

Environmental Profile

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

Ecochain v3.5.80



Product: 3015619 - X-Stream PP Reducer BK 250x200
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	2.47E+0	9.78E-2	8.32E-3	2.58E+0	3.32E-2	1.41E+0	1.57E-2	-1.59E+0	2.45E+0
GWP-f	kg CO2 eq	2.84E+0	9.77E-2	8.40E-3	2.95E+0	3.32E-2	1.02E+0	1.57E-2	-1.58E+0	2.44E+0
GWP-b	kg CO2 eq	-3.71E-1	5.93E-5	-8.86E-5	-3.71E-1	2.02E-5	3.91E-1	1.36E-5	-5.49E-3	1.43E-2
GWP-luluc	kg CO2 eq	9.80E-4	3.46E-5	8.58E-6	1.02E-3	1.18E-5	1.88E-4	2.66E-7	-3.66E-4	8.57E-4
ODP	kg CFC11 eq	9.01E-8	2.25E-8	4.75E-10	1.13E-7	7.66E-9	2.49E-8	3.93E-10	-7.25E-8	7.36E-8
AP	mol H+ eq	1.03E-2	5.57E-4	8.47E-5	1.10E-2	1.89E-4	1.07E-3	9.37E-6	-4.56E-3	7.69E-3
EP-fw	kg P eq	4.46E-5	8.04E-7	4.73E-7	4.58E-5	2.73E-7	5.43E-6	1.22E-8	-1.82E-5	3.33E-5
EP-m	kg N eq	1.77E-3	1.99E-4	8.91E-6	1.98E-3	6.77E-5	3.17E-4	6.16E-6	-8.28E-4	1.54E-3
EP-T	mol N eq	2.01E-2	2.20E-3	1.07E-4	2.24E-2	7.46E-4	3.49E-3	3.80E-5	-9.41E-3	1.73E-2
POCP	kg NMVOC eq	8.85E-3	6.28E-4	3.61E-5	9.51E-3	2.13E-4	1.09E-3	1.43E-5	-4.08E-3	6.75E-3
ADP-mm	kg Sb eq	4.29E-5	2.53E-6	1.13E-6	4.65E-5	8.59E-7	4.10E-6	9.44E-9	-1.06E-5	4.09E-5
ADP-f	MJ	9.58E+1	1.50E+0	7.79E-2	9.74E+1	5.10E-1	3.28E+0	2.87E-2	-4.91E+1	5.22E+1
WDP	m3 depriv.	1.86E+0	4.60E-3	3.00E-3	1.87E+0	1.56E-3	6.41E-2	1.45E-4	-8.66E-1	1.07E+0
PM	disease inc.	1.08E-7	8.82E-9	5.22E-10	1.17E-7	3.00E-9	1.73E-8	1.97E-10	-3.94E-8	9.81E-8
IR	kBq U-235 eq	5.85E-2	6.56E-3	5.85E-5	6.51E-2	2.23E-3	9.94E-3	1.33E-4	-2.39E-2	5.35E-2
ETP-fw	CTUe	1.97E+1	1.22E+0	6.94E-1	2.16E+1	4.14E-1	3.72E+0	2.42E-2	-7.88E+0	1.79E+1
HTP-c	CTUh	9.35E-10	4.34E-11	3.54E-11	1.01E-9	1.47E-11	4.75E-10	7.01E-13	-2.91E-10	1.21E-9
HTP-nc	CTUh	2.25E-8	1.45E-9	8.99E-10	2.48E-8	4.94E-10	5.61E-9	1.55E-11	-8.31E-9	2.26E-8
SQP	Pt	4.00E+1	1.28E+0	1.29E-1	4.14E+1	4.36E-1	2.62E+0	7.36E-2	-8.96E+0	3.56E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.24E+1	2.15E-2	1.38E+0	1.38E+1	7.32E-3	1.61E-1	1.11E-3	-2.15E+0	1.18E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.24E+1	2.15E-2	1.38E+0	1.38E+1	7.32E-3	1.61E-1	1.11E-3	-2.15E+0	1.18E+1
PENRE	MJ	1.03E+2	1.59E+0	8.30E-2	1.05E+2	5.41E-1	3.50E+0	3.04E-2	-5.29E+1	5.57E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.03E+2	1.59E+0	8.30E-2	1.05E+2	5.41E-1	3.50E+0	3.04E-2	-5.29E+1	5.57E+1
PET	MJ	1.15E+2	1.61E+0	1.46E+0	1.18E+2	5.49E-1	3.66E+0	3.15E-2	-5.51E+1	6.75E+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	2.89E-2	1.70E-4	8.38E-5	2.91E-2	5.77E-5	1.93E-3	3.54E-5	-1.28E-2	1.83E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.76E-5	3.84E-6	1.57E-11	2.14E-5	1.30E-6	5.38E-6	3.46E-8	-1.24E-5	1.57E-5
NHWD	kg	1.31E-1	9.30E-2	6.06E-5	2.24E-1	3.16E-2	1.69E-1	1.26E-1	-4.21E-2	5.09E-1
RWD	kg	5.63E-5	1.02E-5	6.30E-12	6.65E-5	3.47E-6	1.26E-5	1.87E-7	-2.17E-5	6.11E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777