

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH:  
EN 15804+A2 & ISO 14025

**Product name:**  
**PIPE GROMMETS**



**EPD holder:**  
**GUMfarm Adriana Bojczuk**

**GUM**  
**FARM**  
**all from rubber**  
Issued on 31 December 2025  
Valid until 31 December 2030

# GENERAL INFORMATION

## EPD OWNER

<b>Manufacturer / EPD Holder</b>	GUMfarm Adriana Bojczuk
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## PRODUCT IDENTIFICATION

<b>Product name</b>	Pipe Grommets
<b>Place(s) of production</b>	Poland

## EPD INFORMATION

<b>EPD Polska</b>	Multicert Sp. z o.o.
<b>program operator</b>	Ul. Mydlarska 47, 04-690 Warszawa, Poland
	<a href="http://www.epd.org.pl">www.epd.org.pl</a> , <a href="mailto:epd@epd.org.pl">epd@epd.org.pl</a>
<b>EPD standards</b>	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
<b>Product category rules</b>	The CEN standards EN 16757 and EN 15804+A2 serve as the core PCR.
<b>EPD verification</b>	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
<b>EPD verifier</b>	Izabela Sztamberek-Sochan, Ph.D.
<b>EPD number</b>	EPD-P 01.12.2025
<b>Registration:</b>	EPD Polska <a href="http://www.epd.org.pl">www.epd.org.pl</a>
<b>Publishing date</b>	31 December 2025
<b>EPD valid until</b>	31 December 2030
<b>Reasons for performing LCA</b>	B2B
<b>Accountability</b>	The EPD Holder is responsible for the information provided and evidence. Multicert Sp. z o.o. does not hold responsibility for the manufacturer information, life cycle assessment data nor supporting evidence.

EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

# COMPANY INFORMATION

## HOLDER OF THE EPD

GUMfarm Adriana Bojczuk  
ul. Hrubieszowska 85A  
22-100 Chełm  
Poland

GUMfarm is a Polish manufacturer of technical products made of rubber, silicone, thermoplastic elastomer and plastic. The company has continuously developed its technological and IT capabilities to deliver high-quality, repeatable products for demanding industrial applications.

We manufacture our products using following technologies:

- Injection molding - this method obtain molded products by injecting rubber or silicone compounds into a closed mold, which are then vulcanized. This technology allows us to mass-produce silicone and rubber products with complex shapes while maintaining dimensional consistency—in line with customer expectations. We utilize LSR (liquid silicone), HTV silicone injection technologies, as well as EPDM, NR, NBR, and many other compounds.
- Extrusion - this process involves forming a silicone mixture into a shape defined by previously prepared equipment, the extruder's "mouthpiece." The extruded product then undergoes a vulcanization process. Extrusion allows for the creation of products in a huge variety of shapes.

GUMfarm's core business includes the design and manufacture of rubber, silicone, polyurethane and other plastic components. The company offers an integrated service covering material selection and product design, in-house tooling and mould making, and series production. Thanks to its own tool shop and CAD-supported design function, GUMfarm can manufacture both standard items and products tailored to individual customer specifications, including production on customer-supplied moulds.

The product portfolio is broad and serves multiple sectors, with strong experience in automotive, machinery, agriculture, food, and installation-construction industries. Within the building and utilities segment, GUMfarm supplies sealing and penetration solutions such as grommets, cable and pipe glands, and tight pipe-cable pass-through systems for water-sewerage and electrical applications.

Environmental considerations are part of the company's development approach; GUMfarm also produces selected components using recycled elastomeric or plastic materials where technically feasible.

# PRODUCT INFORMATION

## PRODUCT DESCRIPTION

The product group covered by this EPD includes pipe grommets manufactured by GUMfarm Adriana Bojczuk in Poland. The declared products are designed to provide watertight and/or airtight sealing of pipe penetrations through building elements and civil engineering structures.

This EPD covers three separate product sub-groups, for which LCA results are presented individually:

- Pipe grommets made of EPDM rubber,
- Pipe grommets made of silicone (VMQ),
- Pipe grommets made of ABS.

All three sub-groups perform the same function and are manufactured as factory-made sealing components in standardized or customer-specific geometries. The declared unit and the environmental results are reported separately for each material sub-group, reflecting differences in raw materials and manufacturing processes.

## PRODUCT APPLICATION

Pipe penetration grommets are used to seal pipe pass-throughs in building and infrastructure applications where controlled tightness is required. Typical uses include:

- sealing pipe penetrations through watertight manifold cabinets
- pass-throughs in water and wastewater installations, rainwater systems, and utility ducts,
- penetrations in technical rooms, basements, foundations, and external walls,
- protection against leakage, moisture ingress, odor migration, dust or gas transfer, depending on the installation.

Material selection depends on functional requirements such as temperature range, chemical resistance, ageing resistance and mechanical flexibility:

- EPDM grommets are typically selected for durable sealing in contact with water and for outdoor or UV-exposed conditions,
- Silicone grommets are used where high or low service temperatures are expected, and where high long-term flexibility is required,
- ABS grommets are applied where a rigid thermoplastic sealing element is required and compatible with the installation system design.

