

Environmental Profile

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

Ecochain v4.3.1



Product: 16699 - TUBO ESG SN DN50X6M PL
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]; **PENRT** = 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	4.863E+0	1.943E-1	5.228E-2	5.109E+0	0	2.484E-1	5.358E+0
GWP-f	kg CO2 eq	4.838E+0	1.924E-1	4.611E-2	5.076E+0	0	2.487E-1	5.325E+0
GWP-b	kg CO2 eq	2.185E-2	5.373E-4	6.136E-3	2.852E-2	0	1.130E-5	2.853E-2
GWP-luluc	kg CO2 eq	4.068E-3	1.361E-3	4.444E-5	5.474E-3	0	3.262E-6	5.477E-3
ODP	kg CFC11 eq	2.119E-6	4.076E-8	3.426E-9	2.163E-6	0	2.745E-9	2.166E-6
AP	mol H+ eq	2.278E-2	1.061E-3	3.383E-4	2.418E-2	0	1.132E-4	2.430E-2
EP-fw	kg P eq	1.639E-4	2.231E-6	2.243E-6	1.684E-4	0	5.715E-8	1.685E-4
EP-m	kg N eq	4.015E-3	3.762E-4	7.445E-5	4.465E-3	0	6.171E-5	4.527E-3
EP-T	mol N eq	4.269E-2	4.081E-3	6.453E-4	4.742E-2	0	5.084E-4	4.793E-2
POCP	kg NMVOC eq	1.397E-2	1.179E-3	2.042E-4	1.536E-2	0	2.029E-4	1.556E-2
ADP-mm	kg Sb eq	1.011E-4	6.563E-7	4.139E-6	1.059E-4	0	1.061E-8	1.059E-4
ADP-f	MJ	1.009E+2	2.895E+0	4.921E-1	1.043E+2	0	1.823E-1	1.045E+2
WDP	m3 depriv.	2.594E+0	1.138E-2	2.100E-2	2.627E+0	0	3.217E-3	2.630E+0
PM	disease inc.	2.017E-7	2.093E-8	4.496E-9	2.272E-7	0	2.789E-9	2.299E-7
IR	kBq U-235 eq	1.161E-1	1.212E-2	1.268E-3	1.295E-1	0	7.626E-4	1.302E-1
ETP-fw	CTUe	1.116E+2	2.576E+0	2.262E+0	1.164E+2	0	3.592E+0	1.200E+2
HTP-c	CTUh	3.356E-9	9.264E-11	1.948E-10	3.644E-9	0	5.518E-12	3.649E-9
HTP-nc	CTUh	8.652E-8	2.720E-9	2.868E-9	9.211E-8	0	7.605E-10	9.287E-8
SQP	Pt	1.273E+1	2.608E+0	6.121E-1	1.595E+1	0	6.198E-1	1.657E+1
Resource use	Unit	A1	A2	A3	A1-A3	A5	C4	Total
PERE	MJ	3.677E+0	4.984E-2	3.595E+0	7.322E+0	0	1.341E-3	7.323E+0
PERM	MJ	0	0	0	0	0	0	0
PERT	MJ	3.677E+0	4.984E-2	3.595E+0	7.322E+0	0	1.341E-3	7.323E+0
PENRE	MJ	1.084E+2	3.083E+0	5.260E-1	1.120E+2	0	1.937E-1	1.122E+2
PENRM	MJ	0	0	0	0	0	0	0
PENRT	MJ	1.084E+2	3.083E+0	5.260E-1	1.120E+2	0	1.937E-1	1.122E+2
PET	MJ	1.121E+2	3.133E+0	2.414E-1	1.154E+2	0	1.950E-1	1.156E+2
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	6.620E-2	3.860E-4	5.620E-4	6.715E-2	0	7.912E-5	6.723E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A5	C4	Total
HWD	kg	1.811E-4	7.564E-6	3.031E-6	1.917E-4	0	4.165E-7	1.921E-4
NHWD	kg	5.313E-1	2.006E-1	3.839E-2	7.702E-1	0	4.262E-1	1.196E+0
RWD	kg	9.928E-5	1.906E-5	1.481E-6	1.198E-4	0	1.227E-6	1.210E-4
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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