ENVIRONMENTAL PRODUCT DECLARATION

ATLAS ROKER

External Thermal Insulation Composite System with mineral wool boards (MW)

in accordance with ISO 14025 and EN 15804

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External Thermal Insulation Composite System
with mineral wool boards (MW)

Manufacturer:
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Manufacturing sites information

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Zakład Produkcyjny
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1. BASIC INFORMATION

This declaration is the type III Environmental Product Declaration (EPD) based on EN 15804 and verified according to ISO 14025. It contains information about the impact of declared construction materials on environment and their aspects verified by the independent Advisory Board according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804 (see point 5.3 of the norm) and the building context.

Issuance date: 10.03.2019
Validity date: 10.03.2024
Declared durability: 50 years

2. LIFE CYCLE ASSESSMENT (LCA)

Declared unit

The declaration refers to 1 m^2 of complete ETICS.

System limits

The life cycle analysis of the examined products covers A1-A3 modules (Cradle to Gate) in accordance with EN 15804. Its include production, including raw materials extraction and energy provision up to the finished, packed product at the factory gate. Processes whose total contribution to the final result, according to mass looked at, is less than 0.5 % was ignored.

Data collection period

The data for manufacture of the examined products refer to the year 2017. The life cycle assessments were prepared for Poland as reference area.

Data quality

The values determined to calculate the LCA originate from verified Atlas inventory data.

Assumptions and estimates

The impacts of the representative ATLAS products for each ETICS layer were aggregated using weighted average. The weighted average method was used according to the percentage of each product in ETICS based on the relation to whole production quantity. Impacts for each product and factory were inventoried and calculated separately.

Databases

The data for the processes come from the following databases: Ecoinvent, Ullmann's, Plastic-Europe, ITB-Data, SPC, specific EPDs.

3. PRODUCT INFORMATION

ATLAS ROKER is a trade name for External Thermal Insulation Composite System, which comprises insulation board (bonded and mechanically fixed) with reinforced undercoat, and decorative finishes as described in Technical Approval AT-15-2930/2016 (Domestic Approval). The system is complete and equipped with a vast selection of adhesives, base coats, renders and decorative coats of various colours. The system provides variety of solutions depending on requirements of the investors, building designers and construction workers. ATLAS ROKER also offers a wide range of solutions for all building types, from detached houses to multi-storey developments. It is fully certified and the exact specification is tailored to meet the requirements of each project, whether residential or commercial, in compliance with all current building regulations in Poland.

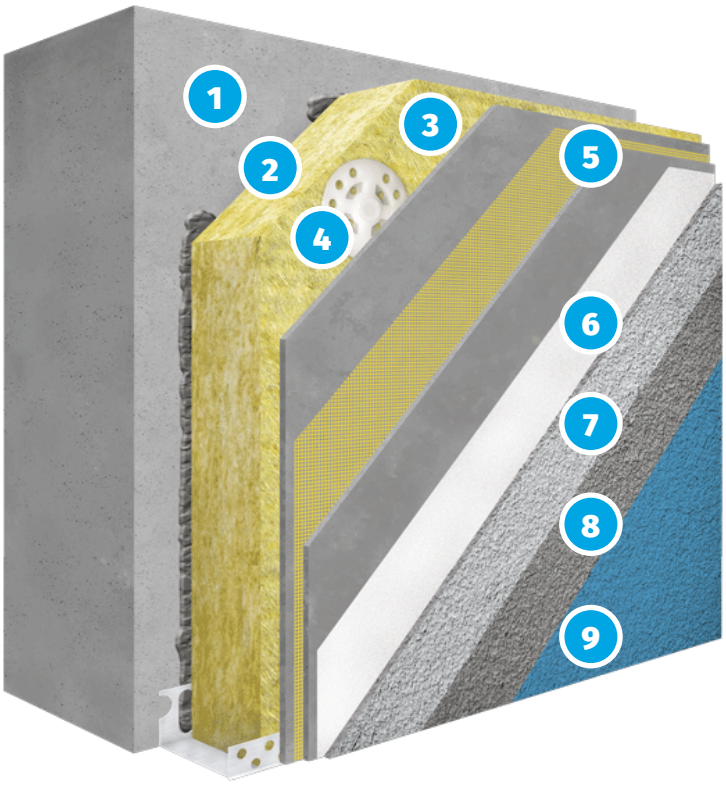
4. PRODUCT DESCRIPTION

The set of products for Atlas ROKER under this EPD is shown below in **Table 1** and on **Figure 1**.