## PRODUCT STANDARDS

The declared pipe grommets are manufactured under internal quality control and supplied as technical sealing components for piping and penetration systems. For the elastomeric sub-groups (EPDM and silicone grommets), material performance requirements follow the relevant European standard for elastomeric seals used in water and drainage applications:

- EN 681-1: Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber.

For the ABS sub-group, the gaskets are treated as components/ancillary equipment within ABS plastic piping systems and therefore follow the applicable system standard:

- EN ISO 15493: Plastics piping systems for industrial applications — Acrylonitrile-butadiene-styrene (ABS), unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly(vinyl chloride) (PVC-C) — Specifications for components and the system — Metric series.

Where additional performance characteristics are required for specific projects (e.g., pressure class, dedicated geometry, chemical media resistance, or special installation conditions), the gaskets are produced and verified according to customer-specific technical documentation and agreed requirements.

## PRODUCT RAW MATERIAL COMPOSITION

The typical raw material composition depends on the declared sub-group:

- EPDM grommets: EPDM rubber compound with relevant additives (fillers, curing agents, pigments).
- Silicone grommets: HCR silicone elastomer (VMQ) compound with relevant additives.
- ABS grommets: acrylonitrile-butadiene-styrene thermoplastic (ABS), including typical processing additives and pigments.

The exact mass composition and formulation for each sub-group are defined in the technical specifications and production recipes of the respective gasket type.

## ADDITIONAL TECHNICAL INFORMATION

Pipe grommets are engineered to fit standardized pipe diameters and penetration openings and to ensure reliable long-term sealing under expected service conditions. Key technical features include:

- Tightness and flexibility: elastomeric variants maintain sealing performance under small movements, tolerances and vibrations.
- Durability: resistance to ageing and environmental exposure appropriate for the selected material.
- Installation efficiency: designed for quick mounting during pipe installation or subsequent sealing of existing penetrations.
- Variant-dependent performance: EPDM, silicone and ABS versions allow selection for specific temperature, media or stiffness requirements.

As LCA results are declared separately for each material sub-group, environmental indicators shall be used for the relevant gasket type only.

## REACH – SUBSTANCES OF VERY HIGH CONCERN (SVHC)

Based on the nature of EPDM rubber, silicone elastomers and ABS thermoplastic materials used for technical sealing components, the declared grommets are not expected to contain REACH Substances of Very High Concern (SVHC) in concentrations above 0.1% by weight. The products are inert in use and do not require release-relevant chemical treatments during the service life.

# PRODUCT LIFE-CYCLE

## RAW MATERIAL SUPPLY AND TRANSPORT (A1, A2)

Module A1 covers the extraction and production of raw materials used in the three gasket variants. This includes the upstream production of ready-to-process elastomer compounds (EPDM and HCR silicone) and ABS polymer granulates supplied by external manufacturers, as well as any fillers, pigments and auxiliary substances already contained in these compounds. Packaging materials used to supply the finished products are also included in the raw-material stage.

Module A2 covers the transport of ready-to-process compounds and packaging materials from suppliers to the production plant. Transport is modelled as road freight using Euro 6 trucks. Distances reflect typical inbound logistics for EPDM and HCR silicone compounds, ABS granulates and packaging materials. All raw-material transport is included on a mass-proportional basis.

## MANUFACTURING (A3)

Module A3 includes all manufacturing processes required to produce the finished gaskets at the contracted production plant(s). The plant purchases ready-to-process EPDM compounds, HCR silicone compounds and ABS granulates and does not perform in-house compounding or mixing. Manufacturing therefore comprises forming and finishing operations only. For all material variants, processes include injection molding, curing/vulcanization for elastomeric variants, trimming, finishing, internal transport and quality control.

Energy consumption is modelled entirely as electricity, supplied through a combination of on-site photovoltaic generation and the national electricity grid. Production scraps are handled according to standard industrial practice; recyclable fractions may be internally recovered depending on material type and process yield.

## END OF LIFE (C1, C2, C3, C4, D)

### Module C1 — Deconstruction / demolition

For all products, removal during deinstallation or demolition is assumed to have negligible energy demand due to the small mass and passive function of the sealing components.

### Module C2 — Transport of waste

Waste transport is modelled as road freight (Euro 6 trucks) over a representative distance to appropriate end-of-life facilities.

### Module C3 — Waste processing

Waste processing depends on the material type:

ABS grommets: a defined share of the mass undergoes mechanical recycling into secondary polymer material.

EPDM grommets: a smaller share is recovered through grinding and downcycling into low-grade fillers or granulate.

HCR silicone grommets: a limited share is recoverable through grinding, typically for use as inert filler.

### Module C4 — Disposal

The remaining fractions of each material variant are modelled as incinerated with energy recovery in municipal waste-to-energy plants. Incineration residues are treated as non-hazardous waste.

