Environmental Product Declaration

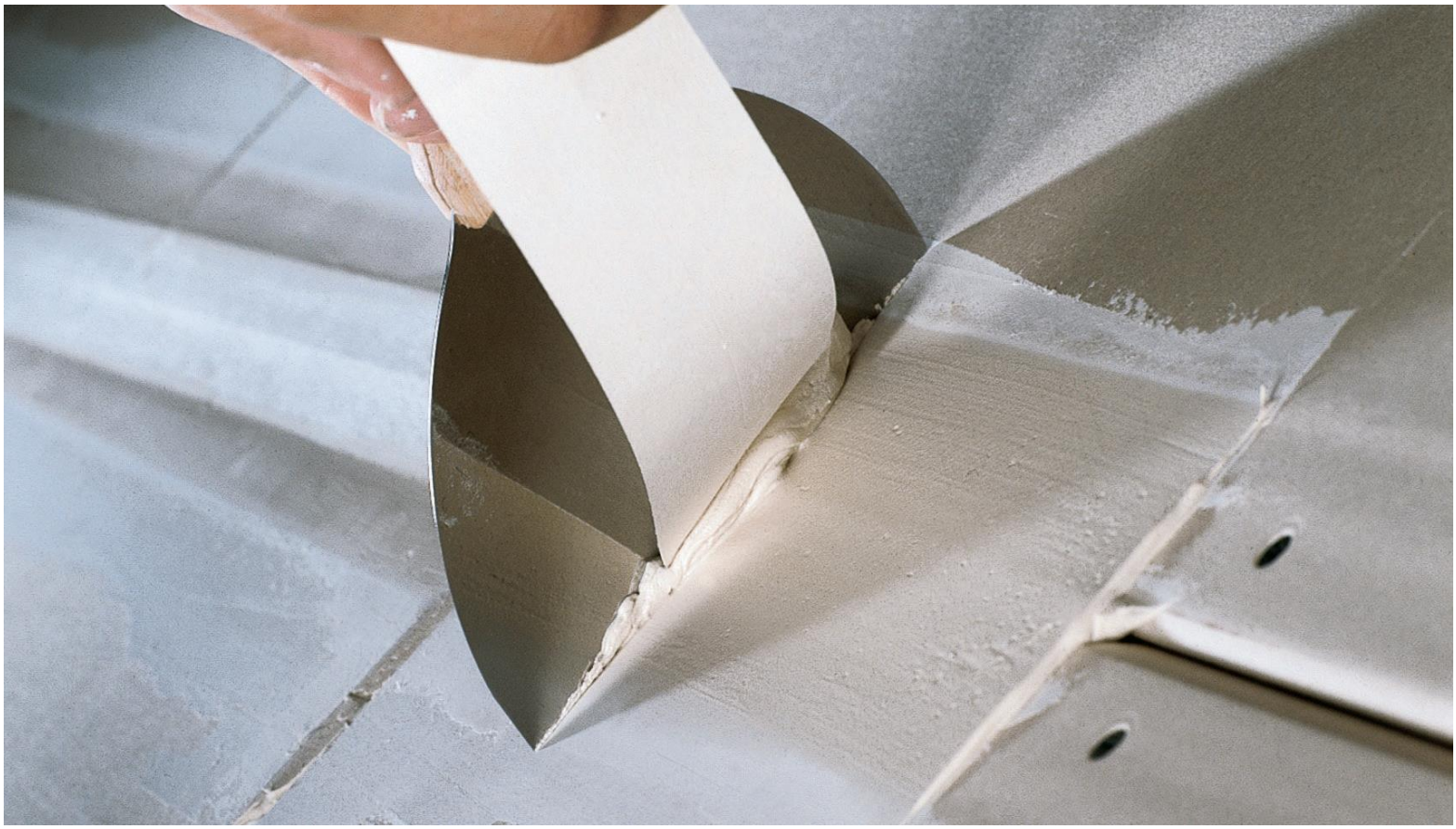
In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Gypsum-based powder products

EPD of multiple products, based on a representative product

from

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products from a company
EPD registration number:	EPD-IES-0028491:001
Version date:	2026-02-02
Validity date:	2031-02-01
	An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *Construction Products, PCR 2019:14 Version 2.0.1*
PCR review was conducted by: *The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair - Rob Rouwette, co-chair - Noa Meron*
c-PCR: *c-PCR-031 Gypsum-based construction products (EN 17328:2024) Version 1.0.0*

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: *Elisabet Amat Guasch, GREENIZE* Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD:
KNAUF SIA

Address:
Institūta iela 108, Saurieši, Stopiņu pag., Ropažu nov., Latvija, LV-2118

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Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable:
Aleksandrs Šiškins, Bureau Veritas Latvia SIA, riga@bureauveritas.com

Description of the organisation:
Knauf is one of the world's leading manufacturers of building materials, operating in more than 60 countries with over 300 production facilities and employing more than 23000 people. In 2023, the company's turnover reached €15.4 billion.

Knauf offers a wide range of products, including gypsum boards, plasters, insulation materials, and other construction materials that meet the highest quality standards. The company actively engages in sustainable construction supporting the BREEAM sustainable construction assessment method.

The Knauf Latvia plant in Saurieši, opened in 1997. 1997 opened profile production, 1998 gypsum plasters, 2000 gypsum plasters. 2006 Cement base powder products, 2011 perlite production, now plant produces high-quality perlite, significantly reducing production costs and offering customers competitive prices. 2017 company invest in gypsum recycling equipment. And 2018 build ready mix line. The company has been recognized for its excellent reputation, ranking first in the Latvian Company Reputation Top for the mining and manufacturing industry in 2007. In 2024 company win ''Export champion'' award.

