

Environmental Profile

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

Ecochain v3.5.80



Product: 3010950 - X-Stream PP Plug BK 250
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



Wavin X-Stream is a new generation of double-walled pipes and fittings made of polypropylene. The system is

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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.69E+0	6.97E-2	2.14E-2	2.78E+0	3.74E-2	1.45E+0	1.76E-2	-1.76E+0	2.53E+0
GWP-f	kg CO2 eq	3.01E+0	6.97E-2	2.16E-2	3.11E+0	3.74E-2	1.11E+0	1.76E-2	-1.75E+0	2.52E+0
GWP-b	kg CO2 eq	-3.25E-1	4.23E-5	-2.28E-4	-3.25E-1	2.27E-5	3.41E-1	1.54E-5	-6.15E-3	1.00E-2
GWP-luluc	kg CO2 eq	9.64E-4	2.47E-5	2.21E-5	1.01E-3	1.32E-5	2.11E-4	2.98E-7	-3.95E-4	8.40E-4
ODP	kg CFC11 eq	7.60E-8	1.61E-8	1.22E-9	9.32E-8	8.62E-9	2.78E-8	4.42E-10	-7.69E-8	5.32E-8
AP	mol H+ eq	1.08E-2	3.97E-4	2.18E-4	1.14E-2	2.13E-4	1.18E-3	1.05E-5	-5.06E-3	7.78E-3
EP-fw	kg P eq	4.57E-5	5.73E-7	1.22E-6	4.75E-5	3.08E-7	6.10E-6	1.37E-8	-2.02E-5	3.38E-5
EP-m	kg N eq	1.84E-3	1.42E-4	2.29E-5	2.01E-3	7.62E-5	3.50E-4	6.98E-6	-9.13E-4	1.53E-3
EP-T	mol N eq	2.07E-2	1.56E-3	2.74E-4	2.25E-2	8.40E-4	3.85E-3	4.28E-5	-1.03E-2	1.70E-2
POCP	kg NMVOC eq	9.39E-3	4.47E-4	9.27E-5	9.93E-3	2.40E-4	1.21E-3	1.61E-5	-4.54E-3	6.86E-3
ADP-mm	kg Sb eq	3.42E-5	1.80E-6	2.90E-6	3.90E-5	9.68E-7	4.59E-6	1.06E-8	-1.19E-5	3.26E-5
ADP-f	MJ	1.05E+2	1.07E+0	2.00E-1	1.06E+2	5.74E-1	3.68E+0	3.23E-2	-5.49E+1	5.56E+1
WDP	m3 depriv.	2.04E+0	3.28E-3	7.71E-3	2.06E+0	1.76E-3	7.19E-2	1.56E-4	-9.69E-1	1.16E+0
PM	disease inc.	1.09E-7	6.29E-9	1.34E-9	1.16E-7	3.38E-9	1.93E-8	2.22E-10	-4.35E-8	9.57E-8
IR	kBq U-235 eq	5.91E-2	4.67E-3	1.50E-4	6.39E-2	2.51E-3	1.11E-2	1.50E-4	-2.65E-2	5.12E-2
ETP-fw	CTUe	1.85E+1	8.68E-1	1.78E+0	2.12E+1	4.66E-1	4.16E+0	2.73E-2	-8.39E+0	1.74E+1
HTP-c	CTUh	8.51E-10	3.09E-11	9.11E-11	9.73E-10	1.66E-11	5.19E-10	7.84E-13	-3.19E-10	1.19E-9
HTP-nc	CTUh	2.17E-8	1.04E-9	2.31E-9	2.50E-8	5.56E-10	6.24E-9	1.74E-11	-9.10E-9	2.28E-8
SQP	Pt	3.48E+1	9.15E-1	3.31E-1	3.61E+1	4.91E-1	2.94E+0	8.28E-2	-8.15E+0	3.14E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.00E+1	1.53E-2	3.55E+0	1.36E+1	8.24E-3	1.81E-1	1.25E-3	-2.03E+0	1.18E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.00E+1	1.53E-2	3.55E+0	1.36E+1	8.24E-3	1.81E-1	1.25E-3	-2.03E+0	1.18E+1
PENRE	MJ	1.13E+2	1.14E+0	2.13E-1	1.14E+2	6.10E-1	3.92E+0	3.42E-2	-5.91E+1	5.94E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.13E+2	1.14E+0	2.13E-1	1.14E+2	6.10E-1	3.92E+0	3.42E-2	-5.91E+1	5.94E+1
PET	MJ	1.23E+2	1.15E+0	3.76E+0	1.28E+2	6.18E-1	4.10E+0	3.55E-2	-6.12E+1	7.11E+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	3.12E-2	1.21E-4	2.16E-4	3.15E-2	6.50E-5	2.15E-3	3.98E-5	-1.44E-2	1.94E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.48E-5	2.73E-6	4.03E-11	1.75E-5	1.47E-6	6.01E-6	3.88E-8	-1.34E-5	1.17E-5
NHWD	kg	1.16E-1	6.63E-2	1.56E-4	1.83E-1	3.56E-2	1.86E-1	1.42E-1	-4.61E-2	5.01E-1
RWD	kg	5.45E-5	7.27E-6	1.62E-11	6.18E-5	3.90E-6	1.41E-5	2.11E-7	-2.40E-5	5.60E-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



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