ENVIRONMENTAL PRODUCT DECLARATION

EPD Ref. No. 2025-0080-6

In accordance with EN 15804+A2

FIRESTOP SEALANTS

INTU FR MASTIC

INTU FR GRAPHITE

OWNER OF THE EPD:

ALFASEAL GROUP Sp. z o.o.
ul. Kineskopowa 1
05-500 Piaseczno
NIP: 123-127-48-21
www.alfaseal.pl

EPD PROGRAM OPERATOR:

CERTBUD Sp. z o.o.
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Declared unit (DU): 1 kg

Contents

1. GENERAL INFORMATION

This Environmental Product Declaration (EPD) is developed in accordance with the European standard EN 15804 and ISO 14025. It contains the information on the impacts of the declared construction materials on the environment.
EPDs may not be comparable if they do not comply with the EN 15804 standard and if the core systems are not based on the same database.

Owner of the EPD	Alfaseal Group Sp. z o.o. ul. Kineskopowa 1 05-500 Piaseczno NIP: 123-127-48-21 www.alfaseal.pl
EPD program operator	CERTBUD Sp. z o.o. ul. Mokotowska 46 lok. 8, 00-543 Warszawa e-mail: biuro@certyfikacja-certbud.pl www.certyfikacja-certbud.pl
Declared product(s)	Firestop sealants: • INTU FR Mastic • INTU FR Graphite
Declaration reference number	EPD Ref. No. 2025-0080-6
PCR	PCR in accordance with EN 15804:2012+A2:2019
Date of issue	17-12-2025
Validity date	17-12 -2030
Declared unit	1 kg
Life cycle analysis (LCA)	A1-A3 modules
Service Life	Depending on application, up to 50 years
Reason for performing LCA	Bussines-to-bussines
Representativeness	Polish product, 2024

2. VERIFICATION

This Environmental Product Declaration (EPD) has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue if the underlying data have not changed significantly.

CEN EN 15804 standard serves as the main PCR document.
Independent verification corresponding to ISO 14025:2010 ☐ Internal ☒ External
Third party verifier: Monika Kotkiewicz, CERTBUD Sp. z o.o.
External verification of EPD: Monika Kotkiewicz, CERTBUD Sp. z o. o. Input data verification, LCA: Damian Bulski, CEexpert Verification of LCA: Natalia Krzemińska, CERTBUD Sp. z o. o.

CERTBUD Sp. z o.o. ZAKŁAD CERTYFIKACJI CERTBUD

KAMIL PAWŁOWSKI
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3. MANUFACTURER

Alfaseal Group Sp. z o.o. is a manufacturer and distributor of passive fire protection systems.

Their products are distinguished by the highest quality, meeting all safety and environmental standards. Portfolio is constantly expanding to meet growing market demands. The company operates throughout Poland, collaborating with a nationwide network of installation and electrical wholesalers and fire protection contractors.

Regional Sales Managers and the Technical Department offer support at every stage of the investment, while tools such as the ALFASELEKTOR application, calculators, and custom-developed technical solutions ensure comprehensive project management.

The majority of the company's products are manufactured in Poland, and a wide range of innovative products are exported to European markets, where they operate under the INTUSEAL brand. ALFASEAL also produces private label products for numerous companies, allowing us to tailor our solutions to individual customer needs.

4. DESCRIPTION AND CLASSIFICATION OF PRODUCTS

This environmental declaration covers the following products:

INTU FR MASTIC is a white, single-component, acrylic fire-retardant mass used as a filler (a joining material or a gap filler).

Firestop sealants **INTU FR MASTIC** is designed to protect fire-resistant penetrations of metal pipes and cables in walls and ceilings.