Product-related or management system-related certifications:

Company has following Management systems and Product certificates:

- Quality management system, according to ISO 9001:2015
- Environmental management system, according to ISO 14001:2015
- Energy management system, according to ISO 50001:2018
- Occupational health and safety management system, according to ISO 45001:2018
- EN 13279-1:2008 - Gypsum binders and gypsum plasters - Part 1: Definitions and requirements
- EN 13963:2014 - Jointing materials for gypsum plasterboards - Definitions, requirements and test methods
- EN 14496:2017 - Gypsum based adhesives for thermal/acoustic insulation composite panels and gypsum boards - Definitions, requirements and test methods

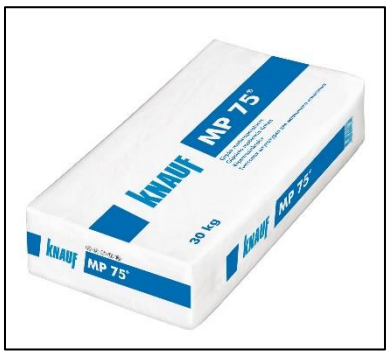
PRODUCT INFORMATION

Product name:
Gypsum-based powder products

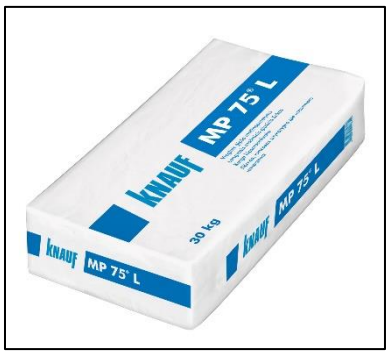
This EPD is based on the results of a representative product, i.e., **MP 75**, with the highest share (47%) of total production volume, and it covers the three types of Knauf gypsum-based powder products:

- gypsum binders and gypsum plasters
- jointing materials for gypsum plasterboards
- gypsum-based adhesives.

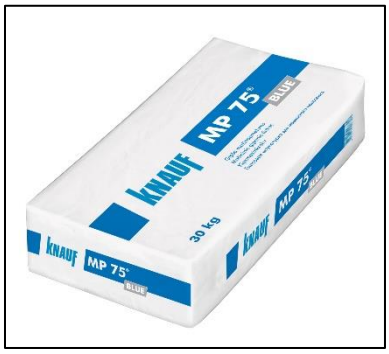
Product identification:
All included products are gypsum-based powder products with similar ingredients and production:



MP 75
Machine-applied gypsum plaster for smoothing. Projection plaster MP 75 is a premixed gypsum-based dry mortar for smoothed interior surfaces. Plaster for creation of smoothed, freely structured or levelled surfaces for interior walls and ceilings. As a single-layer plaster for all kinds of masonry, concrete as well as stable substrates.

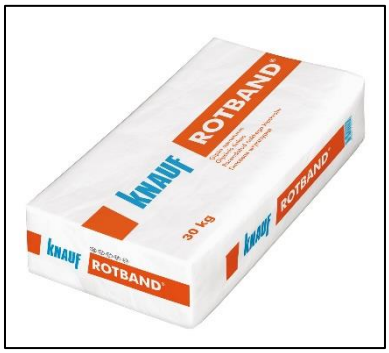


MP 75 L
High yield machine-applied gypsum plaster for smooth finishing. Projection plaster MP 75 L is light and particularly efficient premixed gypsum plaster based dry mortar with special light aggregates for smoothed interior surfaces. Plaster for creation of smoothed, freely structured or levelled surfaces for interior walls and ceilings. As a single-layer plaster for all kinds of masonry, concrete as well as stable substrates.



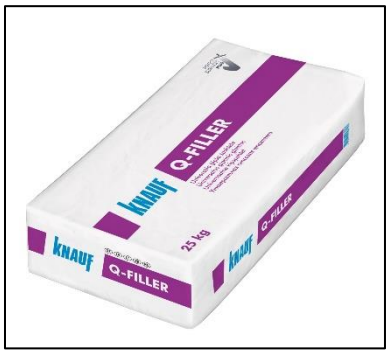
MP 75 Blue
Gypsum-based machine plaster with increased surface hardness and hydrophobic additives. These characteristics make it particularly suitable for areas with moderate humidity and for buildings with high durability requirements, such as schools, corridors, stairwells, and public facilities. The product provides a robust, impact-resistant finish that supports long-term wall performance.

Goldband
Ready-to-use hand applied gypsum plaster with special lightweight aggregates for smoothed surfaces on interior walls. Goldband is used for creation of smoothed, freely structured or levelled surfaces for interior walls. As a single-layer plaster for all kinds of masonry as well as stable substrates.



Rotband
Single layer gypsum-based plaster. Rotband is a pre-prepared dry gypsum plaster with special bonding additives designed to create smooth surfaces of any structure on walls and ceilings inside the buildings; used manually as a single layer gypsum-based plaster on all kinds of substrates.

Rotband Plus
Thin single layer gypsum-based plaster. Rotband Plus is a pre-prepared dry gypsum plaster with special bonding additives designed to create smooth surfaces of any structure on walls and ceilings inside the buildings; used manually as a thin single layer gypsum-based plaster on all kinds of substrates.



Q-Filler
Universal gypsum-based filler designed for levelling and finishing a wide range of surfaces including plasterboard joints, gypsum or cement renders, and concrete substrates. Its properties — good adhesion, low shrinkage, and water-retaining ability — ensure a stable, smooth base suitable for interior wall and ceiling finishes. Q-Filler's quick-hardening and hand-apply formulation makes it a practical choice for standard drywall and renovation projects.

Fugenfüller
Gypsum-based powder with mineral fillers and suspending agents adapted to suit its area of application. Fugenfüller is a gypsum filler compound for jointing by hand with reinforcement tape for plasterboards, applying gypsum plasterboards and composite boards using the thin bed method, filling imperfections on gypsum plasterboards, bonding and filling gypsum wallboards and bonding stucco channels.

Perlfix
Stucco gypsum adhesive with factory-blended additives. Perlfix is used to apply the following products to walls on regular substrates with a rough and absorbent surface – plasterboards, insulation (hard foam and mineral wool boards), Composite MW or EPS boards.

Baugips
Fast-setting (6-12 min) gypsum-based mortar. Baugips can be used in all rooms with normal humidity levels. Intended for walls and ceilings - for electrical installation and repair work. Used in construction for quick fixing of electrical wires, wall contacts and other elements.

Elektrikergips
Very fast-setting (6 min) gypsum-based mortar. Elektrikergips can be used in all rooms with normal humidity levels. Intended for walls and ceilings – for electrical installation and repair work. Used in construction for quick fixing of electrical wires, wall contacts and other elements. Especially suitable for installing and fixing electrical distribution boxes, as well as for installing corner protection strips.

UN CPC code:
37530 - Articles of plaster or of composition based on plaster

Product description:
Projection plaster **MP 75** is a premixed gypsum-based dry mortar for smoothed interior surfaces

Properties and added value

- Gypsum plaster dry mortar B1/50/2 according to EN 13279-1:2008
- For interiors
- Mineral-based
- Regulates moisture and is diffusion permeable
- Fire protection effective
- Abrasion-resistant and nail-proof
- Hand or machine application

Storage
Store the bags on wooden pallets in a dry environment. The product can be stored for 6 months. Seal damaged and opened bags airtight and use them first. Bulk material can be stored for up to 24 months.

