

# Environmental Profile

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

Ecochain v3.5.80



Product: 3031548 - X-Stream Click Inlet 160SW/400U VI 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

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]

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.24E+0	1.42E-2	1.45E-4	5.25E+0	6.59E-2	3.74E+0	2.26E-2	-3.07E+0	6.01E+0
GWP-f	kg CO2 eq	6.28E+0	1.42E-2	1.46E-4	6.30E+0	6.58E-2	2.54E+0	2.26E-2	-3.31E+0	5.61E+0
GWP-b	kg CO2 eq	-1.05E+0	8.64E-6	-1.54E-6	-1.05E+0	4.00E-5	1.20E+0	2.81E-5	2.46E-1	4.00E-1
GWP-luluc	kg CO2 eq	6.46E-3	5.04E-6	1.49E-7	6.46E-3	2.33E-5	8.01E-4	5.46E-7	-4.16E-3	3.13E-3
ODP	kg CFC11 eq	2.90E-6	3.28E-9	8.26E-12	2.90E-6	1.52E-8	2.23E-7	8.14E-10	-1.37E-6	1.77E-6
AP	mol H+ eq	2.93E-2	8.10E-5	1.47E-6	2.94E-2	3.75E-4	3.91E-3	1.97E-5	-1.26E-2	2.10E-2
EP-fw	kg P eq	2.64E-4	1.17E-7	8.24E-9	2.64E-4	5.42E-7	2.69E-5	2.51E-8	-1.28E-4	1.64E-4
EP-m	kg N eq	5.18E-3	2.90E-5	1.55E-7	5.21E-3	1.34E-4	9.81E-4	1.48E-5	-2.39E-3	3.95E-3
EP-T	mol N eq	5.58E-2	3.20E-4	1.85E-6	5.61E-2	1.48E-3	1.08E-2	7.89E-5	-2.60E-2	4.25E-2
POCP	kg NMVOC eq	1.98E-2	9.13E-5	6.28E-7	1.99E-2	4.23E-4	3.21E-3	2.73E-5	-8.83E-3	1.47E-2
ADP-mm	kg Sb eq	4.00E-4	3.68E-7	1.97E-8	4.00E-4	1.70E-6	1.51E-5	1.95E-8	-6.58E-5	3.51E-4
ADP-f	MJ	1.58E+2	2.18E-1	1.36E-3	1.58E+2	1.01E+0	1.03E+1	5.94E-2	-7.71E+1	9.23E+1
WDP	m3 depriv.	8.72E+0	6.70E-4	5.22E-5	8.73E+0	3.10E-3	4.08E-1	2.77E-4	-4.23E+0	4.91E+0
PM	disease inc.	2.44E-7	1.28E-9	9.08E-12	2.45E-7	5.94E-9	4.77E-8	4.08E-10	-1.12E-7	1.87E-7
IR	kBq U-235 eq	3.42E-1	9.55E-4	1.02E-6	3.43E-1	4.42E-3	3.66E-2	2.76E-4	-1.49E-1	2.36E-1
ETP-fw	CTUe	1.39E+2	1.77E-1	1.21E-2	1.40E+2	8.20E-1	7.95E+1	8.75E-1	-6.21E+1	1.59E+2
HTP-c	CTUh	4.39E-9	6.31E-12	6.17E-13	4.39E-9	2.92E-11	1.11E-9	1.56E-12	-1.95E-9	3.58E-9
HTP-nc	CTUh	1.29E-7	2.11E-10	1.57E-11	1.29E-7	9.78E-10	2.77E-8	1.70E-10	-5.68E-8	1.02E-7
SQP	Pt	1.22E+2	1.87E-1	2.24E-3	1.22E+2	8.64E-1	6.30E+0	1.52E-1	-1.32E+2	-2.19E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.70E+1	3.13E-3	2.40E-2	3.70E+1	1.45E-2	7.38E-1	2.32E-3	-2.31E+1	1.47E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.70E+1	3.13E-3	2.40E-2	3.70E+1	1.45E-2	7.38E-1	2.32E-3	-2.31E+1	1.47E+1
PENRE	MJ	1.69E+2	2.32E-1	1.44E-3	1.69E+2	1.07E+0	1.10E+1	6.30E-2	-8.32E+1	9.84E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.69E+2	2.32E-1	1.44E-3	1.69E+2	1.07E+0	1.10E+1	6.30E-2	-8.32E+1	9.84E+1
PET	MJ	2.06E+2	2.35E-1	2.55E-2	2.06E+2	1.09E+0	1.17E+1	6.53E-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	1.04E-1	2.47E-5	1.46E-6	1.04E-1	1.14E-4	1.18E-2	7.33E-5	-5.19E-2	6.40E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.26E-4	5.58E-7	2.73E-13	1.27E-4	2.58E-6	1.73E-5	7.13E-8	-6.85E-5	7.84E-5
NHWD	kg	6.32E-1	1.35E-2	1.05E-6	6.46E-1	6.26E-2	3.92E-1	2.62E-1	-2.67E-1	1.10E+0
RWD	kg	3.32E-4	1.49E-6	1.10E-13	3.34E-4	6.87E-6	3.95E-5	3.88E-7	-1.36E-4	2.45E-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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