



**Environmental
Product
Declaration**

According to EN15804+A2 (+indicators A1)

This declaration is for:
Adfil@Strux P 60/40

Provided by:
Adfil N.V.



MRPI® registration:
1.1.01031.2025

Program operator:
Stichting MRPI®
Publisher:
Stichting MRPI®
www.mrpi.nl

Date of first issue:
10-10-2025
Date of this issue:
10-10-2025
Expiry date:
10-10-2030





COMPANY INFORMATION

Adfil N.V.
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 www.adfil.com

MRPI® REGISTRATION

1.1.01031.2025

DATE OF THIS ISSUE

10-10-2025

EXPIRY DATE

10-10-2030

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Anne Kees Jeeninga, Advieslab VOF. The LCA study has been done by Roel van Oosterhout, EcoReview B.V. . The certificate is based on an LCA-dossier according to EN15804+A2 (+indicators A1). It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
 Kingsfordweg 151
 1043 GR
 Amsterdam

PRODUCT

Adfil®Strux P 60/40

DECLARED UNIT / FUNCTIONAL UNIT

1 Mass (kg)

DESCRIPTION OF PRODUCT

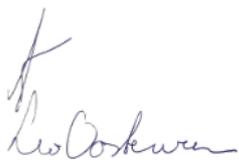
Strux P 60/40 are synthetic fibres which are primarily used as fibre reinforcement in concrete structures

VISUAL PRODUCT



MORE INFORMATION

<https://www.adfil.com/gb-en/synthetic-macro-fibres>

<p>Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI</p>	<p>DEMONSTRATION OF VERIFICATION</p>
	<p>CEN standard EN15804 serves as the core PCR [1]</p>
	<p>Independent verification of the declaration and data according to EN15804+A2 (+indicators A1) Internal: _____ External: X</p>
	<p>Third party verifier: Anne Kees Jeeninga, Advieslab VOF</p>  <p>[1] PCR = Product Category Rules</p>





DETAILED PRODUCT DESCRIPTION

Adfil synthetic fibres are innovative synthetic macro fibre designed to enhance the performance, durability, and ease of finishing in concrete applications. It provides a high-performance alternative to traditional steel reinforcement by improving crack resistance, impact strength, and overall toughness of concrete while offering superior workability and finishability. These fibres are EN 14889-2 certified, ensuring compliance with industry standards for quality and performance.

The fibres are extruded from high-quality polypropylene (PP) polymers, ensuring optimal strength, flexibility, and chemical resistance. These fibres are non-corrosive, lightweight, and easy to integrate into various concrete mixes, leading to significant reductions in labour and transportation costs. The product is certified with CE, ATG, and SECO certificates.

The polypropylene granules and additives are gravimetrically dosed and mixed in the extrusion feed hopper. This composition is melted and blended into a homogeneous polymer mixture. After filtration and dosing, the liquid polymers are extruded through a die plate, forming the fibers. To enhance the mechanical strength of the fibers, they are drawn and hardened in multiple steps. In the next stage, the fiber surface is shaped. Subsequently, the fibers are bundled and cut to length simultaneously. Edge trimming waste is re-ground and fed back into the extruder. In the final process step, the fibers are packed into paper bags. A certain amount of production waste is generated afterward, which is not recycled within the product system boundaries but used in another production process within Adfil. Finally, the bags are stacked on pallets, wrapped with PE stretch film, and covered with a protective hood to prepare the products for shipping.

Component (> 1%)	(kg / %)
Polyolefins	0,955
Calcium Carbonate	0,035

SCOPE AND TYPE

This EPD was developed based in accordance with the PCRs of EN15804+A2 and the NMD Assessment Method 1.2. EPD classification is a product specific EPD.

SimaPro software was used to perform the LCA. The background databases used are in accordance with the NMD Assessment Method 1.2, which are:

- Ecoinvent (v3.6) for the calculation of results according to EN15804+A1, with characterization according to CML-IA
- Ecoinvent (v3.9.1) for the calculation of results according to EN15804+A2, with characterization according to EF 3.1

The type of this EPD is cradle to factory gate (A1-A3). All major steps from the extraction of natural resources to end-of-life are included in the environmental performance of the manufacturing phase, except those that are not relevant to the environmental performance of the product.

EPD is representative for products distributed / sold from the distribution centre in Theix, France.