# LIFE-CYCLE ASSESSMENT

## LIFE-CYCLE ASSESSMENT INFORMATION

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**Data reference period** 2024 year

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### DECLARED AND FUNCTIONAL UNIT

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<b>Declared Unit</b>	1 kg
<b>Mass per Declared Unit</b>	1 kg

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### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

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**Biogenic carbon content in the product, kg C:** -

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## SYSTEM BOUNDARY

The EPD scope is "cradle-to-gate with options" in accordance with EN 15804. The study covers the product stage A1–A3, C1–C4 (end-of-life: deconstruction, waste transport, waste processing and disposal), and D (benefits and loads beyond the system boundary from material recovery / avoided burdens).

Product stage		Assembly stage		Use stage							End of life stage			Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MNR	X	X	X	X	X						

X – module included/declared

MND – Module Not Declared

MNR – Module Not Relevant

## CUT-OFF CRITERIA

The study fully covers all mandatory EN 15804:2012+A2:2019 modules and processes. No hazardous materials or substances have been omitted from the system boundary.

All major raw material and energy inputs are included. All inputs and outputs from unit processes for which data are available are taken into account in the calculations. No single neglected unit process exceeds 1% of the total mass or energy flows. The total of all neglected input and output flows does not exceed 5% of the total mass or energy use.

The production of capital goods (equipment), construction of infrastructure, and the maintenance and operation of capital equipment are excluded. Personnel-related activities, as well as energy and water use associated with company management and sales/administrative activities, are also excluded.

## ESTIMATES AND ASSUMPTIONS

The LCA was carried out in accordance with EN 15804+A2, applying standard rules for indicators, system boundaries, data quality, allocation and cut-off. The study models Modules A1–A3 and end-of-life Modules C1–C4 and D. The main modelling assumptions are:

Declared product and data basis

Results are declared separately for three product sub-groups: pipe penetration grommets made of EPDM rubber, HCR silicone and ABS. The declared unit for each sub-group is 1 kg of finished grommets. Foreground data for material recipes, packaging, production electricity and logistics are based on manufacturer and supplier information for the reference period 2024. Background data are taken from EN 15804+A2-consistent datasets (ecoinvent v3.9.1 system model: Allocation, cut-off by classification).

Raw material modelling (A1):

A full mass balance was applied for each material variant using the respective compound recipes and polymer feedstock data. Minor additives (fillers, pigments, curing agents and processing auxiliaries) are included where relevant to the compound formulations. Primary packaging materials (cardboard boxes and plastic foil) are included in A1 as upstream inputs.

Transport modelling (A2, C2):

All transports are modelled as road freight with Euro 6 trucks. Module A2 represents inbound transport of raw materials and packaging to the production plant using mass-proportional transport work based on representative supplier distances. Module C2 represents transport of gasket waste to end-of-life facilities by road over a representative distance. Where transport vehicle classes differ by supply chain (light vs medium truck), these are reflected in the modelling.

Manufacturing energy and processes (A3):

Manufacturing is modelled at the production plant(s) as electricity-driven processes only. Depending on the variant, A3 includes injection moulding, curing for elastomeric gaskets, finishing, trimming and inspection. Electricity supply reflects the site-specific mix including a minor share of photovoltaic electricity (5%) and the remaining share (95%) from the national grid. Production scraps are treated according to standard industrial practice; recyclable fractions may be internally recovered where technically feasible, while the remainder is treated as industrial waste.

## End-of-life (modules C1-C4 and D)

End-of-life treatment was modelled in accordance with EN 15804+A2 using baseline scenarios representative for polymer and elastomer sealing products. The scenarios differ by material type and are summarised below per 1 kg declared unit:

EoL MODULE (EN 15804)	END-OF-LIFE BASELINE SCENARIO		
	ABS GROMMETS	EPDM GROMMETS	SILICONE GROMMETS
C1 Deconstruction / dismantling	0 (negligible)	0 (negligible)	0 (negligible)
C2 Transport of waste	100 km by truck to EoL facility	100 km by truck to EoL facility	100 km by truck to EoL facility
C3 Waste processing for recycling	30% mechanical recycling of ABS	20% grinding / material recovery of EPDM (downcycling)	10% grinding / material recovery of HCR silicone (as filler)
C4 Disposal (incineration with energy recovery)	70% incineration with energy recovery	80% incineration with energy recovery	90% incineration with energy recovery
D Benefits and loads beyond the system boundary	credit: substitution of virgin ABS (30%) + energy substitution from C4 (70%)	credit: substitution of synthetic rubber/carbon black (20%) + energy substitution from C4 (80%)	credit: substitution of virgin PDMS/silicone (10%) + energy substitution from C4 (90%)

## ALLOCATION

Allocation was carried out in accordance with EN 15804+A2. Primary (foreground) production data were collected for the three declared gasket variants (EPDM, HCR silicone and ABS) and allocated to the declared unit (1 kg of finished grommets) on a mass basis. This reflects that material inputs, packaging and manufacturing electricity are directly proportional to the mass of each product variant.

Where background processes are used, allocation follows the rules embedded in the respective EN 15804+A2-compliant datasets (ecoinvent v3.9.1, Allocation, cut-off by classification). End-of-life benefits and loads reported in Module D are calculated using the net-substitution approach defined in EN 15804+A2.

