

Environmental Profile

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

Ecochain v3.5.80



Product: 3031544 - X-Stream Click Inlet 160SW/600U IT BK
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	5.19E+0	1.42E-2	1.45E-4	5.21E+0	6.52E-2	3.70E+0	2.29E-2	-3.05E+0	5.94E+0
GWP-f	kg CO2 eq	6.21E+0	1.42E-2	1.46E-4	6.23E+0	6.52E-2	2.52E+0	2.29E-2	-3.30E+0	5.54E+0
GWP-b	kg CO2 eq	-1.03E+0	8.61E-6	-1.54E-6	-1.03E+0	3.96E-5	1.18E+0	2.78E-5	2.47E-1	3.99E-1
GWP-luluc	kg CO2 eq	6.25E-3	5.02E-6	1.49E-7	6.25E-3	2.31E-5	7.71E-4	5.41E-7	-3.98E-3	3.07E-3
ODP	kg CFC11 eq	2.74E-6	3.27E-9	8.26E-12	2.74E-6	1.50E-8	2.12E-7	8.06E-10	-1.29E-6	1.67E-6
AP	mol H+ eq	2.87E-2	8.08E-5	1.47E-6	2.88E-2	3.71E-4	3.78E-3	1.95E-5	-1.24E-2	2.06E-2
EP-fw	kg P eq	2.54E-4	1.17E-7	8.24E-9	2.54E-4	5.36E-7	2.58E-5	2.49E-8	-1.23E-4	1.58E-4
EP-m	kg N eq	5.09E-3	2.89E-5	1.55E-7	5.12E-3	1.33E-4	9.55E-4	1.47E-5	-2.35E-3	3.87E-3
EP-T	mol N eq	5.49E-2	3.19E-4	1.85E-6	5.52E-2	1.46E-3	1.05E-2	7.81E-5	-2.56E-2	4.16E-2
POCP	kg NMVOC eq	1.97E-2	9.11E-5	6.28E-7	1.98E-2	4.19E-4	3.13E-3	2.72E-5	-8.82E-3	1.46E-2
ADP-mm	kg Sb eq	3.94E-4	3.67E-7	1.97E-8	3.95E-4	1.69E-6	1.46E-5	1.93E-8	-6.35E-5	3.48E-4
ADP-f	MJ	1.59E+2	2.18E-1	1.36E-3	1.59E+2	1.00E+0	1.00E+1	5.88E-2	-7.77E+1	9.22E+1
WDP	m3 depriv.	8.38E+0	6.68E-4	5.22E-5	8.39E+0	3.07E-3	3.90E-1	2.74E-4	-4.06E+0	4.72E+0
PM	disease inc.	2.42E-7	1.28E-9	9.08E-12	2.43E-7	5.88E-9	4.66E-8	4.05E-10	-1.11E-7	1.86E-7
IR	kBq U-235 eq	3.30E-1	9.52E-4	1.02E-6	3.31E-1	4.37E-3	3.54E-2	2.73E-4	-1.42E-1	2.28E-1
ETP-fw	CTUe	1.36E+2	1.77E-1	1.21E-2	1.36E+2	8.13E-1	7.51E+1	8.24E-1	-5.97E+1	1.53E+2
HTP-c	CTUh	4.42E-9	6.29E-12	6.17E-13	4.42E-9	2.89E-11	1.09E-9	1.54E-12	-1.88E-9	3.66E-9
HTP-nc	CTUh	1.26E-7	2.11E-10	1.57E-11	1.26E-7	9.69E-10	2.66E-8	1.61E-10	-5.24E-8	1.02E-7
SQP	Pt	1.20E+2	1.86E-1	2.24E-3	1.20E+2	8.56E-1	6.18E+0	1.51E-1	-1.29E+2	-1.53E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.64E+1	3.12E-3	2.40E-2	3.65E+1	1.44E-2	7.09E-1	2.30E-3	-2.25E+1	1.47E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.64E+1	3.12E-3	2.40E-2	3.65E+1	1.44E-2	7.09E-1	2.30E-3	-2.25E+1	1.47E+1
PENRE	MJ	1.70E+2	2.31E-1	1.44E-3	1.70E+2	1.06E+0	1.07E+1	6.24E-2	-8.38E+1	9.83E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.70E+2	2.31E-1	1.44E-3	1.70E+2	1.06E+0	1.07E+1	6.24E-2	-8.38E+1	9.83E+1
PET	MJ	2.07E+2	2.34E-1	2.55E-2	2.07E+2	1.08E+0	1.14E+1	6.47E-2	-1.06E+2	1.13E+2
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	1.01E-1	2.46E-5	1.46E-6	1.01E-1	1.13E-4	1.13E-2	7.27E-5	-5.02E-2	6.21E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.18E-4	5.57E-7	2.73E-13	1.19E-4	2.56E-6	1.68E-5	7.07E-8	-6.73E-5	7.11E-5
NHWD	kg	6.18E-1	1.35E-2	1.05E-6	6.31E-1	6.20E-2	3.86E-1	2.59E-1	-2.58E-1	1.08E+0
RWD	kg	3.21E-4	1.48E-6	1.10E-13	3.23E-4	6.81E-6	3.84E-5	3.84E-7	-1.30E-4	2.38E-4
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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