Environmental Profile

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

Ecochain v4.3.1

Product:	3095402 - Tegra 600 PP N End DN200 SW
Unit:	1 Piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

LCA standard:	NMD Bepalingsmethode 1.2 (2025) (obv Ecoinvent 3.9.1)
Standard database:	Worldwide - Ecoinvent v 3.9.1 Cut-Off
Externally verified:	Yes
Issue date:	16-07-2025
End of validity:	21-04-2027
Verifier:	Martijn van Hövell - SGS Search

An Orbia business.

This LCA was evaluated according to NMD 'Assessment Method Environmental performance of Buildings' version 1.2. 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 - NL - Hardenberg - Verified (2018). (☑ = 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	☑	☑	☑	☑

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

MKI A2 = Environmental Costs Indicator (MKI A2) [euro]; **GWP-total** = EF 31 Climate change [kg CO2 eq]; **GWP-f** = EF 31 Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF 31 Climate change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 31 Climate change - Land use and LU change [kg CO2 eq]; **ODP** = NMD Ozone depletion [kg CFC11 eq]; **AP** = NMD Acidification [mol H+ eq]; **EP-fw** = NMD Eutrophication, freshwater [kg P eq]; **EP-m** = NMD Eutrophication, marine [kg N eq]; **EP-T** = NMD Eutrophication, terrestrial [mol N eq]; **POCP** = NMD Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = NMD Resource use, minerals and metals [kg Sb eq]; **ADP-f** = NMD Resource use, fossils [MJ]; **WDP** = NMD Water use [m3 depriv.]; **PM** = NMD Particulate matter [disease inc.]; **IR** = NMD Ionising radiation [kBq U-235 eq]; **ETP-fw** = NMD Ecotoxicity, freshwater [CTUe]; **HTP-c** = NMD Human toxicity, cancer [CTUh]; **HTP-nc** = NMD Human toxicity, non-cancer [CTUh]; **SQP** = NMD Land use [Pt]; **PERE** = NMD Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = NMD Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = NMD Total use of renewable primary energy resources [MJ]; **PENRE** = NMD Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = NMD Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = NMD Total use of non-renewable primary energy resources [MJ]; **SM** = NMD Use of secondary material [kg]; **RSF** = NMD Use of renewable secondary fuels [MJ]; **NRSF** = NMD Use of non-renewable secondary fuels [MJ]; **FW** = NMD Use of net fresh water [m3]; **HWD** = NMD Hazardous waste disposed [kg]; **NHWD** = NMD Non-hazardous waste disposed [kg]; **RWD** = NMD Radioactive waste disposed [kg]; **CRU** = NMD Components for re-use [kg]; **MFR** = NMD Materials for recycling [kg]; **MER** = NMD Materials for energy recovery [kg]; **EET** = NMD Exported energy thermic [MJ]; **EEE** = NMD Exported energy electric [MJ]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	A5	C2	C3	C4	D	Total
MKI A2	euro	5.098	0.422	0.525	6.045	1.272	0.043	2.268	0.021	-3.426	6.223
GWP-total	kg CO2 eq	2.578E+1	2.078E+0	2.685E+0	3.055E+1	1.091E+1	2.115E-1	1.763E+1	1.637E-1	-2.143E+1	3.803E+1