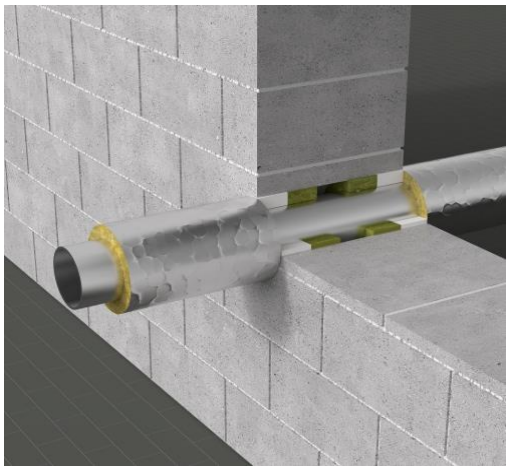

Figure 4.1: Application of INTU FR MASTIC mass

INTU FR GRAPHITE is a graphite, expanding fire-resistant mass which, under the influence of fire, increases its volume, closing the opening around the installation and all gaps, creating a barrier ensuring that the partition maintains its tightness and fire insulation.

Firestop sealants **INTU FR GRAPHITE** is designed to protect fire-fighting penetrations of flammable pipes, cables and air conditioning bundles in flexible and rigid walls and ceilings.

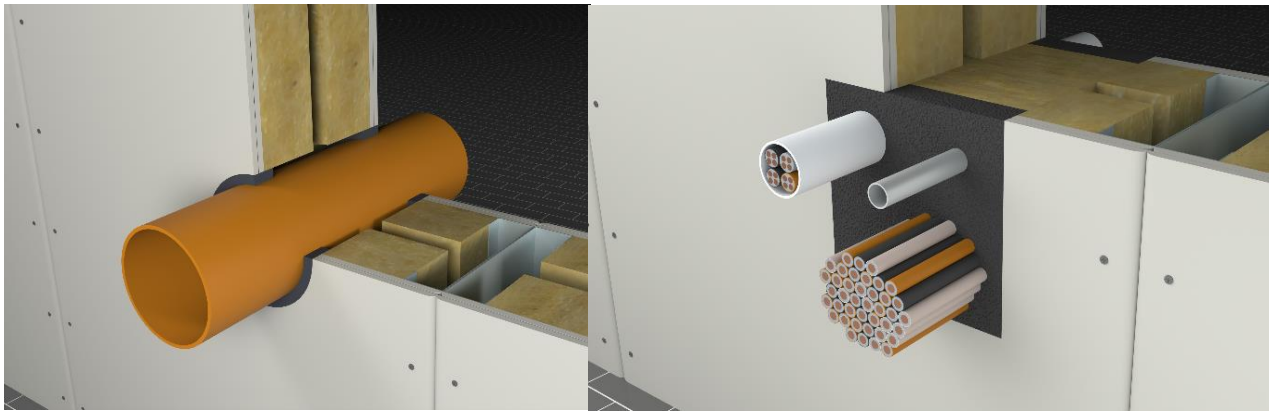

Figure 4.2: Application of INTU FR GRAPHITE mass

LIFE CYCLE ASSESSMENT (LCA) - RULES

4.1. DECLARED UNIT (DU)

The declaration refers to declared unit – 1 kg of firestop sealants manufactured by Alfaseal Group Sp. z o.o.

4.2. ALLOCATION

The allocation rules used for this EPD are based on EN 15804+A2. The production of firestop sealants takes place in one production plant in Cieszyn, Poland.
Impacts from the global line production were inventoried and 0,36% were allocated to the production of firestop sealants in terms of annual production volume expressed in mass basis.

4.3. BIOGENIC CARBON CONTENT

The content of biogenic carbon in the product is determined quantitatively and results from the carbon dioxide removed from the atmosphere through the photosynthesis reaction. It is assumed that 50% of the dry mass of wood is carbon, 44% oxygen and hydrogen. Each kilogram of stored biogenic caron is approximately 3.67 kg of CO2 effectively removed from the atmosphere.

Table 5.1: Biogenic carbon content in product and packaging materials

Biogenic carbon content	Unit
CO_2 equivalent	$^{44}/_{12}$
Biogenic carbon content in product	< 5%
Biogenic carbon content in packaging materials	< 5%

4.4. SYSTEM BOUNDARIES

The system limits for the environmental characteristics of firestop sealants are shown in figure 5.1. Data used in LCA calculation were declared by manufacturer and reflected the actual status of the year 2024.