## DATA QUALITY

Regarding primary data, the LCA is based on high-quality foreground data collected for the three declared gasket variants (EPDM, HCR silicone and ABS). Foreground inputs include site-specific material data, primary packaging quantities, electricity consumption in manufacturing, and real or representative logistics information for raw-material supply and product distribution. The reference period for primary data is 2024. These data are complete, consistent with the declared unit (1 kg of finished grommets per variant), and representative for the modelled product systems.

The LCA modelling and calculations were performed in openLCA, using background processes from ecoinvent v3.9.1 (system model: Allocation, cut-off by classification). Background datasets were selected to be consistent with EN 15804+A2 requirements and applied uniformly across all three variants unless supplier- or material-specific datasets are stated otherwise.

Electricity supply in Module A3 reflects the manufacturing electricity mix used for the declared products. The model includes both grid electricity and a minor share of photovoltaic electricity where applicable, with the grid electricity represented by a Poland-specific background dataset.

Overall, data quality is considered high in terms of technological, geographical and temporal representativeness, and is adequate for the intended use of this EPD.

## GEOGRAPHIC REPRESENTATIVENESS

The product system is manufactured and managed in Poland (Europe).

## ENVIRONMENTAL IMPACT DATA

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2 – ABS GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	3,12E+00	1,12E-01	5,50E-01	MND	0,00E+00	5,57E-02	1,14E-01	2,21E+00	-2,48E+00
GWP-fossil	kg CO <sub>2</sub> eq.	3,13E+00	1,12E-01	5,47E-01	MND	0,00E+00	5,56E-02	1,14E-01	2,21E+00	-2,47E+00
GWP-biogenic	kg CO <sub>2</sub> eq.	-7,10E-03	9,83E-05	3,04E-03	MND	0,00E+00	4,90E-05	-2,70E-04	2,20E-04	-1,02E-02
GWP-luluc	kg CO <sub>2</sub> eq.	1,72E-03	6,54E-05	1,70E-04	MND	0,00E+00	3,25E-05	7,45E-05	1,24E-05	-2,90E-04
ODP	kg CFC-11 eq.	1,73E-05	2,43E-09	2,74E-09	MND	0,00E+00	1,21E-09	1,08E-09	2,42E-09	-2,80E-08
AP	mol H <sup>+</sup> eq.	1,48E-02	2,40E-04	3,93E-03	MND	0,00E+00	1,20E-04	3,00E-04	3,10E-04	-9,05E-03
EP-freshwater	kg P eq.	5,60E-04	9,45E-06	6,50E-04	MND	0,00E+00	4,71E-06	1,46E-05	5,65E-06	-6,20E-04
EP-marine	kg N eq.	4,20E-03	5,52E-05	5,70E-04	MND	0,00E+00	2,75E-05	1,20E-04	1,20E-04	-1,47E-03
EP-terrestrial	mol N eq.	3,10E-02	5,60E-04	4,94E-03	MND	0,00E+00	2,80E-04	9,50E-04	1,35E-03	-1,37E-02
POCP	kg NMVOC eq.	1,21E-02	3,50E-04	1,43E-03	MND	0,00E+00	1,70E-04	3,60E-04	3,50E-04	-6,38E-03
ADPE (disc.2)	kg Sb eq.	1,11E-05	3,60E-07	3,23E-07	MND	0,00E+00	1,79E-07	2,26E-07	5,97E-08	-1,04E-06
ADPF (disc.2)	MJ, (NCV)	8,30E+01	1,58E+00	6,26E+00	MND	0,00E+00	7,88E-01	1,14E+00	3,16E-01	-4,18E+01
WDP (disc.2)	m <sup>3</sup> World eq.	1,58E+00	9,00E-03	1,22E-01	MND	0,00E+00	4,48E-03	2,29E-02	6,19E-02	-8,66E-01
Acronyms	GWP-total – Climate change, total global warming potential; GWP-fossil – Climate change, fossil fuels; GWP-biogenic – Climate change, biogenic carbon; GWP-luluc – Climate change, land use and land use change; ODP – Ozone layer depletion; AP – Acidification of terrestrial and freshwater environments; EP-freshwater – Eutrophication, freshwater; EP-marine – Eutrophication, marine; EP-terrestrial – Eutrophication, terrestrial; POCP – Photochemical ozone formation (smog formation); ADPE – Abiotic depletion, minerals and metals; ADPF – Abiotic depletion, fossil fuels; WDP – Water scarcity (water use deprivation potential); NCV - net calorific value.									
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.									

## ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF – ABS GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PM	Disease Incidence	1,65E-07	4,87E-09	6,59E-09	MND	0,00E+00	2,43E-09	5,72E-09	1,55E-09	-8,10E-08
IRP (disc.1)	kBq U235 eq.	1,41E-01	3,13E-03	1,82E-02	MND	0,00E+00	1,56E-03	4,14E-03	1,10E-03	-2,73E-02
ETP-fw (disc.2)	CTUe	3,11E+01	8,29E-01	1,65E+00	MND	0,00E+00	4,13E-01	4,50E-01	3,34E+00	-8,71E+00
HTP-c (disc.2)	CTUh	3,70E-09	5,57E-11	1,70E-10	MND	0,00E+00	2,77E-11	1,12E-10	2,29E-11	-4,51E-10
HTP-nc (disc.2)	CTUh	1,62E-08	9,65E-10	6,25E-09	MND	0,00E+00	4,80E-10	8,85E-10	8,37E-10	-9,14E-09
SQP (disc.2)	Dimensionless	7,62E+00	6,53E-01	1,34E+00	MND	0,00E+00	3,25E-01	8,26E-01	1,08E-01	-1,77E+00
Acronyms	PM – Particulate matter emissions (potential incidence of disease); IRP – Ionising radiation, human health exposure potential; ETP-fw – Ecotoxicity, freshwater; HTP-c – Human toxicity, cancer effects; HTP-nc – Human toxicity, non-cancer effects; SQP – Land use related impacts, soil quality.									
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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.									
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.									