Table 1. ATLAS ROKER components

Intended scope		Trade name
Adhesives for bonding the insulation product		ATLAS STOPTER K-50 ATLAS ROKER W ATLAS ROKER U
Insulation product *)		Factory-prefabricated boards, made by mineral wood slabs (MW) according to PN-EN 13164
Reinforced layer	Adhesives for base coat	ATLAS STOPTER K-50 ATLAS ROKER W ATLAS ROKER U
	Glass fibre meshes *)	AKE 145 SSA 1363-150 SM0.5 ASGLATEX 03-43 VERTEX 145 ATLAS 150 ATLAS 165
Key coats		ATLAS CERPLAST ATLAS SILKAT ASX ATLAS SILKON ANX
Finishing coats		ATLAS CERMIT mineral ATLAS CERMIT WN mineral TYNK SILIKONOWY ATLAS TYNK SILIKONOWO-SILIKATOWY ATLAS
Primers		ATLAS ARKOL SX ATLAS ARKOL NX ATLAS BEJCA
Decorative coats		ATLAS SALTA ATLAS SALTA S ATLAS SALTA N
Ancillary materials *)		Anchors, special fittings (e.g. base profiles, corner profiles...)

*) *products from suppliers, ATLAS does not produce these items.*



Layers' arrangement in the ATLAS ROKER system is shown on **Figure 1**

1. Wall structure (substrate)
2. Adhesive (basic fixing)
3. Thermal insulation (MW)
4. Anchor (additional fixing)
5. Reinforced layer (base coat with glass fibre mesh embedded)
6. Key coating (if necessary)
7. Finishing coat (renders)
8. Primers (optional)
9. Decorative coats (optional)

Accordingly, environmental characteristics (LCA) for ATLAS ROKER are presented in a few cases, depending on:

- kind of finishing coat (mineral, silicone or silicone-silicate (mixed),

and

- thickness of MW boards for reference cases 10 cm, 12 cm, 15 cm, 20 cm or 25 cm.

5. PRODUCT MANUFACTURE

The figures below show the working process during the production of dry mixes (**Figure 2**), ready-to-use renders (**Figure 3**) and paints (**Figure 4**). The raw materials are stored in the production factory in silos, big bags, or sacks accordingly. According to the applicable formulation, they are dosed and intensely mixed. Next, products are filled into containers (or packed into paper bags – dry mixes) and send to quality control. Then, they are temporarily stored, or delivered directly as ready-to-use products.

6. PRODUCT APPLICATION

The thermal insulation technology, used in fixing thermal insulation, is made of mineral wool (MW) to the substrate and preparation of a reinforced layer, a render coating and, a paint coating (optionally). The system can be applied both on new, or existing external surfaces of vertical building walls (already plastered, or not) made of masonry, or adhered materials, such as bricks and blocks (ceramic, lime-sand, stone, cellular concrete), or of concrete (poured at the construction site, or in the form of prefabricated elements).

Occupational safety and environmental protection

Occupational safety and environmental protection are described in Material Safety Data Sheets (MSDS) for each product.

Note

Specific information on application and other actions with these products are described in detail in the Technical Data Sheet available on the producer website www.atlas.com.pl.

7. ENVIRONMENTAL CHARACTERISTICS (LCA)

The results of the LCA with the indicators as per EPD requirements are given in the following tables for product manufacture (A1, A2, A3 modules).