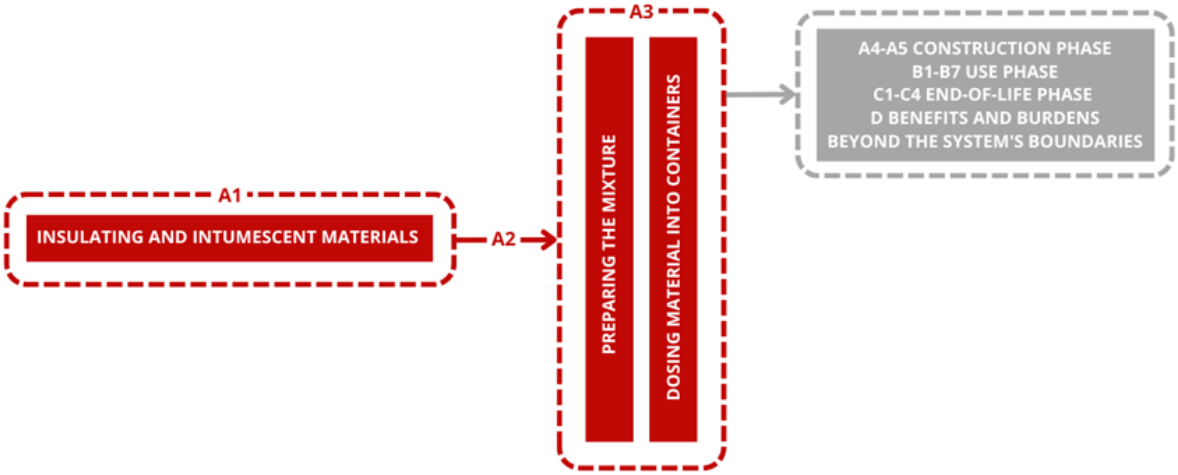

Figure 5.1: System boundaries

This Environmental Product Declaration includes a life cycle assessment (LCA) for the Cradle-to-Gate according to EN 15804+A2. Modules A4-A5, B1-B7, C1-C4, D are not declared.

4.4.1. A1 – RAW MATERIALS SUPPLY

This module takes into account the extraction and processing of all raw materials, as well as Energy consumption. The extraction and consumption of raw materials refers to specific mass shares in the production process per unit of declared product. Raw materials for the production of components of firestop sealants come from Polish and foreign suppliers.

4.4.2. A2 – TRANSPORT TO THE PRODUCTION SITE

Raw materials are transported to the production plant from Polish and foreign suppliers. Distances from the place of obtaining raw materials to the production plant are individual for each raw material. The means of transport were diversified depending on the method of delivery of raw materials. The adopted model includes road transport (average values) for each raw material. For calculation purposes European fuel averages are applied in module A2.

4.4.3. A3 – PRODUCTION

Module A3 covers all production-related process – including the firestop sealants components production, their packaging and internal transport.
A schematic of the production line for firestop sealants at Alfaseal Group sp. z o.o. is shown in Fig.5.2.
This module takes into account energy consumption and waste generated in the production plant, as well as losses generated in the production process.

Figure 5.2: Production process

DATA COLLECTION PERIOD	The data regarding the production of products refer to period from 01.01.2024 to 31.12.2024
DATA QUALITY	The values determined to calculate the LCA originate from verified Alfaseal Group sp. z o.o. inventory data. The LCA analysis uses data prepared based on actual consumption at the production site. The details collected are no more than two years old.
CALCULATION RULES	The impacts of the representative Alfaseal Group sp. z o.o. products were aggregated using weighted average. The weighted average method was used according to the percentage of each product in firestop sealants based on the relations to whole production quantity. Impacts were calculated for firestop sealants and are shown in Tables 6.3-6.4. The LCA analysis was conducted in accordance with the EN 15804+A2.
CUT-OFF CRITERIA	All-important parameters from collected production data, i.e. all materials used by recipe, electricity consumed, internal fuel consumption and thermal energy, direct production waste, and the results of all available emission measurements were included in the calculations. In accordance with EN 15804, machinery and equipment (capital assets) needed for and during production, as well as the transportation of production facility employees, were not included. The sum of the omitted total mass flows does not exceed 1% and excluded consumption of renewable and non-renewable primary energy is no more than 1% according to EN 15804+A2.
BACKGROUND DATA	The main source of general and auxiliary data is the Ecoinvent 3.11 database.

