

Environmental Profile

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

Ecochain v3.5.80



Product: 3071023 - X-Stream PP Reducer BK 150x110 PVC Nor
 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	2.16E+0	1.56E-2	1.88E-2	2.20E+0	2.87E-2	2.65E+0	1.50E-2	-1.64E+0	3.25E+0
GWP-f	kg CO2 eq	3.18E+0	1.56E-2	1.90E-2	3.21E+0	2.86E-2	1.62E+0	1.50E-2	-1.66E+0	3.22E+0
GWP-b	kg CO2 eq	-1.02E+0	9.49E-6	-2.00E-4	-1.02E+0	1.74E-5	1.03E+0	1.35E-5	2.78E-2	3.70E-2
GWP-luluc	kg CO2 eq	2.16E-3	5.53E-6	1.94E-5	2.19E-3	1.01E-5	1.49E-4	2.64E-7	-9.57E-4	1.39E-3
ODP	kg CFC11 eq	2.83E-7	3.60E-9	1.07E-9	2.88E-7	6.60E-9	2.19E-8	3.84E-10	-1.12E-7	2.05E-7
AP	mol H+ eq	1.38E-2	8.90E-5	1.91E-4	1.41E-2	1.63E-4	9.60E-4	9.25E-6	-4.66E-3	1.06E-2
EP-fw	kg P eq	7.06E-5	1.29E-7	1.07E-6	7.18E-5	2.36E-7	4.39E-6	1.21E-8	-2.34E-5	5.30E-5
EP-m	kg N eq	2.38E-3	3.19E-5	2.01E-5	2.43E-3	5.84E-5	2.96E-4	8.97E-6	-9.49E-4	1.85E-3
EP-T	mol N eq	2.71E-2	3.51E-4	2.41E-4	2.76E-2	6.43E-4	3.27E-3	3.74E-5	-1.07E-2	2.09E-2
POCP	kg NMVOC eq	1.18E-2	1.00E-4	8.14E-5	1.19E-2	1.84E-4	9.87E-4	1.39E-5	-4.43E-3	8.69E-3
ADP-mm	kg Sb eq	3.71E-4	4.04E-7	2.55E-6	3.74E-4	7.41E-7	3.39E-6	9.26E-9	-2.09E-5	3.57E-4
ADP-f	MJ	9.85E+1	2.40E-1	1.76E-1	9.89E+1	4.40E-1	2.69E+0	2.81E-2	-4.51E+1	5.70E+1
WDP	m3 depriv.	2.02E+0	7.36E-4	6.77E-3	2.03E+0	1.35E-3	5.85E-2	1.39E-4	-7.52E-1	1.34E+0
PM	disease inc.	1.51E-7	1.41E-9	1.18E-9	1.54E-7	2.58E-9	1.42E-8	1.93E-10	-5.03E-8	1.21E-7
IR	kBq U-235 eq	1.24E-1	1.05E-3	1.32E-4	1.25E-1	1.92E-3	8.25E-3	1.32E-4	-3.00E-2	1.05E-1
ETP-fw	CTUe	4.05E+1	1.95E-1	1.57E+0	4.23E+1	3.57E-1	4.28E+0	3.25E-2	-1.19E+1	3.51E+1
HTP-c	CTUh	1.54E-9	6.93E-12	8.00E-11	1.63E-9	1.27E-11	3.73E-10	7.01E-13	-6.14E-10	1.40E-9
HTP-nc	CTUh	3.11E-8	2.32E-10	2.03E-9	3.33E-8	4.25E-10	4.93E-9	1.73E-11	-9.93E-9	2.88E-8
SQP	Pt	9.49E+1	2.05E-1	2.91E-1	9.54E+1	3.76E-1	2.09E+0	7.20E-2	-7.77E+1	2.03E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.88E+1	3.44E-3	3.12E+0	2.19E+1	6.31E-3	1.30E-1	1.14E-3	-1.21E+1	9.89E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.88E+1	3.44E-3	3.12E+0	2.19E+1	6.31E-3	1.30E-1	1.14E-3	-1.21E+1	9.89E+0
PENRE	MJ	1.05E+2	2.55E-1	1.87E-1	1.06E+2	4.67E-1	2.87E+0	2.98E-2	-4.87E+1	6.06E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.05E+2	2.55E-1	1.87E-1	1.06E+2	4.67E-1	2.87E+0	2.98E-2	-4.87E+1	6.06E+1
PET	MJ	1.24E+2	2.58E-1	3.31E+0	1.28E+2	4.73E-1	3.00E+0	3.10E-2	-6.08E+1	7.05E+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	3.84E-2	2.72E-5	1.89E-4	3.86E-2	4.97E-5	2.52E-3	3.48E-5	-1.26E-2	2.86E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.37E-5	6.14E-7	3.54E-11	3.43E-5	1.12E-6	4.97E-6	3.38E-8	-2.19E-5	1.85E-5
NHWD	kg	2.38E-1	1.49E-2	1.37E-4	2.53E-1	2.72E-2	1.49E-1	1.24E-1	-7.44E-2	4.79E-1
RWD	kg	1.48E-4	1.63E-6	1.42E-11	1.49E-4	2.99E-6	1.05E-5	1.84E-7	-3.07E-5	1.32E-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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