GWP-f	kg CO2 eq	3.650E+1	2.077E+0	2.552E+0	4.113E+1	1.140E-1	2.113E-1	1.763E+1	1.637E-1	-2.139E+1	3.785E+1
GWP-b	kg CO2 eq	-1.074E+1	6.232E-4	3.612E-2	-1.070E+1	1.079E+1	6.341E-5	3.231E-3	1.569E-5	-2.219E-2	7.022E-2
GWP-luluc	kg CO2 eq	2.317E-2	1.015E-3	9.691E-2	1.211E-1	4.079E-5	1.033E-4	2.703E-3	3.671E-6	-1.227E-2	1.117E-1
ODP	kg CFC11 eq	6.140E-7	4.556E-8	4.240E-8	7.019E-7	1.612E-9	4.635E-9	4.854E-8	4.490E-10	-4.453E-7	3.118E-7
AP	mol H+ eq	1.426E-1	9.697E-3	1.488E-2	1.671E-1	4.894E-4	9.866E-4	1.249E-2	1.008E-4	-5.989E-2	1.213E-1
EP-fw	kg P eq	6.979E-4	1.706E-5	9.134E-5	8.063E-4	1.042E-6	1.736E-6	7.122E-5	1.245E-7	-3.192E-4	5.612E-4
EP-m	kg N eq	2.567E-2	3.819E-3	3.491E-3	3.298E-2	2.028E-4	3.885E-4	3.933E-3	7.384E-5	-1.219E-2	2.539E-2
EP-T	mol N eq	2.850E-1	4.122E-2	3.742E-2	3.637E-1	2.257E-3	4.194E-3	4.270E-2	4.546E-4	-1.344E-1	2.788E-1
POCP	kg NMVOC eq	1.411E-1	1.440E-2	1.118E-2	1.667E-1	6.922E-4	1.465E-3	1.513E-2	2.116E-4	-6.591E-2	1.183E-1
ADP-mm	kg Sb eq	2.223E-4	6.469E-6	4.903E-5	2.778E-4	1.973E-7	6.582E-7	1.459E-5	3.065E-8	-6.850E-5	2.248E-4
ADP-f	MJ	1.270E+3	2.998E+1	2.882E+1	1.329E+3	9.628E-1	3.050E+0	4.120E+1	3.559E-1	-6.378E+2	7.365E+2
WDP	m3 depriv.	2.558E+1	1.479E-1	7.473E+0	3.321E+1	7.187E-3	1.504E-2	8.728E-1	2.301E-3	-1.128E+1	2.282E+1
PM	disease inc.	1.734E-6	2.039E-7	1.913E-7	2.129E-6	7.165E-9	2.075E-8	2.395E-7	2.468E-9	-6.770E-7	1.722E-6
IR	kBq U-235 eq	7.164E-1	1.552E-2	6.451E-2	7.964E-1	1.451E-3	1.579E-3	5.200E-2	3.621E-4	-2.926E-1	5.591E-1
ETP-fw	CTUe	1.112E+2	1.476E+1	1.338E+1	1.393E+2	4.973E-1	1.502E+0	2.650E+1	2.437E-1	-2.716E+1	1.409E+2
HTP-c	CTUh	2.223E-8	1.118E-9	1.527E-9	2.488E-8	2.341E-10	1.137E-10	5.321E-9	8.436E-12	-1.349E-8	1.706E-8
HTP-nc	CTUh	2.365E-7	2.325E-8	6.463E-8	3.244E-7	1.079E-9	2.366E-9	4.440E-8	3.394E-10	-9.209E-8	2.805E-7
SQP	Pt	9.228E+2	2.253E+1	3.238E+0	9.486E+2	6.298E-1	2.292E+0	2.985E+1	8.709E-1	-7.123E+2	2.699E+2
Resource use	Unit	A1	A2	A3	A1-A3	A5	C2	C3	C4	D	Total
PERE	MJ	8.897E+1	4.743E-1	4.707E+1	1.365E+2	3.623E-2	4.826E-2	2.072E+0	1.518E-2	-1.385E+2	2.028E-1
PERM	MJ	9.272E+1	0	0	9.272E+1	0	0	0	0	0	9.272E+1
PERT	MJ	1.817E+2	4.743E-1	4.707E+1	2.292E+2	3.623E-2	4.826E-2	2.072E+0	1.518E-2	-1.385E+2	9.292E+1
PENRE	MJ	7.261E+2	2.998E+1	2.884E+1	7.849E+2	9.629E-1	3.050E+0	4.121E+1	3.559E-1	-6.378E+2	1.927E+2
PENRM	MJ	5.439E+2	0	0	5.439E+2	0	0	0	0	0	5.439E+2
PENRT	MJ	1.270E+3	2.998E+1	2.884E+1	1.329E+3	9.629E-1	3.050E+0	4.121E+1	3.559E-1	-6.378E+2	7.366E+2
SM	kg	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m3	4.015E-1	4.902E-3	2.213E-1	6.276E-1	5.495E-4	4.988E-4	3.094E-2	4.429E-4	-1.632E-1	4.969E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A5	C2	C3	C4	D	Total
HWD	kg	8.737E-4	1.888E-4	1.240E-4	1.187E-3	5.470E-6	1.921E-5	1.526E-4	1.660E-6	-6.396E-4	7.259E-4
NHWD	kg	2.513E+0	1.896E+0	4.044E-1	4.813E+0	5.704E-2	1.929E-1	2.182E+0	1.528E+0	-1.101E+0	7.672E+0
RWD	kg	5.510E-4	1.008E-5	4.643E-5	6.075E-4	1.089E-6	1.026E-6	3.833E-5	2.002E-7	-2.309E-4	4.173E-4
CRU	kg	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0	0

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