5. LIFE CYCLE ASSESSMENT (LCA) - RESULTS

Life cycle assessment (LCA) of this environmental declaration covers A1-A3 („cradle to gate"). Tabel 6.1. shows the LCA modules considered in calculating the environmental impact categories for the products covered by this declaration.

Table 6.1: Modules defined and not declared in system boundaries

Product stage			Construction process stage		Use stage							End of life stage				
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use stage	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

X – modules definded
MND – modules not declared

Indicators describing environmental impact of product can be categorized as general environmental impacts, additional impacts and environmental aspects related to resources. The abbreviations and its explanations used to describe the environmental impact of firestop sealants are shown below (tab. 6.2).
The tables 6.3- 6.5 present the results of the LCA analysis for firestop sealants products.

Table 6.2: Abbreviations and its explanations used in LCA analysis

ENVIRONMENTAL IMPACT INDICATORS	
GWP-total	Global Warming Potential – total
GWP-fossil	Global Warming Potential - fossil
GWP-biogenic	Global Warming Potential - biogenic
GWP-luluc	Global Warming Potential - land use and land use change
ODP	Stratospheric ozone depletion potential
AP	Soil and water acidification potential
EP-freshwater	Eutrophication potential - freshwater
EP-marine	Eutrophication potential - seawater
EP-terrestrial	Eutrophication potential - terrestrial
POCP	Potential for photochemical ozone synthesis

ADP-minerals &metals*	Potential for depletion of abiotic resources - non-fossil resources
ADP-fossil*	Abiotic depletion potential – fossil fuels
WDP*	Water deprivation potential

ENVIRONMENTAL ASPECTS RELATED TO RESOURCE INDICATORS

PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
PERM	Use of renewable primary energy resources used as raw materials
PERT	Total use of renewable primary energy resources
PEN-RE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
RE	Use of non-renewable primary energy resources used as raw materials
PENRT	Total use of non-renewable primary energy resources
SM	Use of secondary material
RSF	Use of renewable secondary fuels
NRSF	Use of non-renewable secondary fuels
FW	Use of net fresh water

ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES INDICATORS

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
EET	Exported thermal energy

ADDITIONAL ENVIRONMENTAL IMPACTS INDICATORS

GWP-GHG	Global warming potential except emissions and uptake of biogenic carbon
PM	Particulate matter
IRP**	Potential human exposure efficiency relative to U235
ETP-fw*	Potential comparative toxic unit for ecosystems
HTP-c*	Potential comparative toxic unit for humans (cancer effects)
HTP-nc*	Potential comparative toxic unit for humans (non-cancer effects)
SQP*	Potential soil quality index

*The results should be used with caution because there is high uncertainly or limited experience with this indicators.
**Apply mainly the possible impact of the nuclear fuel cycle on human health resulting from low ionizing radiation.