Figure 2. Production process – dry mixes (scheme)

Figure 3. Production process – ready-to-use renders (scheme)

Figure 4. Production process – paints and primers (scheme)

ENVIRONMENTAL PRODUCT DECLARATION

Table 2. Environmental characteristic for 1 m² of Atlas ROKER (mineral renders), 10 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	2,60E+01	1,02E-01	3,66E-01	2,65E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,21E-05	0,00E+00	0,00E+00	9,21E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,02E-01	7,63E-04	1,05E-04	1,03E-01
Eutrophication potential	[kg $(PO_4)^3$- eq.]	4,16E-03	5,33E-05	8,45E-06	4,22E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,26E-02	1,35E-04	6,02E-05	1,28E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,38E-01	0,00E+00	1,36E-06	1,38E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	2,40E+02	9,13E-01	4,21E+00	2,45E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,09E+00	3,67E-02	1,28E-01	6,26E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	2,64E+02	9,58E-01	4,42E+00	2,69E+02
Use of secondary material	[kg]	1,70E-01	1,09E-01	0,00E+00	2,79E-01
Use of renewable secondary fuels	[MJ]	1,63E+00	4,79E-02	0,00E+00	1,68E+00
Use of non-renewable secondary fuels	[MJ]	1,27E+00	0,00E+00	0,00E+00	1,27E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	2,40E-02	6,82E-08	1,72E-09	2,40E-02
Non-hazardous waste disposed	[kg]	3,97E-01	6,34E-05	3,29E-06	3,97E-01
Radioactive waste disposed	[kg]	1,64E-04	0,00E+00	0,00E+00	1,64E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	1,34E-01	0,00E+00	2,90E-05	1,34E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 3. Environmental characteristic for 1 m² of Atlas ROKER (mineral renders), 12 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,46E+01	1,02E-01	3,66E-01	3,51E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,25E-05	0,00E+00	0,00E+00	9,25E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,36E-01	7,63E-04	1,05E-04	1,36E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	5,34E-03	5,33E-05	8,45E-06	5,40E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,62E-02	1,35E-04	6,02E-05	1,64E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,89E-01	0,00E+00	1,36E-06	1,89E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,30E+02	9,13E-01	4,21E+00	3,35E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,09E+00	3,67E-02	1,28E-01	6,26E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	3,63E+02	9,58E-01	4,42E+00	3,68E+02
Use of secondary material	[kg]	1,70E-01	1,09E-01	0,00E+00	2,79E-01
Use of renewable secondary fuels	[MJ]	1,63E+00	4,79E-02	0,00E+00	1,68E+00
Use of non-renewable secondary fuels	[MJ]	1,27E+00	0,00E+00	0,00E+00	1,27E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	2,40E-02	6,82E-08	1,72E-09	2,40E-02
Non-hazardous waste disposed	[kg]	3,99E-01	6,34E-05	3,29E-06	3,99E-01
Radioactive waste disposed	[kg]	1,64E-04	0,00E+00	0,00E+00	1,64E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	1,34E-01	0,00E+00	2,90E-05	1,34E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 4. Environmental characteristic for 1 m² of Atlas ROKER (mineral renders), 15 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,67E+01	1,02E-01	3,66E-01	3,72E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,26E-05	0,00E+00	0,00E+00	9,26E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,44E-01	7,63E-04	1,05E-04	1,45E-01
Eutrophication potential	[kg $(PO_4)^3$- eq.]	5,63E-03	5,33E-05	8,45E-06	5,69E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,71E-02	1,35E-04	6,02E-05	1,73E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,01E-01	0,00E+00	1,36E-06	2,01E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,52E+02	9,13E-01	4,21E+00	3,58E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,09E+00	3,67E-02	1,28E-01	6,26E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	3,88E+02	9,58E-01	4,42E+00	3,93E+02
Use of secondary material	[kg]	1,70E-01	1,09E-01	0,00E+00	2,79E-01
Use of renewable secondary fuels	[MJ]	1,63E+00	4,79E-02	0,00E+00	1,68E+00
Use of non-renewable secondary fuels	[MJ]	1,27E+00	0,00E+00	0,00E+00	1,27E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	2,40E-02	6,82E-08	1,72E-09	2,40E-02
Non-hazardous waste disposed	[kg]	4,00E-01	6,34E-05	3,29E-06	4,00E-01
