

# Environmental Profile

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

Ecochain v3.5.80



Product: 3043151 - X-Stream PP Coupler BK 150/160PVC PL/PL  
 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	☑	☑	☑	☑									

## 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]

## 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	2.04E-1	1.34E-2	2.14E-2	2.38E-1	2.32E-3	6.90E-2	1.09E-3	-1.09E-1	2.02E-1
GWP-f	kg CO2 eq	2.05E-1	1.34E-2	2.16E-2	2.40E-1	2.32E-3	6.91E-2	1.09E-3	-1.09E-1	2.04E-1
GWP-b	kg CO2 eq	-2.43E-3	8.16E-6	-2.28E-4	-2.65E-3	1.41E-6	-9.31E-5	9.55E-7	-3.78E-4	-3.12E-3
GWP-luluc	kg CO2 eq	5.98E-4	4.76E-6	2.21E-5	6.25E-4	8.21E-7	1.30E-5	1.83E-8	-2.09E-5	6.18E-4
ODP	kg CFC11 eq	7.41E-9	3.10E-9	1.22E-9	1.17E-8	5.35E-10	1.70E-9	2.74E-11	-4.09E-9	9.90E-9
AP	mol H+ eq	8.09E-4	7.65E-5	2.18E-4	1.10E-3	1.32E-5	7.14E-5	6.53E-7	-3.03E-4	8.85E-4
EP-fw	kg P eq	2.99E-6	1.11E-7	1.22E-6	4.31E-6	1.91E-8	3.76E-7	8.45E-10	-1.19E-6	3.52E-6
EP-m	kg N eq	1.56E-4	2.74E-5	2.29E-5	2.06E-4	4.73E-6	2.08E-5	4.28E-7	-5.37E-5	1.78E-4
EP-T	mol N eq	1.76E-3	3.02E-4	2.74E-4	2.33E-3	5.21E-5	2.29E-4	2.65E-6	-5.94E-4	2.02E-3
POCP	kg NMVOC eq	7.12E-4	8.63E-5	9.27E-5	8.91E-4	1.49E-5	7.24E-5	9.96E-7	-2.74E-4	7.05E-4
ADP-mm	kg Sb eq	3.73E-6	3.48E-7	2.90E-6	6.98E-6	6.00E-8	2.82E-7	6.56E-10	-7.14E-7	6.61E-6
ADP-f	MJ	6.80E+0	2.06E-1	2.00E-1	7.21E+0	3.56E-2	2.26E-1	2.00E-3	-3.42E+0	4.06E+0
WDP	m3 depriv.	1.60E-1	6.33E-4	7.71E-3	1.68E-1	1.09E-4	4.44E-3	9.16E-6	-5.89E-2	1.14E-1
PM	disease inc.	7.65E-9	1.21E-9	1.34E-9	1.02E-8	2.09E-10	1.18E-9	1.38E-11	-2.53E-9	9.07E-9
IR	kBq U-235 eq	4.42E-3	9.01E-4	1.50E-4	5.47E-3	1.56E-4	6.82E-4	9.29E-6	-1.58E-3	4.73E-3
ETP-fw	CTUe	1.33E+0	1.67E-1	1.78E+0	3.28E+0	2.89E-2	2.55E-1	1.67E-3	-4.21E-1	3.15E+0
HTP-c	CTUh	5.87E-11	5.96E-12	9.11E-11	1.56E-10	1.03E-12	3.04E-11	4.82E-14	-1.80E-11	1.69E-10
HTP-nc	CTUh	1.55E-9	2.00E-10	2.31E-9	4.06E-9	3.45E-11	3.80E-10	1.07E-12	-5.09E-10	3.97E-9
SQP	Pt	8.28E-1	1.76E-1	3.31E-1	1.34E+0	3.05E-2	1.81E-1	5.14E-3	-9.16E-2	1.46E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.48E-1	2.96E-3	3.55E+0	4.00E+0	5.11E-4	1.12E-2	7.80E-5	-4.22E-2	3.97E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.48E-1	2.96E-3	3.55E+0	4.00E+0	5.11E-4	1.12E-2	7.80E-5	-4.22E-2	3.97E+0
PENRE	MJ	7.30E+0	2.19E-1	2.13E-1	7.73E+0	3.78E-2	2.41E-1	2.12E-3	-3.68E+0	4.33E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.30E+0	2.19E-1	2.13E-1	7.73E+0	3.78E-2	2.41E-1	2.12E-3	-3.68E+0	4.33E+0
PET	MJ	7.75E+0	2.22E-1	3.76E+0	1.17E+1	3.83E-2	2.52E-1	2.20E-3	-3.72E+0	8.30E+0
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	2.69E-3	2.33E-5	2.16E-4	2.93E-3	4.03E-6	1.31E-4	2.47E-6	-8.81E-4	2.19E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.53E-6	5.27E-7	4.03E-11	2.06E-6	9.11E-8	3.68E-7	2.40E-9	-8.03E-7	1.71E-6
NHWD	kg	1.96E-2	1.28E-2	1.56E-4	3.26E-2	2.21E-3	1.12E-2	8.83E-3	-2.62E-3	5.21E-2
RWD	kg	4.56E-6	1.40E-6	1.62E-11	5.96E-6	2.42E-7	8.64E-7	1.31E-8	-1.43E-6	5.65E-6
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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