

Environmental Profile

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

Ecochain v4.3.1



Product: 10469 - TUBO ESG SN DN40X6M
Unit: 1 piece
Manufacturer: Wavin - BR - Ribeirao das Neves

LCA standard: EN15804+A2 (2019)
Standard database: Worldwide - Ecoinvent v 3.8 Cut-Off
Externally verified: No
Export date: 03-02-2025

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - BR - Ribeirao das Neves (2022). (☑ = 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	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	A5	C4	Total
GWP-total	kg CO2 eq	2.886E+0	1.152E-1	3.029E-2	3.031E+0	2.727E-4	1.471E-1	3.179E+0
GWP-f	kg CO2 eq	2.871E+0	1.141E-1	2.662E-2	3.012E+0	2.727E-4	1.473E-1	3.159E+0
GWP-b	kg CO2 eq	1.282E-2	3.186E-4	3.647E-3	1.679E-2	2.397E-7	6.713E-6	1.680E-2
GWP-luluc	kg CO2 eq	2.415E-3	8.071E-4	2.548E-5	3.247E-3	3.051E-8	1.932E-6	3.249E-3
ODP	kg CFC11 eq	1.255E-6	2.417E-8	1.994E-9	1.281E-6	1.070E-11	1.626E-9	1.283E-6
AP	mol H+ eq	1.351E-2	6.291E-4	1.940E-4	1.434E-2	2.884E-7	6.703E-5	1.440E-2
EP-fw	kg P eq	9.725E-5	1.323E-6	1.294E-6	9.986E-5	5.175E-10	3.386E-8	9.990E-5
EP-m	kg N eq	2.382E-3	2.231E-4	4.345E-5	2.649E-3	1.407E-7	3.655E-5	2.685E-3
EP-T	mol N eq	2.534E-2	2.420E-3	3.745E-4	2.813E-2	1.081E-6	3.011E-4	2.843E-2
POCP	kg NMVOC eq	8.294E-3	6.992E-4	1.182E-4	9.111E-3	3.657E-7	1.202E-4	9.232E-3
ADP-mm	kg Sb eq	6.002E-5	3.892E-7	2.346E-6	6.276E-5	1.352E-10	6.283E-9	6.277E-5
ADP-f	MJ	5.993E+1	1.717E+0	2.850E-1	6.193E+1	7.902E-4	1.080E-1	6.204E+1
WDP	m3 depriv.	1.540E+0	6.748E-3	1.219E-2	1.559E+0	2.270E-5	1.904E-3	1.561E+0
PM	disease inc.	1.197E-7	1.241E-8	2.607E-9	1.347E-7	5.644E-12	1.652E-9	1.363E-7
IR	kBq U-235 eq	6.889E-2	7.188E-3	7.336E-4	7.681E-2	3.148E-6	4.515E-4	7.727E-2
ETP-fw	CTUe	6.619E+1	1.527E+0	1.295E+0	6.901E+1	7.531E-4	2.128E+0	7.114E+1
HTP-c	CTUh	1.989E-9	5.494E-11	1.110E-10	2.155E-9	2.512E-14	3.270E-12	2.158E-9
HTP-nc	CTUh	5.131E-8	1.613E-9	1.632E-9	5.456E-8	5.678E-13	4.504E-10	5.501E-8
SQP	Pt	7.559E+0	1.547E+0	3.497E-1	9.456E+0	1.430E-3	3.671E-1	9.824E+0
Resource use	Unit	A1	A2	A3	A1-A3	A5	C4	Total
PERE	MJ	2.184E+0	2.956E-2	2.036E+0	4.249E+0	1.255E-5	7.947E-4	4.250E+0
PERM	MJ	0	0	0	0	0	0	0
PERT	MJ	2.184E+0	2.956E-2	2.036E+0	4.249E+0	1.255E-5	7.947E-4	4.250E+0
PENRE	MJ	6.439E+1	1.828E+0	3.046E-1	6.652E+1	8.397E-4	1.147E-1	6.664E+1
PENRM	MJ	0	0	0	0	0	0	0
PENRT	MJ	6.439E+1	1.828E+0	3.046E-1	6.652E+1	8.397E-4	1.147E-1	6.664E+1
PET	MJ	6.657E+1	1.858E+0	1.437E-1	6.857E+1	8.522E-4	1.155E-1	6.869E+1
SM	kg	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0
FW	m3	3.929E-2	2.289E-4	3.261E-4	3.984E-2	5.610E-7	4.683E-5	3.989E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A5	C4	Total
HWD	kg	1.082E-4	4.485E-6	1.729E-6	1.144E-4	1.511E-9	2.466E-7	1.147E-4
NHWD	kg	3.144E-1	1.189E-1	2.205E-2	4.554E-1	2.024E-3	2.521E-1	7.096E-1
RWD	kg	5.891E-5	1.130E-5	8.601E-7	7.107E-5	4.853E-9	7.265E-7	7.181E-5
CRU	kg	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0



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