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse - Recovery - Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

X = Modules Assessed

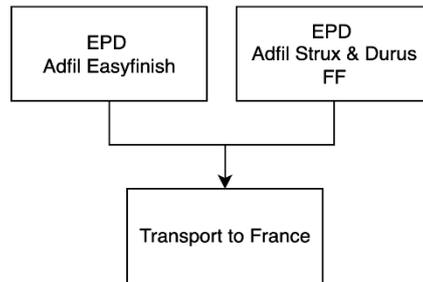
ND = Not Declared





Adfil - Whitelabel Products

System Cut-off



A1-A3

System Cut-off

REPRESENTATIVENESS

This EPD is representative for products produced by Adfil in Zele, Belgium and transported to the Adfil distribution centre in France and sold in the EU. The distribution centre is Ziegler Theix, located at Lieudit Salarun Route de Trefflean, 56450, Theix





ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	2,22E-05	0,00E+00	2,64E-06	2,48E-05	ND													
ADPF	MJ	7,57E+01	0,00E+00	1,58E+00	7,73E+01	ND													
GWP	kg CO2 eq.	2,28E+00	0,00E+00	1,03E-01	2,38E+00	ND													
ODP	kg CFC11 eq.	1,29E-07	0,00E+00	1,84E-08	1,47E-07	ND													
POCP	kg ethene eq.	1,72E-03	0,00E+00	6,24E-05	1,78E-03	ND													
AP	kg SO2 eq.	6,69E-03	0,00E+00	4,55E-04	7,14E-03	ND													
EP	kg (PO4) ³ eq.	6,63E-04	0,00E+00	8,94E-05	7,52E-04	ND													

Toxicity indicators and ECI (Dutch market)

HTP	kg DCB eq.	3,86E-01	0,00E+00	4,36E-02	4,30E-01	ND													
FAETP	kg DCB eq.	1,09E-02	0,00E+00	1,27E-03	1,22E-02	ND													
MAETP	kg DCB eq.	2,59E+01	0,00E+00	4,57E+00	3,05E+01	ND													
TETP	kg DCB eq.	4,87E-03	0,00E+00	1,54E-04	5,02E-03	ND													
ECI	euro	1,94E-01	0,00E+00	1,25E-02	2,06E-01	ND													
ADPF	kg Sb eq.	3,64E-02	0,00E+00	7,61E-04	3,72E-02	ND													

- ADPE = Abiotic Depletion Potential for non-fossil resources
- ADPF = Abiotic Depletion Potential for fossil resources
- GWP = Global Warming Potential
- ODP = Depletion potential of the stratospheric ozone layer
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- AP = Acidification Potential of land and water
- EP = Eutrophication Potential
- HTP = Human Toxicity Potential
- FAETP = Fresh water aquatic ecotoxicity potential
- MAETP = Marine aquatic ecotoxicity potential
- TETP = Terrestrial ecotoxicity potential
- ECI = Environmental Cost Indicator
- ADPF = Abiotic Depletion Potential for fossil resources





ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total kg CO2 eq.	2,27E+00	0,00E+00	1,15E-01	2,38E+00	ND													
GWP-fossil kg CO2 eq.	2,37E+00	0,00E+00	1,15E-01	2,48E+00	ND													
GWP-biogenic kg CO2 eq.	-1,05E-01	0,00E+00	1,79E-04	-1,05E-01	ND													
GWP-luluc kg CO2 eq.	1,48E-03	0,00E+00	4,09E-04	1,89E-03	ND													
ODP kg CFC11 eq.	1,04E-07	0,00E+00	2,04E-09	1,06E-07	ND													
AP mol H+ eq.	8,07E-03	0,00E+00	5,49E-04	8,62E-03	ND													
EP-fresh water kg PO4 eq.	4,05E-05	0,00E+00	1,14E-06	4,16E-05	ND													
EP-marine kg N eq.	1,43E-03	0,00E+00	2,09E-04	1,64E-03	ND													
EP-terrestrial mol N eq.	1,59E-02	0,00E+00	2,23E-03	1,81E-02	ND													
POCP kg NMVOC eq.	6,94E-03	0,00E+00	7,60E-04	7,70E-03	ND													
ADP-minerals & metals kg Sb eq.	2,22E-05	0,00E+00	3,59E-07	2,26E-05	ND													
ADP-fossil MJ, net calorific value	8,33E+01	0,00E+00	1,64E+00	8,49E+01	ND													
WDP m3 world Deprived	1,52E+00	0,00E+00	1,01E-02	1,53E+00	ND													

- GWP-total = Global Warming Potential total
- GWP-fossil = Global Warming Potential fossil fuels
- GWP-biogenic = Global Warming Potential biogenictotal
- GWP-luluc = Global Warming Potential land use and land use change
- ODP = Depletion potential of the stratospheric ozone layer
- AP = Acidification Potential, Accumulated Exceedence
- EP-freshwater = Eutrophication Potential, fraction of nutrients reaching freshwater end compartment
- EP-marine = Eutrophication Potential, fraction of nutrients reaching marine end compartment
- EP-terrestrial = Eutrophication Potential, Accumulated Exceedence
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- ADP-minerals & metals = Abiotic Depletion Potential for non-fossil resources [1]
- ADP-fossil = Abiotic Depletion for fossil resources potential [1]
- WDP = Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.





ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	6,92E-08	0,00E+00	1,13E-08	8,05E-08	ND													
IRP	kBq U235 eq.	1,60E-01	0,00E+00	6,41E-04	1,61E-01	ND													
ETP-fw	CTUe	1,61E+01	0,00E+00	1,21E+00	1,73E+01	ND													
HTP-c	CTUh	5,86E-10	0,00E+00	6,08E-11	6,47E-10	ND													
HTP-nc	CTUh	1,67E-08	0,00E+00	1,32E-09	1,80E-08	ND													
SQP	-	1,48E+01	0,00E+00	1,30E+00	1,61E+01	ND													

- PM = Potential incidence of disease due to PM emissions
- IRP = Potential Human exposure efficiency relative to U235 [1]
- ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]
- HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]
- HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
- SQP = Potential soil quality index [2]

Disclaimer [1]:

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste.

