.78E-4	7.09E-6	5.10E-5	3.68E-7	-2.38E-4	4.99E-4
POCP	kg NMVOC eq	2.42E-4	4.10E-6	6.28E-7	2.47E-4	2.03E-6	1.54E-5	1.38E-7	-1.02E-4	1.63E-4
ADP-mm	kg Sb eq	1.68E-6	1.65E-8	1.97E-8	1.71E-6	8.17E-9	5.55E-8	9.70E-11	-2.16E-7	1.56E-6
ADP-f	MJ	1.43E+0	9.81E-3	1.36E-3	1.44E+0	4.85E-3	3.94E-2	2.77E-4	-6.41E-1	8.46E-1
WDP	m3 depriv.	3.09E-2	3.01E-5	5.22E-5	3.10E-2	1.49E-5	6.68E-4	3.18E-6	-1.38E-2	1.78E-2
PM	disease inc.	3.76E-9	5.77E-11	9.08E-12	3.83E-9	2.85E-11	2.25E-10	1.90E-12	-1.29E-9	2.79E-9
IR	kBq U-235 eq	2.02E-3	4.29E-5	1.02E-6	2.06E-3	2.12E-5	1.31E-4	1.25E-6	-5.23E-4	1.69E-3
ETP-fw	CTUe	1.34E+0	7.96E-3	1.21E-2	1.36E+0	3.94E-3	4.96E-2	2.31E-4	-4.30E-1	9.85E-1
HTP-c	CTUh	3.33E-10	2.83E-13	6.17E-13	3.34E-10	1.40E-13	7.12E-12	8.09E-15	-1.67E-11	3.25E-10
HTP-nc	CTUh	1.37E-9	9.49E-12	1.57E-11	1.39E-9	4.69E-12	7.75E-11	1.57E-13	5.58E-10	2.03E-9
SQP	Pt	3.03E+0	8.39E-3	2.24E-3	3.04E+0	4.15E-3	3.30E-2	7.02E-4	-2.55E+0	5.28E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.37E-1	1.41E-4	2.40E-2	5.61E-1	6.96E-5	1.93E-3	9.71E-6	-3.91E-1	1.72E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.37E-1	1.41E-4	2.40E-2	5.61E-1	6.96E-5	1.93E-3	9.71E-6	-3.91E-1	1.72E-1
PENRE	MJ	1.53E+0	1.04E-2	1.44E-3	1.55E+0	5.15E-3	4.20E-2	2.94E-4	-6.91E-1	9.01E-1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.53E+0	1.04E-2	1.44E-3	1.55E+0	5.15E-3	4.20E-2	2.94E-4	-6.91E-1	9.01E-1
PET	MJ	2.07E+0	1.06E-2	2.55E-2	2.11E+0	5.22E-3	4.39E-2	3.03E-4	-1.08E+0	1.07E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	6.75E-4	1.11E-6	1.46E-6	6.77E-4	5.49E-7	2.20E-5	3.33E-7	-2.33E-4	4.67E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.00E-6	2.51E-8	2.73E-13	1.03E-6	1.24E-8	7.39E-8	3.49E-10	-9.11E-7	2.04E-7
NHWD	kg	2.59E-2	6.08E-4	1.05E-6	2.65E-2	3.01E-4	2.34E-3	1.20E-3	-2.28E-3	2.81E-2
RWD	kg	1.93E-6	6.67E-8	1.10E-13	1.99E-6	3.30E-8	1.71E-7	1.78E-9	-5.81E-7	1.62E-6
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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