

Environmental Profile

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

Ecochain v3.5.80



Product: 3043190 - X-Stream PP Bend 30° BK 100 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	5.20E-1	2.63E-3	1.45E-4	5.23E-1	6.06E-3	6.77E-1	3.31E-3	-3.56E-1	8.53E-1
GWP-f	kg CO2 eq	7.69E-1	2.63E-3	1.46E-4	7.72E-1	6.05E-3	4.10E-1	3.31E-3	-3.92E-1	7.99E-1
GWP-b	kg CO2 eq	-2.50E-1	1.60E-6	-1.54E-6	-2.50E-1	3.68E-6	2.67E-1	3.02E-6	3.65E-2	5.36E-2
GWP-luluc	kg CO2 eq	7.93E-4	9.31E-7	1.49E-7	7.94E-4	2.14E-6	3.13E-5	5.91E-8	-4.62E-4	3.65E-4
ODP	kg CFC11 eq	8.36E-8	6.06E-10	8.26E-12	8.42E-8	1.40E-9	5.16E-9	8.53E-11	-2.97E-8	6.11E-8
AP	mol H+ eq	3.57E-3	1.50E-5	1.47E-6	3.59E-3	3.45E-5	2.25E-4	2.06E-6	-1.17E-3	2.67E-3
EP-fw	kg P eq	2.10E-5	2.17E-8	8.24E-9	2.11E-5	4.98E-8	9.40E-7	2.71E-9	-8.19E-6	1.39E-5
EP-m	kg N eq	6.40E-4	5.36E-6	1.55E-7	6.46E-4	1.23E-5	7.16E-5	2.21E-6	-2.49E-4	4.83E-4
EP-T	mol N eq	7.09E-3	5.91E-5	1.85E-6	7.16E-3	1.36E-4	7.89E-4	8.32E-6	-2.83E-3	5.26E-3
POCP	kg NMVOC eq	2.96E-3	1.69E-5	6.28E-7	2.97E-3	3.89E-5	2.35E-4	3.09E-6	-1.08E-3	2.17E-3
ADP-mm	kg Sb eq	1.04E-4	6.81E-8	1.97E-8	1.04E-4	1.57E-7	7.79E-7	2.06E-9	-5.57E-6	9.95E-5
ADP-f	MJ	2.27E+1	4.04E-2	1.36E-3	2.28E+1	9.29E-2	5.89E-1	6.25E-3	-9.99E+0	1.35E+1
WDP	m3 depriv.	4.69E-1	1.24E-4	5.22E-5	4.69E-1	2.85E-4	1.29E-2	3.14E-5	-2.04E-1	2.79E-1
PM	disease inc.	4.07E-8	2.38E-10	9.08E-12	4.09E-8	5.46E-10	3.21E-9	4.28E-11	-1.45E-8	3.02E-8
IR	kBq U-235 eq	3.44E-2	1.77E-4	1.02E-6	3.45E-2	4.06E-4	1.86E-3	2.93E-5	-8.85E-3	2.80E-2
ETP-fw	CTUe	1.56E+1	3.28E-2	1.21E-2	1.56E+1	7.55E-2	1.06E+0	7.86E-3	-5.38E+0	1.14E+1
HTP-c	CTUh	4.46E-10	1.17E-12	6.17E-13	4.47E-10	2.69E-12	8.18E-11	1.57E-13	-1.62E-10	3.70E-10
HTP-nc	CTUh	9.23E-9	3.91E-11	1.57E-11	9.28E-9	9.00E-11	1.11E-9	4.01E-12	-2.63E-9	7.86E-9
SQP	Pt	2.47E+1	3.46E-2	2.24E-3	2.47E+1	7.95E-2	4.47E-1	1.60E-2	-2.51E+1	1.73E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.40E+0	5.79E-4	2.40E-2	6.43E+0	1.33E-3	2.79E-2	2.57E-4	-4.06E+0	2.40E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.40E+0	5.79E-4	2.40E-2	6.43E+0	1.33E-3	2.79E-2	2.57E-4	-4.06E+0	2.40E+0
PENRE	MJ	2.43E+1	4.29E-2	1.44E-3	2.44E+1	9.87E-2	6.28E-1	6.63E-3	-1.08E+1	1.43E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.43E+1	4.29E-2	1.44E-3	2.44E+1	9.87E-2	6.28E-1	6.63E-3	-1.08E+1	1.43E+1
PET	MJ	3.08E+1	4.35E-2	2.55E-2	3.08E+1	1.00E-1	6.56E-1	6.88E-3	-1.49E+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	9.57E-3	4.57E-6	1.46E-6	9.58E-3	1.05E-5	6.22E-4	7.72E-6	-3.96E-3	6.27E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.98E-6	1.03E-7	2.73E-13	9.08E-6	2.38E-7	1.17E-6	7.51E-9	-5.93E-6	4.57E-6
NHWD	kg	6.15E-2	2.50E-3	1.05E-6	6.40E-2	5.76E-3	3.36E-2	2.74E-2	-2.02E-2	1.11E-1
RWD	kg	4.18E-5	2.75E-7	1.10E-13	4.21E-5	6.32E-7	2.40E-6	4.09E-8	-9.13E-6	3.61E-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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