

Environmental Profile

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

Ecochain v3.5.80



Product: 3065863 - X-Stream PP Bend 90° BK 150 S/S
Unit: 1 piece
Manufacturer: Wavin - PL -Buk - Extra products

Wavin X-Stream is a new generation of double-walled pipes and fittings made of polypropylene. The system is

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



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]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	-8.97E-1	6.07E-2	4.28E-2	-7.93E-1	-5.43E-3	1.78E+0	-2.58E-3	4.19E-2	1.02E+0
GWP-f	kg CO2 eq	6.54E-1	6.06E-2	4.32E-2	7.58E-1	-5.42E-3	1.06E-1	-2.58E-3	-2.08E-1	6.49E-1
GWP-b	kg CO2 eq	-1.55E+0	3.68E-5	-4.56E-4	-1.55E+0	-3.29E-6	1.67E+0	-2.28E-6	2.52E-1	3.72E-1
GWP-luluc	kg CO2 eq	2.39E-3	2.15E-5	4.41E-5	2.45E-3	-1.92E-6	-1.81E-5	-3.56E-8	-2.46E-3	-3.26E-5
ODP	kg CFC11 eq	1.07E-7	1.40E-8	2.44E-9	1.24E-7	-1.25E-9	1.84E-9	-6.36E-11	-6.28E-8	6.13E-8
AP	mol H+ eq	3.90E-3	3.45E-4	4.36E-4	4.68E-3	-3.09E-5	5.68E-5	-1.48E-6	-1.99E-3	2.72E-3
EP-fw	kg P eq	3.17E-5	4.99E-7	2.43E-6	3.46E-5	-4.46E-8	-4.22E-7	-1.74E-9	-2.99E-5	4.28E-6
EP-m	kg N eq	1.02E-3	1.24E-4	4.58E-5	1.19E-3	-1.11E-5	3.76E-5	-9.78E-7	-5.59E-4	6.51E-4
EP-T	mol N eq	1.09E-2	1.36E-3	5.48E-4	1.28E-2	-1.22E-4	4.13E-4	-6.10E-6	-6.59E-3	6.51E-3
POCP	kg NMVOC eq	3.08E-3	3.89E-4	1.85E-4	3.65E-3	-3.48E-5	1.04E-4	-2.30E-6	-1.85E-3	1.88E-3
ADP-mm	kg Sb eq	2.47E-5	1.57E-6	5.81E-6	3.21E-5	-1.40E-7	1.05E-7	-1.43E-9	-4.10E-6	2.79E-5
ADP-f	MJ	2.96E+0	9.31E-1	4.01E-1	4.30E+0	-8.32E-2	-1.28E-1	-4.62E-3	3.47E-1	4.43E+0
WDP	m3 depriv.	1.25E-1	2.86E-3	1.54E-2	1.43E-1	-2.55E-4	-7.13E-3	3.80E-6	-3.21E-1	-1.85E-1
PM	disease inc.	6.32E-8	5.47E-9	2.68E-9	7.14E-8	-4.89E-10	2.94E-10	-3.17E-11	-4.62E-8	2.49E-8
IR	kBq U-235 eq	2.99E-2	4.07E-3	3.01E-4	3.43E-2	-3.64E-4	1.74E-4	-2.19E-5	-2.36E-2	1.05E-2
ETP-fw	CTUe	4.51E+1	7.56E-1	3.57E+0	4.94E+1	-6.76E-2	1.38E-1	-3.66E-3	-2.46E+1	2.49E+1
HTP-c	CTUh	1.13E-9	2.69E-11	1.82E-10	1.34E-9	-2.41E-12	3.60E-11	-9.23E-14	-6.87E-10	6.90E-10
HTP-nc	CTUh	1.53E-8	9.01E-10	4.63E-9	2.09E-8	-8.06E-11	1.85E-12	-2.32E-12	-9.11E-9	1.17E-8
SQP	Pt	1.43E+2	7.96E-1	6.62E-1	1.44E+2	-7.12E-2	-1.60E-1	-1.20E-2	-1.55E+2	-1.04E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.94E+1	1.34E-2	7.10E+0	3.65E+1	-1.19E-3	-1.36E-2	-1.93E-4	-2.45E+1	1.19E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.94E+1	1.34E-2	7.10E+0	3.65E+1	-1.19E-3	-1.36E-2	-1.93E-4	-2.45E+1	1.19E+1
PENRE	MJ	3.20E+0	9.88E-1	4.27E-1	4.62E+0	-8.84E-2	-1.38E-1	-4.90E-3	4.00E-1	4.79E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.20E+0	9.88E-1	4.27E-1	4.62E+0	-8.84E-2	-1.38E-1	-4.90E-3	4.00E-1	4.79E+0
PET	MJ	3.26E+1	1.00E+0	7.53E+0	4.11E+1	-8.96E-2	-1.51E-1	-5.09E-3	-2.41E+1	1.67E+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	7.79E-3	1.05E-4	4.31E-4	8.33E-3	-9.42E-6	-1.06E-4	-5.82E-6	-9.58E-3	-1.37E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.09E-5	2.38E-6	8.07E-11	2.32E-5	-2.13E-7	2.19E-7	-5.33E-9	-1.26E-5	1.07E-5
NHWD	kg	1.49E-1	5.77E-2	3.12E-4	2.07E-1	-5.16E-3	3.09E-3	-2.06E-2	-7.72E-2	1.07E-1
RWD	kg	3.77E-5	6.33E-6	3.24E-11	4.41E-5	-5.66E-7	5.06E-7	-3.05E-8	-2.51E-5	1.89E-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



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