

Environmental Profile

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

Ecochain v3.5.80



Product: 3003427 - PP Branch 88° BK 110x110x75 S/S/S
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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					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

This document and supporting material contain confidential and proprietary business information of Wavin - PL -Buk - Extra products. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - PL -Buk - Extra products.

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.56E-1	2.34E-3	1.45E-4	5.58E-1	8.11E-3	6.72E-1	3.96E-3	-4.20E-1	8.22E-1
GWP-f	kg CO2 eq	8.56E-1	2.34E-3	1.46E-4	8.59E-1	8.10E-3	3.39E-1	3.96E-3	-4.84E-1	7.25E-1
GWP-b	kg CO2 eq	-3.01E-1	1.42E-6	-1.54E-6	-3.01E-1	4.92E-6	3.33E-1	3.48E-6	6.51E-2	9.70E-2
GWP-luluc	kg CO2 eq	7.91E-4	8.27E-7	1.49E-7	7.92E-4	2.87E-6	4.68E-5	6.88E-8	-6.82E-4	1.60E-4
ODP	kg CFC11 eq	5.38E-8	5.38E-10	8.26E-12	5.43E-8	1.87E-9	7.17E-9	1.00E-10	-3.15E-8	3.19E-8
AP	mol H+ eq	3.55E-3	1.33E-5	1.47E-6	3.57E-3	4.62E-5	2.99E-4	2.40E-6	-1.64E-3	2.27E-3
EP-fw	kg P eq	1.96E-5	1.92E-8	8.24E-9	1.97E-5	6.67E-8	1.38E-6	3.15E-9	-1.19E-5	9.19E-6
EP-m	kg N eq	6.70E-4	4.76E-6	1.55E-7	6.74E-4	1.65E-5	9.23E-5	1.81E-6	-3.37E-4	4.48E-4
EP-T	mol N eq	7.34E-3	5.25E-5	1.85E-6	7.39E-3	1.82E-4	1.02E-3	9.71E-6	-3.82E-3	4.78E-3
POCP	kg NMVOC eq	3.02E-3	1.50E-5	6.28E-7	3.03E-3	5.20E-5	3.13E-4	3.63E-6	-1.48E-3	1.93E-3
ADP-mm	kg Sb eq	4.06E-5	6.04E-8	1.97E-8	4.07E-5	2.10E-7	1.14E-6	2.41E-9	-4.57E-6	3.74E-5
ADP-f	MJ	2.66E+1	3.59E-2	1.36E-3	2.67E+1	1.24E-1	8.60E-1	7.31E-3	-1.34E+1	1.42E+1
WDP	m3 depriv.	5.27E-1	1.10E-4	5.22E-5	5.27E-1	3.82E-4	1.65E-2	3.91E-5	-3.12E-1	2.32E-1
PM	disease inc.	3.88E-8	2.11E-10	9.08E-12	3.91E-8	7.31E-10	4.68E-9	5.02E-11	-2.04E-8	2.41E-8
IR	kBq U-235 eq	2.57E-2	1.57E-4	1.02E-6	2.58E-2	5.44E-4	2.72E-3	3.40E-5	-1.20E-2	1.72E-2
ETP-fw	CTUe	1.62E+1	2.91E-2	1.21E-2	1.63E+1	1.01E-1	1.13E+0	6.91E-3	-7.76E+0	9.75E+0
HTP-c	CTUh	4.25E-10	1.04E-12	6.17E-13	4.27E-10	3.59E-12	1.23E-10	1.82E-13	-2.14E-10	3.40E-10
HTP-nc	CTUh	8.84E-9	3.47E-11	1.57E-11	8.89E-9	1.20E-10	1.50E-9	4.14E-12	-4.08E-9	6.43E-9
SQP	Pt	2.97E+1	3.07E-2	2.24E-3	2.98E+1	1.06E-1	6.68E-1	1.87E-2	-3.36E+1	-3.04E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.52E+0	5.14E-4	2.40E-2	7.54E+0	1.78E-3	4.07E-2	2.86E-4	-5.50E+0	2.08E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.52E+0	5.14E-4	2.40E-2	7.54E+0	1.78E-3	4.07E-2	2.86E-4	-5.50E+0	2.08E+0
PENRE	MJ	2.85E+1	3.81E-2	1.44E-3	2.86E+1	1.32E-1	9.16E-1	7.75E-3	-1.45E+1	1.51E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.85E+1	3.81E-2	1.44E-3	2.86E+1	1.32E-1	9.16E-1	7.75E-3	-1.45E+1	1.51E+1
PET	MJ	3.61E+1	3.86E-2	2.55E-2	3.61E+1	1.34E-1	9.57E-1	8.04E-3	-2.00E+1	1.72E+1
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	9.42E-3	4.06E-6	1.46E-6	9.42E-3	1.41E-5	5.74E-4	9.01E-6	-5.90E-3	4.12E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.69E-6	9.17E-8	2.73E-13	7.78E-6	3.18E-7	1.53E-6	8.82E-9	-6.18E-6	3.47E-6
NHWD	kg	5.87E-2	2.22E-3	1.05E-6	6.09E-2	7.71E-3	4.46E-2	3.21E-2	-2.66E-2	1.19E-1
RWD	kg	2.82E-5	2.44E-7	1.10E-13	2.84E-5	8.46E-7	3.51E-6	4.77E-8	-1.17E-5	2.11E-5
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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777