Quality
In compliance with EN 13279-1:2008, the product is subject to initial type testing and continuous factory production control and bears the CE marking.

Field of application
Plaster for creation of smoothed, freely-structured or levelled surfaces for interior walls and ceilings. As a single-layer plaster for all kinds of masonry, concrete as well as stable plasterable substrates.

- From the cellar right up to the roof, suitable for all rooms with usual levels of room humidity including domestic kitchens and bathrooms (e.g. WCs in schools and bathrooms in hotels, hospitals, residential-care and nursing homes)
- As a substrate for tiles, finishing plasters, coatings or wallpapers
- For the provision of surfaces in quality levels:
    1. Q1 to Q3 levelled
    2. Q1 to Q4 smoothed
    3. Q4 smoothed in conjunction with other products

Technical parameters

Product		MP 75	MP 75 L	MP 75 Blue	Goldband	Rotband	Rotband Plus	Q-Filler	Fugenfüller	Perlfix	Baugips	Elektrikergips
EN 13279-1		B1/50/2	B4/50/2	B7/50/6	B4/20/2	B4/20/2	B4/20/2				A2/10/6	A2/6/6
EN 13963								3B	3B			
EN 14496										complies		
Thickness	Min	8mm	8mm	8mm	8mm	5mm	2mm	1mm	1mm	5mm	-	-
	Max	50mm	50mm	50mm	50mm	50mm	8mm	3mm	3mm	-	-	-
	average	10mm	10mm	10mm	10mm	10mm	3-4mm	1-3mm	1-3mm	-	-	-
Grain size	mm	1.2	1.2	1.2	1.2	1.2	0.6	<0.2	<0.2	<0.5	<0.5	<0.5
Reaction to fire		A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
Density (after setting)	kg/m^3	1100	950	1100	1000	1000	1000	1030	1030	1170	1170	1170
Thermal conductivity	W/(m.K)	0.39	0.34	0.39	0.34	0.34	0.39	0.34	0.34	0.39	0.39	0.39
Water for mixing	L/kg	14/30	16/30	14/30	16/30	17/30	16/25	1.6/2.5	1.6/2.5	14.5/30	0.45/1	0.45/1
Applied quantity	$kg/mm/m^2$	1.05	0.80	1.10	0.90	0.90	0.80	0.83	-	-	-	-
Conversion factor		1.00	1.17	1.02	1.08	1.06	1.39	1.51	1.52	0.94	1.05	0.84

Name and location of production site(s):
Institūta iela 108, Saurieši, Stopiņu pag., Ropažu nov., Latvija, LV-2118

References to any relevant websites for more information or explanatory materials:
https://knauf.com/lv-LV

CONTENT DECLARATION

Product content and packaging materials in the Tables below are displayed per declared unit (1 kg) of the representative product, i.e., MP 75:

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material	
			mass-% of product	kg C/DU
Stucco	0,66	0%	0,0%	0 kg C
Other minerals	0,31	0%	0,0%	0 kg C
Additives	0,03	0%	0,0%	0 kg C
TOTAL	**1,00**	**0%**	**0,0%**	**0 kg C**

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/DU
Wooden pallet	<0,02	1,75%	<0,01
Paper underlay	<0,01	0,01%	
Paper/LDPE bags	<0,01	0,45%	<0,01
LDPE film	<0,01	0,07%	
TOTAL	**0,02**	**2,28%**	**0,01**

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

LCA INFORMATION

Declared unit:
1 kg of dry gypsum-based plaster

Reference service life:
According to EN 17328:2024, there are no influences on ageing when the recognized codes of application are followed for gypsum products. Therefore, the technical performance characteristics of gypsum-based products are usually based on a minimum service life of 50 years.

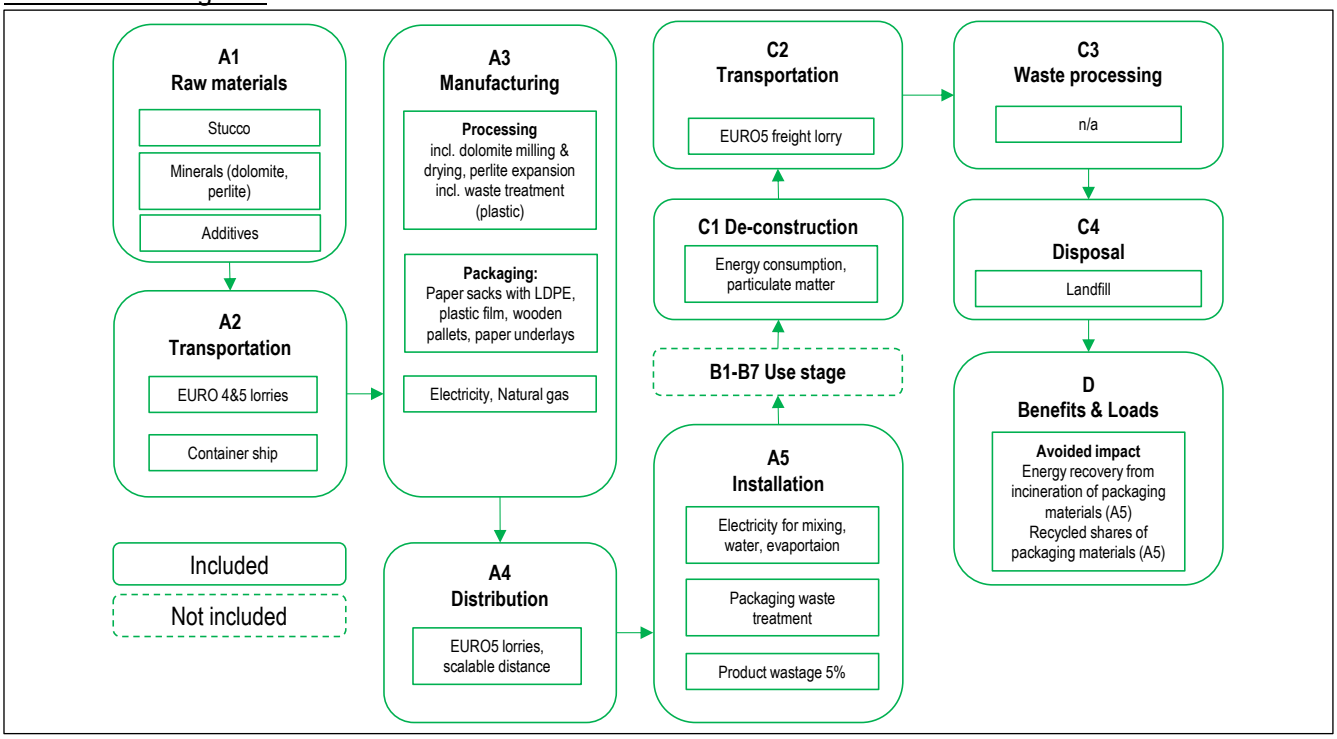
Time representativeness:
Data represents the manufacturing of the product in 2024. The database used for proxy data is Ecoinvent v3.11. This database data is compiled in March 2025, i.e., no data is older than ten years.