## USE OF NATURAL RESOURCES – ABS GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PERE	MJ, (NCV)	2,29E+00	3,41E-02	7,33E-01	MND	0,00E+00	1,70E-02	5,64E-02	1,59E-02	-6,87E-01
PERM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ, (NCV)	2,29E+00	3,41E-02	7,33E-01	MND	0,00E+00	1,70E-02	5,64E-02	1,59E-02	-6,87E-01
PENRE	MJ, (NCV)	8,30E+01	1,58E+00	6,26E+00	MND	0,00E+00	7,88E-01	1,14E+00	3,16E-01	-4,18E+01
PENRM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ, (NCV)	8,30E+01	1,58E+00	6,26E+00	MND	0,00E+00	7,88E-01	1,14E+00	3,16E-01	-4,18E+01
SM	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,75E-02	3,00E-04	1,68E-02	MND	0,00E+00	1,50E-04	8,70E-04	3,35E-03	-3,14E-02
Acronyms	PERE – Use of renewable primary energy as energy carriers; PERM – Use of renewable primary energy resources as raw materials; PERT – Total use of renewable primary energy resources (PERE + PERM); PENRE – Use of non-renewable primary energy as energy carriers; PENRM – Use of non-renewable primary energy resources as raw materials; PENRT – Total use of non-renewable primary energy resources (PENRE + PENRM); SM – Use of secondary material; RSF – Use of renewable secondary fuels; NRSF – Use of non-renewable secondary fuels; FW – Net use of fresh water; NCV - net calorific value.									

## OUTPUT FLOWS – ABS GROMMETS DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
CRU	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	3,00E-01	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	2,24E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	7,00E+00	0,00E+00
Acronyms	CRU – Components for re-use; MFR – Materials for recycling; MER – Materials for energy recovery; EEE – Exported electrical energy; EET – Exported thermal energy.									

## WASTE – ABS GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A5 B1-B7	C1	C2	C3	C4	D
HWD	kg	1,00E-04	1,00E-05	6,31E-06	MND	0,00E+00	4,98E-06	4,05E-06	2,72E-06	-6,64E-05
NHWD	kg	7,60E-04	5,75E-05	1,20E-04	MND	0,00E+00	2,86E-05	1,90E-04	7,00E-01	-3,10E-04
RWD	kg	3,57E-05	7,72E-07	4,46E-06	MND	0,00E+00	3,84E-07	1,04E-06	2,82E-07	-6,75E-06
Acronyms	HWD – Hazardous waste disposed; NHWD – Non-hazardous waste disposed; RWD – Radioactive waste disposed.									

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2 – EPDM GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	2,82E+00	4,69E-02	9,04E-01	MND	0,00E+00	5,57E-02	7,60E-02	2,53E+00	-1,86E+00
GWP-fossil	kg CO <sub>2</sub> eq.	2,83E+00	4,68E-02	8,99E-01	MND	0,00E+00	5,56E-02	7,62E-02	2,53E+00	-1,86E+00
GWP-biogenic	kg CO <sub>2</sub> eq.	-9,49E-03	3,62E-05	5,00E-03	MND	0,00E+00	4,90E-05	-1,80E-04	2,50E-04	2,17E-03
GWP-luluc	kg CO <sub>2</sub> eq.	1,29E-03	2,15E-05	2,70E-04	MND	0,00E+00	3,25E-05	4,97E-05	1,42E-05	-8,40E-04
ODP	kg CFC-11 eq.	5,92E-08	1,02E-09	4,11E-09	MND	0,00E+00	1,21E-09	7,21E-10	2,77E-09	-3,17E-08
AP	mol H <sup>+</sup> eq.	1,34E-02	9,67E-05	6,46E-03	MND	0,00E+00	1,20E-04	2,00E-04	3,60E-04	-7,93E-03
EP-freshwater	kg P eq.	8,40E-04	3,24E-06	1,08E-03	MND	0,00E+00	4,71E-06	9,76E-06	6,45E-06	-7,70E-04
EP-marine	kg N eq.	2,31E-03	2,40E-05	9,30E-04	MND	0,00E+00	2,75E-05	8,11E-05	1,40E-04	-1,31E-03
EP-terrestrial	mol N eq.	2,31E-02	2,40E-04	8,10E-03	MND	0,00E+00	2,80E-04	6,40E-04	1,54E-03	-1,24E-02
POCP	kg NMVOC eq.	1,31E-02	1,50E-04	2,34E-03	MND	0,00E+00	1,70E-04	2,40E-04	4,00E-04	-6,26E-03
ADPE (disc.2)	kg Sb eq.	1,81E-05	1,10E-07	2,76E-07	MND	0,00E+00	1,79E-07	1,50E-07	6,82E-08	-6,77E-06
ADPF (disc.2)	MJ, (NCV)	8,67E+01	6,65E-01	1,03E+01	MND	0,00E+00	7,88E-01	7,57E-01	3,61E-01	-3,18E+01
WDP (disc.2)	m <sup>3</sup> World eq.	1,30E+00	3,21E-03	1,93E-01	MND	0,00E+00	4,48E-03	1,53E-02	7,08E-02	-4,97E-01
Acronyms	GWP-total – Climate change, total global warming potential; GWP-fossil – Climate change, fossil fuels; GWP-biogenic – Climate change, biogenic carbon; GWP-luluc – Climate change, land use and land use change; ODP – Ozone layer depletion; AP – Acidification of terrestrial and freshwater environments; EP-freshwater – Eutrophication, freshwater; EP-marine – Eutrophication, marine; EP-terrestrial – Eutrophication, terrestrial; POCP – Photochemical ozone formation (smog formation); ADPE – Abiotic depletion, minerals and metals; ADPF – Abiotic depletion, fossil fuels; WDP – Water scarcity (water use deprivation potential); NCV - net calorific value.									
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.									

## ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF – EPDM GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PM	Disease Incidence	1,83E-07	2,35E-09	1,05E-08	MND	0,00E+00	2,43E-09	3,81E-09	1,77E-09	-5,76E-08
IRP (disc.1)	kBq U235 eq.	1,34E-01	1,07E-03	2,95E-02	MND	0,00E+00	1,56E-03	2,76E-03	1,26E-03	-7,41E-02
ETP-fw (disc.2)	CTUe	2,49E+01	3,34E-01	2,66E+00	MND	0,00E+00	4,13E-01	3,00E-01	3,82E+00	-1,20E+01
HTP-c (disc.2)	CTUh	1,02E-09	1,91E-11	2,74E-10	MND	0,00E+00	2,77E-11	7,50E-11	2,61E-11	-5,33E-10
HTP-nc (disc.2)	CTUh	2,26E-08	3,82E-10	1,00E-08	MND	0,00E+00	4,80E-10	5,90E-10	9,57E-10	-1,36E-08
SQP (disc.2)	Dimensionless	7,90E+00	3,39E-01	2,19E+00	MND	0,00E+00	3,25E-01	5,51E-01	1,23E-01	-4,36E+00
Acronyms	PM – Particulate matter emissions (potential incidence of disease); IRP – Ionising radiation, human health exposure potential; ETP-fw – Ecotoxicity, freshwater; HTP-c – Human toxicity, cancer effects; HTP-nc – Human toxicity, non-cancer effects; SQP – Land use related impacts, soil quality.									
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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.									
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.									

## USE OF NATURAL RESOURCES – EPDM GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PERE	MJ, (NCV)	2,02E+00	1,15E-02	9,50E-01	MND	0,00E+00	1,70E-02	3,76E-02	1,82E-02	-1,27E+00
PERM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ, (NCV)	2,02E+00	1,15E-02	9,50E-01	MND	0,00E+00	1,70E-02	3,76E-02	1,82E-02	-1,27E+00
PENRE	MJ, (NCV)	8,67E+01	6,65E-01	1,03E+01	MND	0,00E+00	7,88E-01	7,57E-01	3,61E-01	-3,18E+01
PENRM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ, (NCV)	8,67E+01	6,65E-01	1,03E+01	MND	0,00E+00	7,88E-01	7,57E-01	3,61E-01	-3,18E+01
SM	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	5,18E-02	1,10E-04	2,75E-02	MND	0,00E+00	1,50E-04	5,80E-04	3,83E-03	-2,68E-02
Acronyms	PERE – Use of renewable primary energy as energy carriers; PERM – Use of renewable primary energy resources as raw materials; PERT – Total use of renewable primary energy resources (PERE + PERM); PENRE – Use of non-renewable primary energy as energy carriers; PENRM – Use of non-renewable primary energy resources as raw materials; PENRT – Total use of non-renewable primary energy resources (PENRE + PENRM); SM – Use of secondary material; RSF – Use of renewable secondary fuels; NRSF – Use of non-renewable secondary fuels; FW – Net use of fresh water; NCV - net calorific value.									

## OUTPUT FLOWS – EPDM GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
CRU	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	2,00E-01	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	2,56E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	8,00E+00	0,00E+00
Acronyms	CRU – Components for re-use; MFR – Materials for recycling; MER – Materials for energy recovery; EEE – Exported electrical energy; EET – Exported thermal energy.									

## WASTE – EPDM GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
HWD	kg	1,90E-04	4,20E-06	6,14E-06	MND	0,00E+00	4,98E-06	2,70E-06	3,11E-06	-1,10E-04
NHWD	kg	1,30E-03	1,91E-05	1,50E-04	MND	0,00E+00	2,86E-05	1,30E-04	8,00E-01	-4,90E-04
RWD	kg	3,34E-05	2,62E-07	7,25E-06	MND	0,00E+00	3,84E-07	6,97E-07	3,22E-07	-1,84E-05
Acronyms	HWD – Hazardous waste disposed; NHWD – Non-hazardous waste disposed; RWD – Radioactive waste disposed.									