Radioactive waste disposed	[kg]	1,64E-04	0,00E+00	0,00E+00	1,64E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	1,34E-01	0,00E+00	2,90E-05	1,34E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 5. Environmental characteristic for 1 m² of Atlas ROKER (mineral renders), 20 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	4,75E+01	1,02E-01	3,66E-01	4,79E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,31E-05	0,00E+00	0,00E+00	9,31E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,86E-01	7,63E-04	1,05E-04	1,87E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	7,10E-03	5,33E-05	8,45E-06	7,16E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,17E-02	1,35E-04	6,02E-05	2,19E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,64E-01	0,00E+00	1,36E-06	2,64E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	4,65E+02	9,13E-01	4,21E+00	4,70E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	0,00	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,09E+00	3,67E-02	1,28E-01	6,26E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,12E+02	9,58E-01	4,42E+00	5,17E+02
Use of secondary material	[kg]	1,70E-01	1,09E-01	0,00E+00	2,79E-01
Use of renewable secondary fuels	[MJ]	1,63E+00	4,79E-02	0,00E+00	1,68E+00
Use of non-renewable secondary fuels	[MJ]	1,27E+00	0,00E+00	0,00E+00	1,27E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	2,40E-02	6,82E-08	1,72E-09	2,40E-02
Non-hazardous waste disposed	[kg]	4,02E-01	6,34E-05	3,29E-06	4,02E-01
Radioactive waste disposed	[kg]	1,64E-04	0,00E+00	0,00E+00	1,64E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	1,34E-01	0,00E+00	2,90E-05	1,34E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 6. Environmental characteristic for 1 m² of Atlas ROKER (mineral renders), 25 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	5,82E+01	1,02E-01	3,66E-01	5,87E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,35E-05	0,00E+00	0,00E+00	9,35E-05
Acidification potential of soil and water	[kg SO_2 eq.]	2,29E-01	7,63E-04	1,05E-04	2,29E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	8,57E-03	5,33E-05	8,45E-06	8,63E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,62E-02	1,35E-04	6,02E-05	2,64E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	3,27E-01	0,00E+00	1,36E-06	3,27E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	5,78E+02	9,13E-01	4,21E+00	5,83E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,09E+00	3,67E-02	1,28E-01	6,26E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,36E+02	9,58E-01	4,42E+00	6,41E+02
Use of secondary material	[kg]	1,70E-01	1,09E-01	0,00E+00	2,79E-01
Use of renewable secondary fuels	[MJ]	1,63E+00	4,79E-02	0,00E+00	1,68E+00
Use of non-renewable secondary fuels	[MJ]	1,27E+00	0,00E+00	0,00E+00	1,27E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	2,40E-02	6,82E-08	1,72E-09	2,40E-02
Non-hazardous waste disposed	[kg]	4,05E-01	6,34E-05	3,29E-06	4,05E-01
Radioactive waste disposed	[kg]	1,64E-04	0,00E+00	0,00E+00	1,64E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	1,34E-01	0,00E+00	2,90E-05	1,34E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 7. Environmental characteristic for 1 m² of Atlas ROKER (silicone render), 10 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	2,67E+01	1,14E-01	3,66E-01	2,72E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,21E-05	0,00E+00	0,00E+00	9,21E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,06E-01	8,56E-04	1,05E-04	1,07E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	4,46E-03	5,98E-05	8,45E-06	4,52E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,31E-02	1,51E-04	6,02E-05	1,33E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,43E-01	0,00E+00	1,36E-06	1,43E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	2,60E+02	9,89E-01	4,21E+00	2,65E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	8,59E+00	6,65E-02	1,28E-01	8,79E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	2,86E+02	1,04E+00	4,42E+00	2,91E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,19E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,22E+00	0,00E+00	0,00E+00	1,22E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	7,19E-02	1,31E-08	1,72E-09	7,19E-02
Non-hazardous waste disposed	[kg]	1,08E+00	1,22E-05	3,29E-06	1,08E+00
Radioactive waste disposed	[kg]	6,17E-04	0,00E+00	0,00E+00	6,17E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	4,06E-01	0,00E+00	2,90E-05	4,06E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL PRODUCT DECLARATION