Geographical scope:
This EPD has a Global scope, with modules A3, A4-A5 and C1-C4 representing European scope.

Database(s) and LCA software used:
Ecoinvent v3.11 has been used to conduct the quantitative evaluation in this study. This database provided the background system's life cycle inventory data for raw and processed materials. The LCA software used - SimaPro Craft 10.2.

Description of system boundaries:
This LCA study has been performed as “Cradle to gate with options, modules C1–C4, module D and with optional modules”, also considering Transportation module A4 and Installation module A5.

Process flow diagram:



Data quality:
The foreground data has been collected internally, considering the latest available average production amounts and measurements during the time period of 2024. Data regarding waste processing has been taken from waste scenarios for closest locations in Ecoinvent v3.11. The quality level in this study is qualified as Very good. Data quality rating procedure has been performed using a rating system where "1" means Excellent quality, and "5" means Poor quality.

Technological Representativeness, TeR	Geographic representativeness, GeR	Time Representativeness, TiR	Precision, P	**Average DQR**
1.4	1.7	1.9	2.2	**1.8**

Process	**Source type**	**Source**	**Reference year**	**Data category**	**Share of primary data, of GWP-GHG results for A1-A3[1]**
Transport of raw materials and packaging to the production site	Collected data	EPD owner, Ecoinvent v3.11	2024	Primary data, secondary data	7,2%
EPDs for two additives from the product content[2]	EPD	Confidential	2023	Primary data, secondary data	11,3%
			2021		
Manufacturing of product	Collected data	EPD owner	2024	Primary data	13,7%
Generation of electricity used in manufacturing of product	Database	Ecoinvent v3.11	2024	Primary data	
Production of packaging	Database	Ecoinvent v3.11	2024	Primary data, secondary data	
Other processes	Database	Ecoinvent v3.11	2024	Secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					**32,2%**

Cut-off criteria:
To LCA practitioner knowledge there is no missing data for processes within the system boundaries. All the materials and processes which have been accounted for by the manufacturing company for the relevant manufacturing process are included in the LCI. The cut-off in LCA is according to PCR:" General cut-off criteria are given in standard EN 15804:2012+A2, clause 6.3.6.
The processes related to infrastructure, construction, and production of equipment, as well as tools that are not directly consumed in the production process, have been excluded. Personnel-related activities, such as transportation to and from work, have also been excluded.

Allocation:
General allocation principles have been applied according to ISO 14044:2006 4.3.4 and in line with the provisions of EN 15804:2012+A2. Inputs and outputs are allocated equally among all products using production volumes. The methodological choices for allocation for reuse, recycling and recovery have been set according to the polluter pays principle (PPP).

[1] Share of primary data is provided for representative product only. Primary data share for all products considered in this EPD varies from 13.0% to 57.3%.
[2] One EPD that has been used as a data source is based on an old EF 3.0 refererence package. It has been examined in terms of plausibility and consistency, and it is assumed that it can be used even if it is not fully compatible with the current EF 3.1 version.

Stages and Production description

Product Stage

In **module A1** extraction and processing of raw materials and generation of electricity and heat from primary energy resources necessary to produce these raw materials are included. Gypsum-based powder products consist of stucco (gypsum), dolomite, expanded perlite and various additives. The natural gypsum is mainly extracted from open-cast mining in close vicinity (7 km) to the manufacturing site. After extraction it is pre-processed, i.e., crushed, dried, milled and converted to stucco. Other minerals from the product content, i.e., dolomite and perlite, are also supplied to the production site in a raw state.

For **module A2**, the transportation of raw materials and product's packaging materials to the production plant has been considered. Following conservative approach, EURO5 16-32t freight lorry has been assumed as a main road transportation mode. One of the additives requires the use of Sea containership, with additional transportation to the port of departure and from the port of arrival. Other additives and minerals are supplied by European manufacturers, while Gypsum itself is sourced from quarry located 7 km from the production plant.

Natural gypsum that has been calcinated to stucco is mixed (**module A3**) with other minerals and additives. Additional processing is required also for supplied dolomite (milling and drying) and perlite (expansion) – both activities have a demand for electricity and heat that is provided by natural gas. Manufacturing process is basically waste free since all ingredients are mixed and packaged in bags, with any potential residue leftovers packaged in the next batch. Packaging used for gypsum-based powder products consists of paper sacks with LDPE lining, wooden pallets with paper underlays and LDPE packaging film. Electricity consumed during manufacturing is modelled as National residual grid mix of Latvia. GWP-GHG of this particular dataset is 0.665 kgCO_2 eq/kWh. Waste treatment of the packaging of raw materials is also considered in module A3, following scenarios declared by manufacturer and national waste scenarios per each waste type.

Construction process Stage

Products considered in this EPD are intended for Baltic states and, therefore, a distance of 100 km has been assumed. This allows the user of EPD to extrapolate results of module A4 to the distance from the production site to any construction site. Table below describes considered scenario for **module A4** transportation of the final product with its respective packaging.

Vehicle	kg per DU	Distance, km	Fuel consumption, l/tkm	Value, l/t
Lorry 16-32t, EURO5	1,02E+02	100	0,0441	4,41

Module A5 in this type of LCA study is optional but for the purpose of declaring product wastage, consumed resources, energy and waste treatment of product's packaging, it has been declared as well. According to EN 17328:2024, material wastage of gypsum-based products should be estimated based on information from the manufacturer and information of relevance for the intended market. Since no estimate is available due to the lack of data, **5% product wastage has been considered** as a default scenario proposed by EN 17328:2024.

The following assumptions on installation have been made, per declared unit of 1 kg:

Water	l	0,467
Electricity for plaster mixing	kWh	0,08
Product wastage	%	5,0

Product wastage is considered for Landfill, while packaging materials have been modelled in accordance with following waste treatment scenario based on municipal waste treatment in EU-27:

Material	Recycling	Incineration	Disposal
Paper sack & LDPE lining, underlays	n/a	100%	n/a
Plastics	41.0%	31.2%	27.8%
Wood	n/a	100%	n/a

Use Stage:

Modules B1-B7, that define use stage of the product, are not declared for this study – these are not mandatory for LCA "Cradle-to-gate with options" form.