Disclaimer [2]:

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.





OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	1,76E-05	0,00E+00	1,05E-05	2,81E-05	ND													
NHWD	kg	1,16E-01	0,00E+00	1,09E-01	2,25E-01	ND													
RWD	kg	1,38E-04	0,00E+00	3,76E-07	1,38E-04	ND													
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													

- HWD = Hazardous Waste Disposed
- NHWD = Non Hazardous Waste Disposed
- RWD = Radioactive Waste Disposed
- CRU = Components for reuse
- MFR = Materials for recycling
- MER = Materials for energy recovery
- EEE = Exported Electrical Energy
- ETE = Exported Thermal Energy





RESOURCE USE per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	3,69E+00	0,00E+00	2,32E-02	3,71E+00	ND													
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
PERT	MJ	3,69E+00	0,00E+00	2,32E-02	3,71E+00	ND													
PENRE	MJ	8,89E+01	0,00E+00	1,65E+00	9,05E+01	ND													
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
PENRT	MJ	8,89E+01	0,00E+00	1,65E+00	9,05E+01	ND													
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
NSRF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
FW	m3	2,50E-02	0,00E+00	4,23E-04	2,54E-02	ND													

- PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials
- PERM = Use of renewable primary energy resources used as raw materials
- PERT = Total use of renewable primary energy resources
- PENRE = Use of non-renewable primary energy resources excluding non-renewable energy resources used as raw materials
- PENRM = Use of non-renewable primary energy resources used as raw materials
- PENRT = Total use of non-renewable primary energy resources
- SM = Use of secondary materials
- RSF = Use of renewable secondary fuels
- NSRF = Use of non-renewable secondary fuels
- FW = Use of net fresh water

BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BBCpr	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													
BCCpa	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND													

- BCCpr = Biogenic carbon content in product
- BCCpa = Biogenic carbon content in packaging





CALCULATION RULES

"Data quality

Data flows have been modeled as realistically as possible. Data quality assessment is based on the principle that the primary data used for processes occurring at the production site is selected in the first instance. Where this is not available, other reference data is selected from appropriate sources.

Data collection period

The dataset is representative for the production processes used in 2025.

Methodology and reproducibility

The process descriptions and quantities in this study are reproducible in accordance to the reference standards that have been used. The references of all sources, both primary and public sources and literature, have been documented. In addition, to facilitate the reproducibility of this LCA, a full set of data records has been generated."

Cut Off

In this study, all inputs and outputs - such as emissions, energy and material inputs - are included in the calculation according to the Determination Method (5). The contribution to each impact category by the capital goods is calculated to be no more than 5%. To substantiate this, the relative contribution of capital goods to the most comparable NMD process was examined: "0223-fab&Polypropylene, PP, fibers, application in concrete (based on Polypropylene, granulate {GLO}) market for | Cut-off, U + Extrusion, plastic film {GLO}) market for | Cut-off, U)." It was found that the capital goods from the extrusion process ("Packaging box factory {GLO}) market for | Cut-off, U") do not make a significant contribution to the overall environmental profile in any of the impact categories.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

"A1. Raw materials supply

All materials needed for production as well as packaging is taken into account.

A2. Transport of raw materials to manufacturer

The transportation of the suppliers to Adfil N.V. is done by truck.

A3. Manufacturing

All relevant production processes in phase A3, such as internal transport and potential production losses, have been included in this study. In the final process step, the fibers are packaged in paper bags. Finally, the bags are stacked on pallets, wrapped with PE stretch film, and covered with a protective hood to prepare the products for shipment. Throughout the entire manufacturing process electricity, natural gas, and water are used during production. The process results in a production loss of 4.88%. For energy purposes the following reference was selected: A grey low voltage market for with 0,244 kg GWP per kWh (Electricity, low voltage {BE}) market for). The part of the production process that covers electricity mix, was covered in the LCA in the form of an EPD. In this EPD, the electricity mix used was a market for mix, as opposed to a residual mix. Additionally, as this background report was generated in the transition period (in which residual mix became mandatory), this is regarded as sufficient.

After production in Zele, materials are transported to the Adfil distribution centre in France and sold in the EU. The distribution centre is Ziegler Theix, located at Lieudit Salarun Route de Trefflean, 56450, Theix



DECLARATION OF SVHC

Substances of Very High Concern (SVHC) that are listed on the 'Candidate List of Substances of Very High Concern for authorization' are declared when contents exceed the limits for registration with ECHA.

REFERENCES

ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures', International Organization for Standardization, ISO14025:2006.

ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.

ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.

EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products', I.S. EN 15804:2012+A1:2013 and EN 15804:2019+A2.

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PRé Sustainability - Simapro 9.6.0.1