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2 – HCR SILICONE GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
GWP-Total	kg CO <sub>2</sub> eq.	1,01E+01	2,84E-01	7,05E-01	MND	0,00E+00	5,57E-02	3,80E-02	2,84E+00	-3,00E+00
GWP-fossil	kg CO <sub>2</sub> eq.	9,87E+00	2,84E-01	7,00E-01	MND	0,00E+00	5,56E-02	3,81E-02	2,84E+00	-2,97E+00
GWP-biogenic	kg CO <sub>2</sub> eq.	1,82E-01	2,20E-04	3,90E-03	MND	0,00E+00	4,90E-05	-8,98E-05	2,80E-04	-3,22E-02
GWP-luluc	kg CO <sub>2</sub> eq.	9,28E-03	1,30E-04	2,10E-04	MND	0,00E+00	3,25E-05	2,48E-05	1,60E-05	-1,76E-03
ODP	kg CFC-11 eq.	7,30E-04	6,19E-09	3,20E-09	MND	0,00E+00	1,21E-09	3,60E-10	3,11E-09	-1,10E-04
AP	mol H <sup>+</sup> eq.	6,08E-02	5,90E-04	5,03E-03	MND	0,00E+00	1,20E-04	1,00E-04	4,00E-04	-1,52E-02
EP-freshwater	kg P eq.	2,44E-03	1,96E-05	8,40E-04	MND	0,00E+00	4,71E-06	4,88E-06	7,26E-06	-1,08E-03
EP-marine	kg N eq.	1,20E-02	1,50E-04	7,20E-04	MND	0,00E+00	2,75E-05	4,05E-05	1,60E-04	-2,73E-03
EP-terrestrial	mol N eq.	1,27E-01	1,48E-03	6,31E-03	MND	0,00E+00	2,80E-04	3,20E-04	1,73E-03	-2,76E-02
POCP	kg NMVOC eq.	4,09E-02	9,20E-04	1,82E-03	MND	0,00E+00	1,70E-04	1,20E-04	4,50E-04	-9,85E-03
ADPE (disc.2)	kg Sb eq.	4,43E-05	6,68E-07	2,15E-07	MND	0,00E+00	1,79E-07	7,52E-08	7,67E-08	-7,54E-06
ADPF (disc.2)	MJ, (NCV)	1,25E+02	4,03E+00	8,01E+00	MND	0,00E+00	7,88E-01	3,79E-01	4,06E-01	-3,72E+01
WDP (disc.2)	m <sup>3</sup> World eq.	2,93E+00	1,95E-02	1,51E-01	MND	0,00E+00	4,48E-03	7,64E-03	7,96E-02	-6,00E-01
Acronyms	GWP-total – Climate change, total global warming potential; GWP-fossil – Climate change, fossil fuels; GWP-biogenic – Climate change, biogenic carbon; GWP-luluc – Climate change, land use and land use change; ODP – Ozone layer depletion; AP – Acidification of terrestrial and freshwater environments; EP-freshwater – Eutrophication, freshwater; EP-marine – Eutrophication, marine; EP-terrestrial – Eutrophication, terrestrial; POCP – Photochemical ozone formation (smog formation); ADPE – Abiotic depletion, minerals and metals; ADPF – Abiotic depletion, fossil fuels; WDP – Water scarcity (water use deprivation potential); NCV – net calorific value.									
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.									

## ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF – HCR SILICONE GROMMETS

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PM	Disease Incidence	8,44E-07	1,43E-08	8,18E-09	MND	0,00E+00	2,43E-09	1,91E-09	1,99E-09	-1,50E-07
IRP (disc.1)	kBq U235 eq.	5,96E-01	6,48E-03	2,30E-02	MND	0,00E+00	1,56E-03	1,38E-03	1,42E-03	-1,24E-01
ETP-fw (disc.2)	CTUe	6,13E+02	2,02E+00	2,08E+00	MND	0,00E+00	4,13E-01	1,50E-01	4,30E+00	-1,02E+02
HTP-c (disc.2)	CTUh	8,02E-09	1,16E-10	2,13E-10	MND	0,00E+00	2,77E-11	3,75E-11	2,94E-11	-1,55E-09
HTP-nc (disc.2)	CTUh	1,33E-07	2,32E-09	7,82E-09	MND	0,00E+00	4,80E-10	2,95E-10	1,08E-09	-2,98E-08
SQP (disc.2)	Dimensionless	4,55E+01	2,06E+00	1,70E+00	MND	0,00E+00	3,25E-01	2,75E-01	1,38E-01	-9,14E+00
Acronyms	PM – Particulate matter emissions (potential incidence of disease); IRP – Ionising radiation, human health exposure potential; ETP-fw – Ecotoxicity, freshwater; HTP-c – Human toxicity, cancer effects; HTP-nc – Human toxicity, non-cancer effects; SQP – Land use related impacts, soil quality.									
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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.									
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.									