The product has a reference service life of 50 years, assuming no specific requirements for maintenance, repair, replacement, or refurbishment throughout this period. Therefore, no impact is generated at this stage.

End of Life Stage:

Modules C1-C4 and Module D are mandatory for considered LCA type, therefore, have also been considered for the purpose of this study. According to EN 17328:2024, if no data for recycling is available, **landfilling** shall be modelled as default end-of-life option. Default data for modelling modules C1-C4 has been considered in accordance with PCR 2019:14 v.2.0.1.

For the purpose of declaring **module C1**, both consumption of energy (1.1 kWh/t) and the impact of demolition (particulate emissions) have been considered.

Waste is assumed to be sent (**module C2**) to the closest waste treatment facilities, assuming 80km distance between sites that is covered by 16-32t EURO5 Freight lorry.

Waste processing, **module C3**, generates no impact since the common waste treatment scenario for gypsum-based products is Landfill.

Disposal of the gypsum plaster, **module C4**, has been assumed to be conducted via landfilling. Energy necessary for compacting waste has been considered using default value of 1.6 kWh/t.

Benefits and loads beyond the system boundaries:

Module D considers the benefit of recovered energy from incineration of plastic, paper and wooden pallets, i.e., respective shares of the product packaging waste flows declared in Installation module A5. Module D also considers the benefit of plastic packaging recycling. Net Energy generated from Incineration activities has been considered as follows:

- for Electric energy (3.93 MJ/kg for plastic, 1.99 MJ/kg for paper, 1.74 MJ/kg for wood)
- Natural gas for thermal energy (7.67 MJ/kg for plastic, 3.99 MJ/kg for paper, 3.50 MJ/kg for wood).

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	LV	LT, LV, EE	LT, LV, EE	ND	ND	ND	ND	ND	ND	ND	EU	EU	EU	EU	EU
Share of primary data	13.0 - 57.3%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-15.7% / +52.1%[3]			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

[3] Since GWP-GHG variation is above 10%, A-C variation for each impact indicator results of included products is provided in section "Additional LCA results".

ENVIRONMENTAL PERFORMANCE

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Mandatory impact category indicators according to EN 15804 (EF 3.1 reference package)

Results per declared unit – 1 kg of MP 75									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	1,67E-01	1,57E-02	3,61E-02	3,75E-04	1,23E-02	0,00E+00	3,28E-03	-8,39E-03
GWP-fossil	kg CO_2 eq.	1,67E-01	1,57E-02	3,59E-02	3,75E-04	1,23E-02	0,00E+00	3,27E-03	-8,37E-03
GWP-biogenic	kg CO_2 eq.	3,99E-04	5,44E-07	7,70E-05	1,88E-08	4,26E-07	0,00E+00	2,81E-07	-9,23E-06
GWP-luluc	kg CO_2 eq.	1,26E-04	2,49E-07	8,06E-05	1,57E-08	1,94E-07	0,00E+00	1,64E-07	-1,18E-05
ODP	kg CFC 11 eq.	4,78E-09	3,56E-10	6,54E-10	5,70E-12	2,79E-10	0,00E+00	4,75E-11	4,26E-09
AP	mol H^+ eq.	4,88E-04	4,05E-05	1,53E-04	3,46E-06	3,17E-05	0,00E+00	2,96E-05	-2,15E-05
EP-freshwater	kg P eq.	6,14E-06	9,68E-09	2,75E-06	3,53E-10	7,57E-09	0,00E+00	9,48E-09	-3,84E-07
EP-marine	kg N eq.	1,30E-04	1,54E-05	2,62E-05	1,63E-06	1,21E-05	0,00E+00	1,36E-05	-3,84E-06
EP-terrestrial	mol N eq.	1,58E-03	1,69E-04	2,99E-04	1,79E-05	1,32E-04	0,00E+00	1,49E-04	-4,24E-05
POCP	kg NMVOC eq.	5,15E-04	6,70E-05	9,60E-05	5,34E-06	5,24E-05	0,00E+00	4,50E-05	-1,78E-05
ADP-minerals&metals*	kg Sb eq.	2,83E-07	4,09E-10	1,61E-08	1,31E-11	3,20E-10	0,00E+00	1,10E-10	4,80E-10
ADP-fossil*	MJ	2,51E+00	2,08E-01	7,36E-01	4,90E-03	1,63E-01	0,00E+00	4,20E-02	-1,70E-01
WDP*	m^3	1,75E-02	6,82E-05	2,62E-02	3,66E-06	5,34E-05	0,00E+00	3,58E-05	-1,29E-03
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; 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 Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

** Disclaimer: 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 experienced with the indicator.*

Biogenic carbon leaving the product system in module A5 has been balanced out already in modules A1-A3.

Additional mandatory and voluntary impact category indicators

Results per declared unit – 1 kg of MP 75									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[4]	kg CO_2 eq.	1,67E-01	1,57E-02	3,60E-02	3,75E-04	1,23E-02	0,00E+00	3,28E-03	-8,39E-03
PM	Disease inc.	4,65E-09	1,04E-09	6,82E-10	7,54E-09	8,16E-10	0,00E+00	8,41E-10	-4,70E-11
IRP	kBq U-235 eq.	5,53E-03	2,00E-05	5,61E-03	4,07E-07	1,57E-05	0,00E+00	4,05E-06	-8,29E-04
ETP-fw	CTUe	3,41E-01	7,45E-03	7,74E-02	1,40E-04	5,83E-03	0,00E+00	1,54E-03	-1,13E-02
HTP-c	CTUh	5,02E-11	1,06E-12	5,94E-12	2,00E-14	8,27E-13	0,00E+00	2,17E-13	-8,59E-13
HTP-nc	CTUh	7,75E-10	1,04E-10	2,19E-10	3,68E-13	8,13E-11	0,00E+00	4,14E-12	-2,15E-11
SQP	dimensionless	3,12E+00	2,65E-04	2,25E-01	8,32E-06	2,07E-04	0,00E+00	4,12E-02	-1,20E-02
Acronyms	PM = Particulate matter emissions; IRP = Ionising radiation, human health; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP = Potential Soil quality index								