Table 6.3: LCA analysis results for firestop sealants INTU FR Mastic

Results per 1 kg: firestop sealants INTU FR Mastic					
ENVIRONMENTAL IMPACTS					
PARAMETER	UNIT	A1	A2	A3	A1-A3
GWP-total	eq. kg CO2	1,04E+00	4,91E-02	3,95E-02	1,12E+00
GWP-fossil	eq. kg CO2	1,04E+00	4,91E-02	3,51E-02	1,12E+00
GWP-biogenic	eq. kg CO2	-1,99E-02	2,47E-05	4,33E-03	-1,55E-02
GWP-luluc	eq. kg CO2	1,56E-02	1,57E-05	7,88E-06	1,56E-02
ODP	eq. kg CFC 11	3,88E-07	1,07E-09	4,53E-10	3,90E-07
AP	mol H+	6,43E-03	1,01E-04	1,53E-04	6,69E-03
EP-freshwater	eq. kg P	3,79E-05	3,61E-07	2,49E-06	4,07E-05
EP-marine	eq. kg N	1,18E-03	2,32E-05	2,12E-05	1,22E-03
EP-terrestrial	eq. mol N	1,15E-02	2,57E-04	2,04E-04	1,19E-02
POCP	eq. kq NMVOC	4,39E-03	1,61E-04	7,91E-05	4,63E-03
ADP-minerals & metals*	eq. kg Sb.	1,34E-05	1,75E-07	1,39E-07	1,37E-05
ADP-fossil*	MJ	1,72E+01	6,93E-01	3,79E-01	1,82E+01
WDP*	eq. m3	4,84E-01	3,59E-03	5,99E-03	4,94E-01
ENVIRONMENTAL ASPECTS RELATED TO RESOURCES					
PARAMETER	UNIT	A1	A2	A3	A1-A3
PERE	MJ	1,52E+00	1,26E-02	3,68E-02	1,57E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,52E+00	1,26E-02	3,68E-02	1,57E+00
PEN-RE	MJ	1,72E+01	6,93E-01	3,79E-01	1,83E+01
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,72E+01	6,93E-01	3,79E-01	1,83E+01
SM	kg	6,01E-02	7,33E-04	1,50E-03	6,23E-02
RSF	MJ	2,56E-02	2,06E-04	8,26E-04	2,67E-02
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	1,46E-02	8,28E-05	8,87E-05	1,48E-02
ENVIRONMENTALINFORMATION DESCRIBING WASTE CATEGORIES					
PARAMETER	UNIT	A1	A2	A3	A1-A3
HWD	kg	3,14E-01	6,51E-04	2,09E-03	3,17E-01
NHWD	kg	9,28E-01	7,85E-03	5,79E-02	9,94E-01
RWD	kg	2,01E-05	2,45E-07	2,20E-07	2,06E-05
CRU	kg	1,49E-02	1,69E-04	2,75E-04	1,53E-02
MFR	kg	1,06E+00	4,91E-02	3,81E-02	1,15E+00
MER	kg	5,68E-02	6,52E-04	1,42E-03	5,89E-02
EEE	MJ	4,03E-02	7,35E-04	1,08E-04	4,11E-02
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADDITIONAL IMPACTS					
PARAMETER	UNIT	A1	A2	A3	A1-A3
GWP-GHG	eq. kg CO2	2,06E+01	1,00E-01	3,12E-01	2,10E+01
PM	Disease incidence	5,00E+00	3,62E-01	5,88E-02	5,42E+00
IRP**	eq. kBq U235	6,10E-08	3,16E-09	4,95E-10	6,46E-08
ETP-fw*	CTUe	8,36E-08	4,11E-10	5,26E-10	8,45E-08
HTP-c*	CTUh	2,61E-02	3,49E-04	2,92E-04	2,67E-02
HTP-nc*	CTUh	1,27E-09	7,81E-12	2,30E-11	1,31E-09
SQP*	dimensionless	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 6.4: LCA analysis results for firestop sealants INTU FR Graphite

