Environmental Profile

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

Ecochain v3.5.64

Product:	3065877 - X-Stream PP Pipe BK 200 SN8 L=6 S/SP
Unit:	1 Piece
Manufacturer:	Wavin - SE - Eskilstuna

Wavin X-Stream is a new generation of double-walled pipes and fittings made of polypropylene. The system is suitable for pressureless transport of rainwater and wastewater.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	20-06-2022
End of validity:	20-06-2027
Verifier:	Harry van Ewijk - 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 - SE - Eskilstuna (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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.36E+1	2.45E+0	8.72E-1	2.70E+1	3.34E-1	1.22E+1	1.58E-1	-1.55E+1	2.41E+1
GWP-f	kg CO2 eq	2.59E+1	2.45E+0	6.32E-1	2.90E+1	3.34E-1	9.84E+0	1.58E-1	-1.55E+1	2.38E+1
GWP-b	kg CO2 eq	-2.29E+0	1.11E-3	1.66E-1	-2.12E+0	2.03E-4	2.39E+0	1.37E-4	-5.40E-2	2.18E-1
GWP-luluc	kg CO2 eq	1.27E-2	9.05E-4	7.35E-2	8.71E-2	1.18E-4	1.87E-3	2.68E-6	-2.99E-3	8.61E-2
ODP	kg CFC11 eq	5.40E-7	5.41E-7	7.16E-8	1.15E-6	7.69E-8	2.43E-7	3.95E-9	-5.77E-7	9.00E-7
AP	mol H+ eq	9.34E-2	1.49E-2	5.35E-3	1.14E-1	1.90E-3	1.02E-2	9.43E-5	-4.34E-2	8.24E-2
EP-fw	kg P eq	3.90E-4	2.46E-5	1.17E-5	4.26E-4	2.75E-6	5.39E-5	1.23E-7	-1.70E-4	3.13E-4
EP-m	kg N eq	1.58E-2	5.17E-3	1.59E-3	2.25E-2	6.80E-4	2.98E-3	6.20E-5	-7.68E-3	1.86E-2
EP-T	mol N eq	1.78E-1	5.70E-2	1.74E-2	2.52E-1	7.50E-3	3.28E-2	3.83E-4	-8.50E-2	2.08E-1
POCP	kg NMVOC eq	8.18E-2	1.62E-2	4.84E-3	1.03E-1	2.14E-3	1.04E-2	1.44E-4	-3.92E-2	7.63E-2
ADP-mm	kg Sb eq	4.13E-4	6.16E-5	1.90E-5	4.93E-4	8.63E-6	4.05E-5	9.50E-8	-1.04E-4	4.38E-4
ADP-f	MJ	9.17E+2	3.69E+1	6.28E+0	9.60E+2	5.12E+0	3.25E+1	2.89E-1	-4.88E+2	5.10E+2
WDP	m3 depriv.	1.85E+1	1.31E-1	4.05E+0	2.26E+1	1.57E-2	6.38E-1	1.44E-3	-8.44E+0	1.48E+1
PM	disease inc.	8.50E-7	2.19E-7	9.03E-8	1.16E-6	3.01E-8	1.68E-7	1.98E-9	-3.63E-7	9.96E-7
IR	kBq U-235 eq	4.92E-1	1.55E-1	1.87E-2	6.65E-1	2.24E-2	9.77E-2	1.34E-3	-2.27E-1	5.60E-1
ETP-fw	CTUe	1.45E+2	3.28E+1	1.75E+1	1.95E+2	4.16E+0	3.68E+1	2.43E-1	-6.03E+1	1.76E+2
HTP-c	CTUh	6.86E-9	1.07E-9	6.92E-10	8.62E-9	1.48E-10	4.41E-9	7.04E-12	-2.58E-9	1.06E-8
HTP-nc	CTUh	1.72E-7	3.58E-8	1.89E-8	2.26E-7	4.96E-9	5.46E-8	1.56E-10	-7.30E-8	2.13E-7
SQP	Pt	2.33E+2	3.18E+1	8.26E-1	2.66E+2	4.38E+0	2.59E+1	7.41E-1	-1.31E+1	2.84E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.50E+1	4.60E-1	3.96E+1	8.50E+1	7.35E-2	1.60E+0	1.12E-2	-6.06E+0	8.07E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.50E+1	4.60E-1	3.96E+1	8.50E+1	7.35E-2	1.60E+0	1.12E-2	-6.06E+0	8.07E+1
PENRE	MJ	9.84E+2	3.92E+1	6.67E+0	1.03E+3	5.44E+0	3.46E+1	3.06E-1	-5.26E+2	5.44E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.84E+2	3.92E+1	6.67E+0	1.03E+3	5.44E+0	3.46E+1	3.06E-1	-5.26E+2	5.44E+2
PET	MJ	1.03E+3	3.96E+1	4.63E+1	1.11E+3	5.51E+0	3.62E+1	3.17E-1	-5.32E+2	6.25E+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	2.82E-1	4.47E-3	9.61E-2	3.83E-1	5.80E-4	1.89E-2	3.56E-4	-1.26E-1	2.76E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.25E-4	9.30E-5	9.56E-6	2.27E-4	1.31E-5	5.28E-5	3.48E-7	-1.13E-4	1.80E-4
NHWD	kg	1.11E+0	2.32E+0	2.93E-2	3.46E+0	3.17E-1	1.59E+0	1.27E+0	-3.75E-1	6.27E+0
RWD	kg	4.40E-4	2.43E-4	2.66E-5	7.09E-4	3.48E-5	1.24E-4	1.88E-6	-2.04E-4	6.66E-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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