Resource use indicators

Results per declared unit – 1 kg of MP 75									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,13E-01	4,70E-04	1,50E-01	9,55E-06	3,67E-04	0,00E+00	1,02E-04	-1,84E-02
PERM	MJ	4,96E-01	4,25E-05	3,80E-02	9,62E-07	3,32E-05	0,00E+00	6,60E-05	-2,29E-03
PERT	MJ	6,09E-01	5,12E-04	1,88E-01	1,05E-05	4,01E-04	0,00E+00	1,68E-04	-2,07E-02
PENRE	MJ	2,49E+00	2,08E-01	7,35E-01	4,90E-03	1,63E-01	0,00E+00	4,20E-02	-1,70E-01
PENRM	MJ	2,25E-02	2,45E-08	1,12E-03	1,16E-08	1,92E-08	0,00E+00	1,25E-07	-2,97E-07
PENRT	MJ	2,51E+00	2,08E-01	7,37E-01	4,90E-03	1,63E-01	0,00E+00	4,20E-02	-1,70E-01
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	6,30E-04	4,04E-06	8,67E-04	1,48E-07	3,16E-06	0,00E+00	1,40E-06	-6,50E-05
Acronyms	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; PENRE = Use of non-renewable primary energy excluding non-renewable primary 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

[4] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Waste indicators

Results per declared unit – 1 kg of MP 75									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1,91E-05	1,39E-06	2,27E-06	3,36E-08	1,08E-06	0,00E+00	2,80E-07	-7,74E-07
Non-hazardous waste disposed	kg	2,40E-03	6,89E-06	5,07E-02	1,72E-07	5,39E-06	0,00E+00	9,99E-01	-5,32E-05
Radioactive waste disposed	kg	5,19E-06	1,26E-08	4,60E-06	2,29E-10	9,84E-09	0,00E+00	2,31E-09	-6,73E-07

Output flow indicators

Results per declared unit – 1 kg of MP 75									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	5,63E-06	0,00E+00	3,01E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	2,22E-06	0,00E+00	4,29E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	4,33E-06	0,00E+00	8,61E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

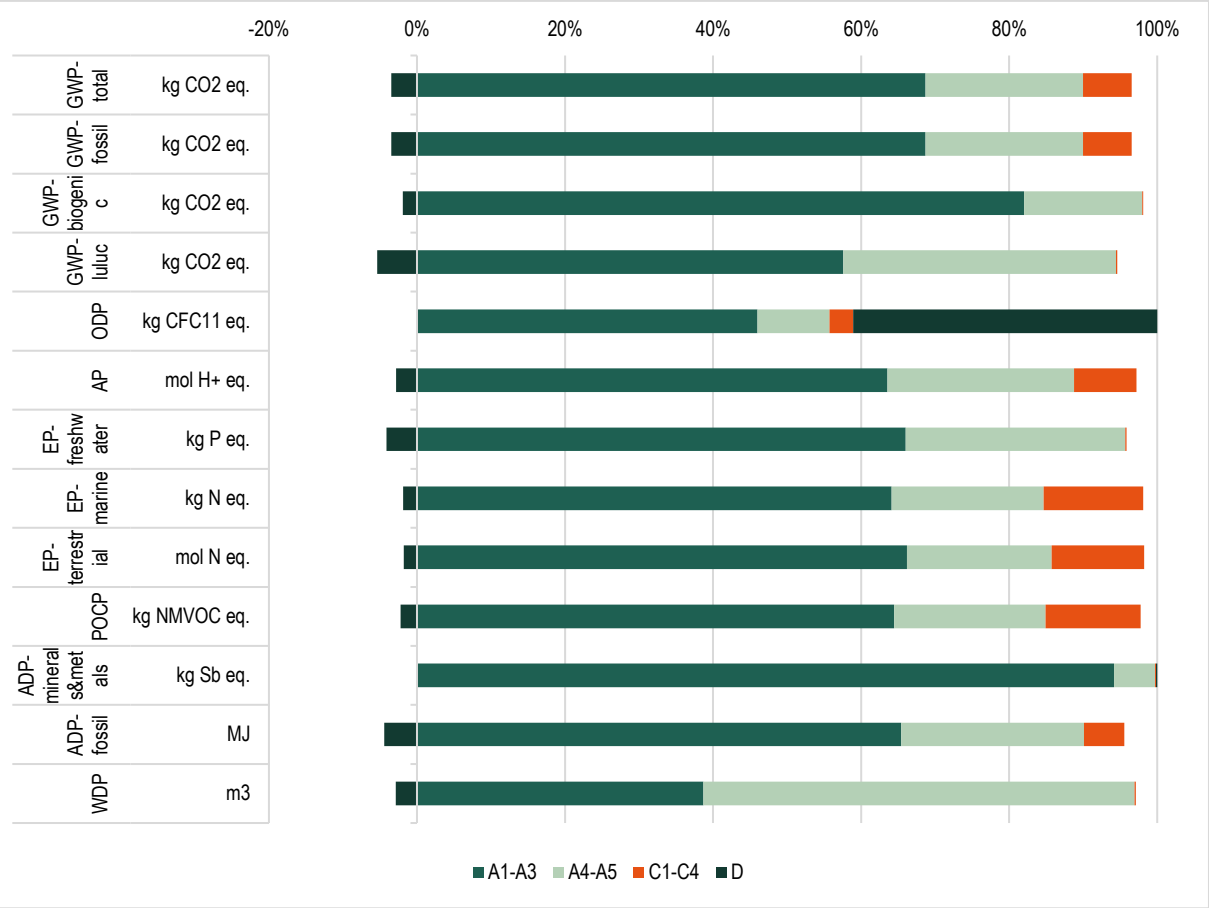
Biogenic carbon content

Results per declared unit – 1 kg of MP 75	
Biogenic carbon content	**Quantity**
Carbon content in product, kg C	0,00E+00
Carbon content in accompanying packaging, kg C	1,02E-02

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg CO_2

LCA Interpretation

The estimated impact assessment results are only relative statements that do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins, or risks.
Contribution to environmental impact per each module for the declared unit of **1 kg of MP 75** is displayed in following Figure:



