

# Environmental Profile

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

Ecochain v3.5.64



Product: 3010945 - X-Stream PP Dbl.Socket Coupler BK 400  
 Unit: 1 Piece  
 Manufacturer: Wavin Poland Buk  
 Address: Dobieżyńska 43  
 64-320 Buk  
 Poland  
 Contact: <https://www.wavin.com/en-en>

LCA standard: EN15804+A2 (2019)  
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
 Externally verified: Yes  
 Issue date: 19-09-2022  
 End of validity: 19-09-2027  
 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 Wavin X-Stream system is a new generation of profiled pipe system with ring stiffness of SN 8, outside black and inside bright for drainage of foul water and storm water. The Wavin X-Stream structured wall polypropylene (PP) pipes systems incorporate a unique new design for fast, secure assembly.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin Poland Buk (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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.86E+0	2.22E-1	2.73E-1	4.36E+0	1.04E-1	7.87E+0	4.90E-2	-5.44E+0	6.93E+0
GWP-f	kg CO2 eq	8.66E+0	2.22E-1	2.57E-1	9.14E+0	1.04E-1	3.03E+0	4.90E-2	-5.43E+0	6.90E+0
GWP-b	kg CO2 eq	-4.80E+0	1.03E-4	1.59E-2	-4.79E+0	6.31E-5	4.84E+0	4.26E-5	-1.72E-2	3.08E-2
GWP-luluc	kg CO2 eq	4.67E-3	8.14E-5	7.47E-5	4.83E-3	3.68E-5	5.92E-4	8.44E-7	-3.27E-3	2.19E-3
ODP	kg CFC11 eq	2.38E-7	4.90E-8	3.43E-8	3.21E-7	2.39E-8	7.85E-8	1.23E-9	-2.96E-7	1.29E-7
AP	mol H+ eq	3.32E-2	1.29E-3	8.68E-4	3.54E-2	5.92E-4	3.32E-3	2.94E-5	-1.79E-2	2.15E-2
EP-fw	kg P eq	1.52E-4	2.24E-6	4.06E-6	1.58E-4	8.55E-7	1.71E-5	3.85E-8	-8.56E-5	9.07E-5
EP-m	kg N eq	5.98E-3	4.54E-4	1.42E-4	6.58E-3	2.12E-4	9.79E-4	1.90E-5	-3.56E-3	4.23E-3
EP-T	mol N eq	6.78E-2	5.00E-3	1.54E-3	7.44E-2	2.33E-3	1.08E-2	1.19E-4	-4.02E-2	4.74E-2
POCP	kg NMVOC eq	3.00E-2	1.43E-3	5.15E-4	3.20E-2	6.67E-4	3.39E-3	4.47E-5	-1.71E-2	1.90E-2
ADP-mm	kg Sb eq	1.33E-4	5.63E-6	7.48E-6	1.46E-4	2.69E-6	1.29E-5	2.97E-8	-4.42E-5	1.18E-4
ADP-f	MJ	2.94E+2	3.35E+0	3.31E+0	3.00E+2	1.59E+0	1.03E+1	8.98E-2	-1.62E+2	1.50E+2
WDP	m3 depriv.	5.79E+0	1.20E-2	2.59E-2	5.83E+0	4.89E-3	2.00E-1	4.89E-4	-2.89E+0	3.15E+0
PM	disease inc.	3.49E-7	1.99E-8	6.70E-9	3.76E-7	9.38E-9	5.40E-8	6.17E-10	-2.00E-7	2.40E-7
IR	kBq U-235 eq	1.81E-1	1.40E-2	5.39E-3	2.00E-1	6.97E-3	3.15E-2	4.16E-4	-1.04E-1	1.35E-1
ETP-fw	CTUe	6.18E+1	2.99E+0	5.56E+0	7.04E+1	1.30E+0	1.16E+1	7.51E-2	-3.84E+1	4.50E+1
HTP-c	CTUh	4.04E-9	9.69E-11	2.74E-10	4.41E-9	4.61E-11	1.47E-9	2.22E-12	-2.57E-9	3.36E-9
HTP-nc	CTUh	6.80E-8	3.27E-9	6.47E-9	7.77E-8	1.54E-9	1.74E-8	4.85E-11	-3.83E-8	5.84E-8
SQP	Pt	4.14E+2	2.91E+0	1.10E+0	4.18E+2	1.36E+0	8.23E+0	2.30E-1	-3.44E+2	8.44E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.26E+1	4.19E-2	8.75E+0	7.14E+1	2.29E-2	5.09E-1	3.45E-3	-5.28E+1	1.92E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.26E+1	4.19E-2	8.75E+0	7.14E+1	2.29E-2	5.09E-1	3.45E-3	-5.28E+1	1.92E+1
PENRE	MJ	3.15E+2	3.56E+0	3.60E+0	3.22E+2	1.69E+0	1.10E+1	9.52E-2	-1.74E+2	1.61E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.15E+2	3.56E+0	3.60E+0	3.22E+2	1.69E+0	1.10E+1	9.52E-2	-1.74E+2	1.61E+2
PET	MJ	3.78E+2	3.60E+0	1.24E+1	3.94E+2	1.72E+0	1.15E+1	9.87E-2	-2.27E+2	1.80E+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	9.07E-2	4.08E-4	7.46E-4	9.19E-2	1.80E-4	5.99E-3	1.10E-4	-4.54E-2	5.27E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.68E-5	8.49E-6	4.29E-6	7.96E-5	4.08E-6	1.69E-5	1.08E-7	-6.23E-5	3.84E-5
NHWD	kg	5.46E-1	2.12E-1	1.10E-2	7.69E-1	9.88E-2	5.08E-1	3.95E-1	-3.10E-1	1.46E+0
RWD	kg	1.69E-4	2.20E-5	7.89E-6	1.99E-4	1.08E-5	4.00E-5	5.85E-7	-1.03E-4	1.48E-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



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