## USE OF NATURAL RESOURCES – HCR SILICONE GROMMETS DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
PERE	MJ, (NCV)	1,52E+01	6,99E-02	7,40E-01	MND	0,00E+00	1,70E-02	1,88E-02	2,05E-02	-3,07E+00
PERM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ, (NCV)	1,52E+01	6,99E-02	7,40E-01	MND	0,00E+00	1,70E-02	1,88E-02	2,05E-02	-3,07E+00
PENRE	MJ, (NCV)	1,25E+02	4,03E+00	8,01E+00	MND	0,00E+00	7,88E-01	3,79E-01	4,06E-01	-3,72E+01
PENRM	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ, (NCV)	1,25E+02	4,03E+00	8,01E+00	MND	0,00E+00	7,88E-01	3,79E-01	4,06E-01	-3,72E+01
SM	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ, (NCV)	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	8,50E-02	6,60E-04	2,14E-02	MND	0,00E+00	1,50E-04	2,90E-04	4,30E-03	-3,11E-02
Acronyms	PERE – Use of renewable primary energy as energy carriers; PERM – Use of renewable primary energy resources as raw materials; PERT – Total use of renewable primary energy resources (PERE + PERM); PENRE – Use of non-renewable primary energy as energy carriers; PENRM – Use of non-renewable primary energy resources as raw materials; PENRT – Total use of non-renewable primary energy resources (PENRE + PENRM); SM – Use of secondary material; RSF – Use of renewable secondary fuels; NRSF – Use of non-renewable secondary fuels; FW – Net use of fresh water; NCV - net calorific value.									

## OUTPUT FLOWS – HCR SILICONE GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
CRU	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	1,00E-01	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	2,88E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	9,00E+00	0,00E+00
Acronyms	CRU – Components for re-use; MFR – Materials for recycling; MER – Materials for energy recovery; EEE – Exported electrical energy; EET – Exported thermal energy.									

## WASTE – HCR SILICONE GROMMETS [DU=1KG]

Impact category	Unit	A1	A2	A3	A4-A5 B1-B7	C1	C2	C3	C4	D
HWD	kg	2,00E-04	2,55E-05	4,79E-06	MND	0,00E+00	4,98E-06	1,35E-06	3,50E-06	-1,10E-04
NHWD	kg	2,52E-03	1,20E-04	1,20E-04	MND	0,00E+00	2,86E-05	6,27E-05	9,00E-01	-6,70E-04
RWD	kg	1,50E-04	1,59E-06	5,65E-06	MND	0,00E+00	3,84E-07	3,48E-07	3,63E-07	-3,04E-05
Acronyms	HWD – Hazardous waste disposed; NHWD – Non-hazardous waste disposed; RWD – Radioactive waste disposed.									

## SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity supply mix	5% on-site photovoltaic (PV) electricity + 95% national grid electricity (Poland), based on metered annual consumption/production data
Source and quality of electricity data (grid share)	Emission Factors for Electricity in Poland reported in December 2024 by KOBiZE – the National Centre for Emissions Management in Poland
Electricity CO <sub>2</sub> / kWh (grid share only)	0.701 kg CO <sub>2</sub> e / kWh
PV modelling dataset	Representative dataset for photovoltaic electricity generation at plant / low voltage (e.g., “electricity, photovoltaic, at plant / low voltage” or equivalent in the applied LCA database)
Allocation / combination rule	PV and grid datasets combined on an energy-proportional basis (kWh); no export of PV electricity beyond the plant boundary assumed

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## EPD VERIFICATION:

The verification procedure of this Environmental Product Declaration (EPD) was carried out in accordance with ISO 14025. The EPD is valid for five years from the date of publication and may be updated earlier in case of significant changes. Renewal of validity requires review and, if necessary, updating.

## EPD CONTRIBUTORS

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**Note:** The sole ownership, liability, and liability of this declaration are with the owner. Construction product declarations may not be comparable if they do not comply with EN 15804. For detailed information on comparability, please refer to EN 15804 and ISO 14025.

# EPD POLSKA CERTIFICATE



# CERTIFICATE

## TYPE III EPD DECLARATION

(ENVIRONMENTAL PRODUCT DECLARATION)

Reg. No. EPD-P 01.12.2025



This document confirms that the Environmental Product Declaration developed by **GUMfarm Adriana Bojczuk** for

### PIPE GROMMETS

manufactured in accordance with standards:

**EN 681-1** and **EN ISO 15493**,

meets the requirements of standards **EN 15804:2012+A2:2019** and **ISO 14025**, and that the data contained therein has been prepared correctly.

The Declaration was published on December 31, 2025 and is valid until December 31, 2030, or until it is deregistered or its publication on the website [www.epd.org.pl](http://www.epd.org.pl) is discontinued.

Authenticity of this certificate can be confirmed in the public register at [www.epd.org.pl](http://www.epd.org.pl)



  
Izabela Sztamberek-Sochan, Ph.D.  
EPD Polska Verifier



  
Grzegorz Suwara  
CEO Multicert Sp. z o.o.

Warsaw, December 31, 2025