Contribution to the environmental impact, per Stage, for 1 kg of MP 75

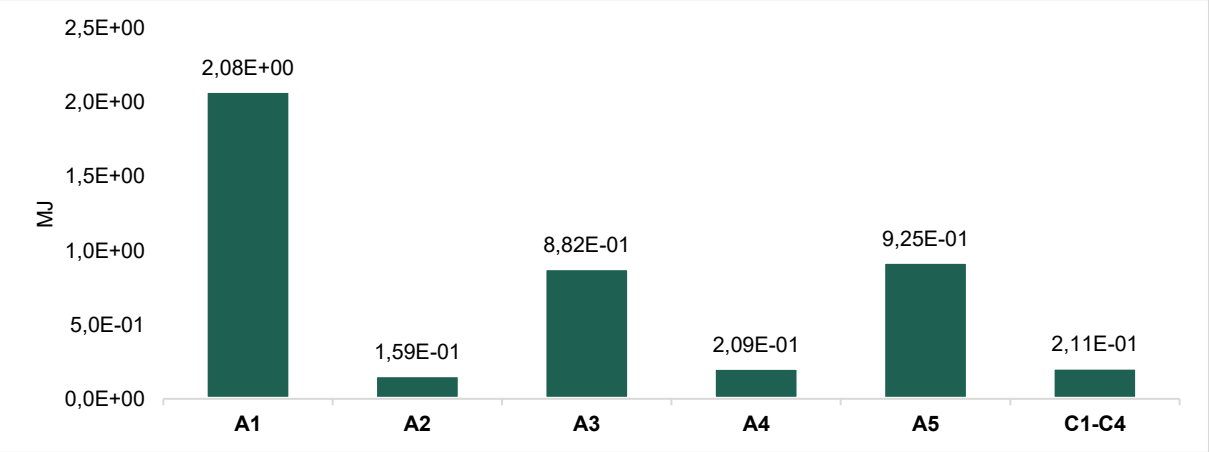
Regarding Climate change, the highest impact is generated in Raw material module A1 - 56% share of the total impact, while the whole **Product stage A1-A3 is generating 71%**. Since considered product requires mixing with water, significant impact (15%) is generated also in Installation module A5 due to the demand of electricity for plaster mixing. End-of-Life stage C1-C4 in terms of GWP is insignificant, generating impact only in Transport module C2 (5.2%). With exclusion of WDP, **Product stage A1-A3 is the main driver** for all considered impact categories.

Nevertheless, it is necessary to note that there is a positive impact of module D, especially in such impact categories as Global warming potential, Abiotic depletion potential (fossil) and Eutrophication potential (freshwater). Module D accounts for avoided impact of generated energy, both Electric and Thermal, from incineration of packaging materials (A5).

Considering total demand of primary energy per declared unit, that has been calculated using Cumulative Energy Demand (LHV) V1.01 impact assessment method, demand of primary energy is

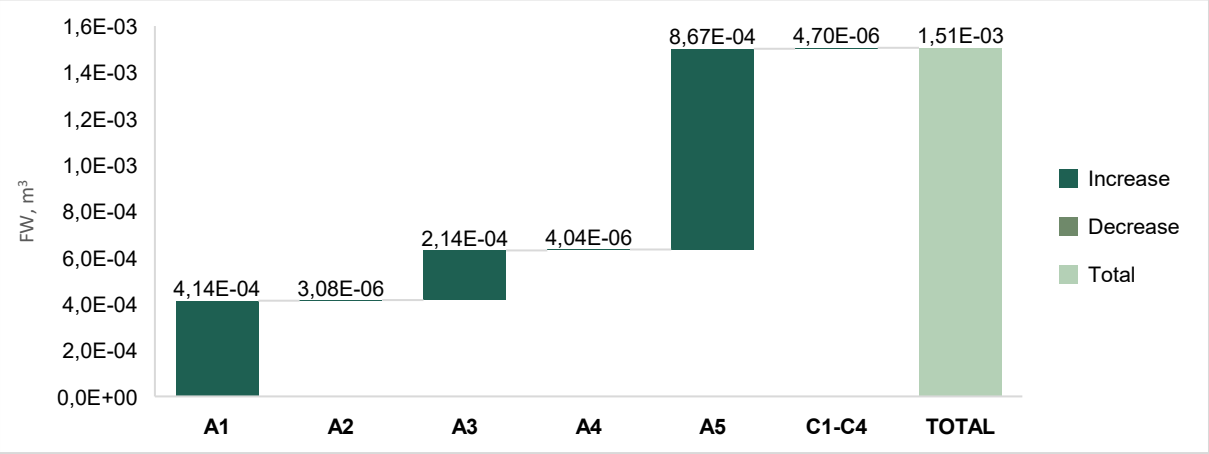
displayed in following Figure. With 69.9% resulting in Product stage (A1-A3), demand for primary energy for **1 kg of MP 75** is distributed as follows:

- 46.6% for Raw material (A1)
- 3.6% for Transport (A2)
- 19.8% for Manufacturing (A3)
- 4.7% for Transport (A4)
- 20.7% for Installation module (A5)
- 4.7% for End-of-Life stage (C1-C4)



Primary energy demand per 1 kg of MP 75

Other key effect factor is Freshwater consumption, that is displayed in following Figure as a Waterfall chart. A waterfall chart shows a running total as values are added or subtracted. It's useful for understanding how an initial value of net Freshwater use is affected by a series of positive and negative values. In case of **1 kg of MP 75**, no decrease has been observed in any of the stages considered. In terms of freshwater use level Installation module A5 is responsible for most of its demand (57.6%), with the second biggest contributor being Raw material module A1.



Net freshwater use for 1 kg of MP 75

ADDITIONAL ENVIRONMENTAL, SOCIAL AND ECONOMIC INFORMATION

The Knauf factory in Saurieši, Latvia, uses natural gypsum sourced from a quarry located just 7 km away from the production site. This proximity significantly reduces the environmental impact of transportation and associated GHG emissions.

The factory is certified under ISO 14001:2015, demonstrating the company's commitment to reducing environmental impact and efficiently managing resources and energy. Additionally, Knauf actively participates in the CO_2 emissions trading system, supporting global efforts to combat climate change.

Our products comply with EU REACH regulations and do not contain hazardous substances exceeding 0.1% of the product's weight. Furthermore, the products feature very low levels of volatile organic compounds (VOC) (<0.2 mg/m².h), in line with EN ISO 16000 classification, contributing to a healthier indoor environment.

The Knauf factory in Saurieši employs 200 staff members, providing stable employment in the local region. The company's annual turnover amounts to 100 million euros, underscoring its significant contribution to the Latvian economy.

Knauf invests actively in employee education and development, offering training programs and workplace safety initiatives that comply with ISO 45001:2018 standard. As part of its corporate social responsibility, Knauf supports local community projects, including educational initiatives and environmental protection activities.

The company's core values include sustainability, innovation, and collaboration, ensuring the delivery of high-quality building materials with added value for both local and international customers.