Results per 1 kg: firestop sealants INTU FR Graphite					
ENVIRONMENTAL IMPACTS					
PARAMETER	UNIT	A1	A2	A3	A1-A3
GWP-total	eq. kg CO2	9,63E-01	8,83E-02	3,90E-02	1,09E+00
GWP-fossil	eq. kg CO2	9,67E-01	8,83E-02	3,47E-02	1,09E+00
GWP-biogenic	eq. kg CO2	-1,98E-02	4,31E-05	4,35E-03	-1,54E-02
GWP-luluc	eq. kg CO2	1,56E-02	3,10E-05	7,62E-06	1,56E-02
ODP	eq. kg CFC 11	3,87E-07	1,92E-09	4,32E-10	3,89E-07
AP	mol H+	5,73E-03	1,83E-04	1,51E-04	6,06E-03
EP-freshwater	eq. kg P	3,59E-05	7,23E-07	2,48E-06	3,91E-05
EP-marine	eq. kg N	1,08E-03	4,04E-05	2,09E-05	1,14E-03
EP-terrestrial	eq. mol N	1,04E-02	4,50E-04	2,01E-04	1,10E-02
POCP	eq. kq NMVOC	4,06E-03	2,83E-04	7,66E-05	4,42E-03
ADP-minerals & metals*	eq. kg Sb.	1,30E-05	3,76E-07	1,37E-07	1,35E-05
ADP-fossil*	MJ	1,64E+01	1,24E+00	3,64E-01	1,80E+01
WDP*	eq. m3	4,65E-01	6,92E-03	5,86E-03	4,78E-01
ENVIRONMENTAL ASPECTS RELATED TO RESOURCES					
PARAMETER	UNIT	A1	A2	A3	A1-A3
PERE	MJ	1,49E+00	2,58E-02	3,62E-02	1,55E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,49E+00	2,58E-02	3,62E-02	1,55E+00
PEN-RE	MJ	1,64E+01	1,24E+00	3,64E-01	1,80E+01
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,64E+01	1,24E+00	3,64E-01	1,80E+01
SM	kg	5,97E-02	1,51E-03	1,48E-03	6,27E-02
RSF	MJ	2,56E-02	4,38E-04	8,16E-04	2,68E-02
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	1,42E-02	1,60E-04	8,58E-05	1,44E-02
ENVIRONMENTALINFORMATION DESCRIBING WASTE CATEGORIES					
PARAMETER	UNIT	A1	A2	A3	A1-A3
HWD	kg	2,26E-01	1,27E-03	2,07E-03	2,30E-01
NHWD	kg	8,94E-01	1,62E-02	5,40E-02	9,64E-01
RWD	kg	1,98E-05	5,08E-07	2,11E-07	2,05E-05
CRU	kg	1,48E-02	3,59E-04	2,69E-04	1,54E-02
MFR	kg	9,86E-01	8,83E-02	3,76E-02	1,11E+00
MER	kg	5,65E-02	1,35E-03	1,40E-03	5,93E-02
EEE	MJ	3,99E-02	1,73E-03	1,06E-04	4,18E-02
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADDITIONAL IMPACTS					
PARAMETER	UNIT	A1	A2	A3	A1-A3
GWP-GHG	eq. kg CO2	2,02E+01	2,05E-01	3,11E-01	2,07E+01
PM	Disease incidence	4,77E+00	5,74E-01	5,67E-02	5,40E+00
IRP**	eq. kBq U235	5,21E-08	5,15E-09	4,84E-10	5,77E-08
ETP-fw*	CTUe	8,18E-08	7,44E-10	5,23E-10	8,31E-08
HTP-c*	CTUh	2,56E-02	7,17E-04	2,80E-04	2,66E-02
HTP-nc*	CTUh	1,18E-09	1,51E-11	2,29E-11	1,22E-09
SQP*	dimensionless	0,00E+00	0,00E+00	0,00E+00	0,00E+00

6. REFERENCES

- EN 15804:2012+A2:2019 Sustainability of construction works -- Environmental product declarations -- Core rules for the product category of construction products
- ISO 14025:2006 Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures
- ISO 14044:2006 Environmental management -- Life cycle assessment -- Requirements and guidelines
- EN 15942:2021 Sustainability of construction works -- Environmental product declarations -- Communication format business-to-business
- ISO 14067:2018 Greenhouse gases -- Carbon footprint of products -- Requirements and guidelines for quantification
- ISO 21930:2017 Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services
- EN 16449:2014 Wood and wood-based products – Calculation of the biogenic carbon content of wood and conversion to carbon dioxide
- Ecoinvent 3.11 database

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CERTYFICATE No. 2025-0080-6
of TYPE III ENVIRONMENTAL DECLARATION

Product:

Firestop sealants:

- INTU FR Mastic
- INTU FR Graphite

Manufacturer:

Alfaseal Group Sp. z o.o.
ul. Kineskopowa 1
05-500 Piaseczno
NIP: 123-127-48-21

confirms the correctness of the data included in the development of the Type III Environmental Declaration and accordance with the requirements of the standard:

EN 15804:2012+A2:2019

Sustainability of construction works --
Environmental product declarations --
Core rules for the product category of construction products

This certificate, issued for the first time on 17/12/2025 and is valid for 5 years or until amendment of mentioned Environmental Declaration .

CERTBUD Sp. z o.o. ZAKŁAD CERTYFIKACJI CERTBUD

Director of the Certification Department
CERTBUD Sp. z o.o.

Kamil PAWŁOWSKI

Warsaw, 17/12/2025 r.