A-C variation (%) for products considered in this EPD (1/2)

Indicator	Unit	MP 75 L	MP 75 Blue	Goldband	Rotband	Rotband Plus
GWP-total	kg CO_2 eq.	12%	1%	6%	5%	29%
GWP-fossil	kg CO_2 eq.	12%	1%	6%	5%	30%
GWP-biogenic	kg CO_2 eq.	14%	-3%	-31%	-30%	-4%
GWP-luluc	kg CO_2 eq.	19%	-23%	-22%	-21%	-15%
ODP	kg CFC11 eq.	16%	4%	14%	12%	25%
AP	mol H+ eq.	6%	5%	1%	0%	27%
EP-freshwater	kg P eq.	2%	11%	-13%	-15%	-3%
EP-marine	kg N eq.	7%	5%	7%	4%	36%
EP-terrestrial	mol N eq.	6%	6%	7%	5%	33%
POCP	kg NMVOC eq.	9%	4%	8%	6%	41%
ADP-minerals&metals	kg Sb eq.	7%	48%	-41%	-47%	2%
ADP-fossil	MJ	11%	0%	8%	7%	25%
WDP	m3	8%	1%	6%	10%	22%
GWP-GHG	kg CO_2 eq.	12%	1%	6%	5%	30%
PERE	MJ	-1%	-12%	-15%	-11%	-9%
PERM	MJ	-3%	0%	28%	13%	11%
PERT	MJ	-2%	-4%	14%	5%	4%
PENRE	MJ	11%	0%	8%	7%	25%
PENRM	MJ	10%	35%	-42%	-47%	-1%
PENRT	MJ	11%	0%	8%	7%	25%
SM	kg	0%	0%	0%	0%	0%
RSF	MJ	0%	0%	0%	0%	0%
NRSF	MJ	0%	0%	0%	0%	0%
FW	m^3	5%	-3%	0%	4%	13%
Hazardous waste	kg	13%	10%	-1%	-3%	28%
Non-hazardous waste	kg	0%	0%	0%	0%	0%
Radioactive waste	kg	2%	-9%	-16%	-13%	-10%
PM	Disease inc.	4%	2%	3%	2%	34%
IRP	kBq U-235 eq.	0%	-7%	-12%	-10%	-9%
ETP-fw	CTUe	6%	13%	-5%	-6%	13%
HTP-c	CTUh	6%	5%	15%	2%	12%
HTP-nc	CTUh	8%	11%	-11%	-13%	39%
SQP	Pt	-4%	1%	27%	13%	13%
Components for re-use	kg	0%	0%	0%	0%	0%
Material for recycling	kg	0%	1%	42%	14%	154%
Material for energy recovery	kg	0%	0%	0%	0%	0%
Exported electric energy	MJ	-4%	0%	34%	17%	14%
Exported thermal energy	MJ	-4%	0%	34%	17%	14%

A-C variation (%) for products considered in this EPD (2/2)

Indicator	Unit	Q-Filler	Fugenfuller	Perlfix	Baugips	Elektrikergips
GWP-total	kg CO_2 eq.	38%	39%	-4%	7%	-11%
GWP-fossil	kg CO_2 eq.	39%	39%	-4%	7%	-11%
GWP-biogenic	kg CO_2 eq.	-71%	-71%	-77%	-64%	-77%
GWP-luluc	kg CO_2 eq.	-8%	-6%	-20%	42%	-28%
ODP	kg CFC11 eq.	31%	32%	7%	10%	-7%
AP	mol H+ eq.	43%	44%	-2%	17%	-10%
EP-freshwater	kg P eq.	-29%	-28%	-28%	-10%	-30%
EP-marine	kg N eq.	58%	59%	4%	32%	-2%
EP-terrestrial	mol N eq.	52%	53%	6%	31%	0%
POCP	kg NMVOC eq.	69%	70%	7%	33%	-4%
ADP-minerals&metals	kg Sb eq.	-91%	-91%	-94%	-93%	-97%
ADP-fossil	MJ	39%	40%	3%	13%	-9%
WDP	m3	28%	31%	5%	58%	-8%
GWP-GHG	kg CO_2 eq.	38%	39%	-4%	7%	-11%
PERE	MJ	-9%	-9%	-23%	-12%	-25%
PERM	MJ	14%	25%	67%	384%	30%
PERT	MJ	6%	14%	37%	253%	12%
PENRE	MJ	40%	41%	3%	14%	-8%
PENRM	MJ	-100%	-100%	-100%	-99%	-100%
PENRT	MJ	39%	40%	3%	13%	-9%
SM	kg	0%	0%	0%	0%	0%
RSF	MJ	0%	0%	0%	0%	0%
NRSF	MJ	0%	0%	0%	0%	0%
FW	m^3	17%	19%	-3%	40%	-13%
Hazardous waste	kg	34%	35%	-9%	3%	-32%
Non-hazardous waste	kg	0%	0%	0%	0%	0%
Radioactive waste	kg	-24%	-24%	-30%	-19%	-31%
PM	Disease inc.	63%	64%	2%	13%	-4%
IRP	kBq U-235 eq.	-15%	-14%	-20%	-8%	-22%
ETP-fw	CTUe	12%	13%	-7%	20%	-27%
HTP-c	CTUh	18%	23%	39%	197%	-7%
HTP-nc	CTUh	43%	44%	-30%	-3%	-37%
SQP	Pt	16%	27%	65%	384%	31%
Components for re-use	kg	0%	0%	0%	0%	0%
Material for recycling	kg	279%	293%	96%	405%	12%
Material for energy recovery	kg	0%	0%	0%	0%	0%
Exported electric energy	MJ	17%	28%	78%	418%	35%
Exported thermal energy	MJ	17%	28%	78%	419%	35%

ABBREVIATIONS

Abbreviation	Definition
C	Carbon
CO_2	Carbon dioxide
CPA	Statistical classification of products by activity
CPC	Central product classification
c-PCR	Complementary Product Category Rules
CPV	Common Procurement Vocabulary code
DIN	Deutsche Industrie Norm
DQR	Data quality ratio
DU	Declared unit
EF	Environmental footprint
EN	European Norm
EPD	Environmental Product Declaration
EU	European Union
GHG	Greenhouse gas
GLO	Global
GPI	General Programme Instructions
GWP	Global warming potential
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
LCI	Life cycle inventory
LHV	Lower heating value
LV	Latvia
ND	Module not declared
PCR	Product Category Rules
PP	Polypropylene
PPP	Polluter pays principle
REACH	Regulation on the registration, evaluation, authorization and restriction of chemicals
SVHC	Substances of Very High Concern
UN	United Nations
UNSPSC	United Nations Standard Products and Services Code
VOC	Volatile organic compounds

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VERSION HISTORY

Original Version of the EPD, 2026-02-02

EPD
INTERNATIONAL EPD SYSTEM
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