Table 8. Environmental characteristic for 1 m² of Atlas ROKER (silicone render), 12 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,10E+01	1,14E-01	3,66E-01	3,15E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,23E-05	0,00E+00	0,00E+00	9,23E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,23E-01	8,56E-04	1,05E-04	1,24E-01
Eutrophication potential	[kg $(PO_4)^3$- eq.]	5,04E-03	5,98E-05	8,45E-06	5,11E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,49E-02	1,51E-04	6,02E-05	1,51E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,68E-01	0,00E+00	1,36E-06	1,68E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,05E+02	9,89E-01	4,21E+00	3,10E+02
Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	8,59E+00	6,65E-02	1,28E-01	8,79E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	3,35E+02	1,04E+00	4,42E+00	3,41E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,19E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,22E+00	0,00E+00	0,00E+00	1,22E+00
Net use of fresh water	[dm³]	INA	INA	INA	INA
Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	7,19E-02	1,31E-08	1,72E-09	7,19E-02
Non-hazardous waste disposed	[kg]	1,09E+00	1,22E-05	3,29E-06	1,09E+00
Radioactive waste disposed	[kg]	6,17E-04	0,00E+00	0,00E+00	6,17E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	4,06E-01	0,00E+00	2,90E-05	4,06E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 9. Environmental characteristic for 1 m² of Atlas ROKER (silicone render), 15 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,74E+01	1,14E-01	3,66E-01	3,79E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,26E-05	0,00E+00	0,00E+00	9,26E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,49E-01	8,56E-04	1,05E-04	1,50E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	5,93E-03	5,98E-05	8,45E-06	5,99E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,77E-02	1,51E-04	6,02E-05	1,79E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,06E-01	0,00E+00	1,36E-06	2,06E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,73E+02	9,89E-01	4,21E+00	3,78E+02
Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	8,59E+00	6,65E-02	1,28E-01	8,79E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	4,10E+02	1,04E+00	4,42E+00	4,15E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,19E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,22E+00	0,00E+00	0,00E+00	1,22E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA
Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	7,19E-02	1,31E-08	1,72E-09	7,19E-02
Non-hazardous waste disposed	[kg]	1,09E+00	1,22E-05	3,29E-06	1,09E+00
Radioactive waste disposed	[kg]	6,17E-04	0,00E+00	0,00E+00	6,17E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	4,06E-01	0,00E+00	2,90E-05	4,06E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 10. Environmental characteristic for 1 m² of Atlas ROKER (silicone render), 20 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	4,82E+01	1,14E-01	3,66E-01	4,87E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,31E-05	0,00E+00	0,00E+00	9,31E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,91E-01	8,56E-04	1,05E-04	1,92E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	7,40E-03	5,98E-05	8,45E-06	7,46E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,22E-02	1,51E-04	6,02E-05	2,24E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,69E-01	0,00E+00	1,36E-06	2,69E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	4,85E+02	9,89E-01	4,21E+00	4,91E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	8,59E+00	6,65E-02	1,28E-01	8,79E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,34E+02	1,04E+00	4,42E+00	5,39E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,19E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,22E+00	0,00E+00	0,00E+00	1,22E+00
Net use of fresh water	[dm³]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	7,19E-02	1,31E-08	1,72E-09	7,19E-02
Non-hazardous waste disposed	[kg]	1,09E+00	1,22E-05	3,29E-06	1,09E+00
Radioactive waste disposed	[kg]	6,17E-04	0,00E+00	0,00E+00	6,17E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	4,06E-01	0,00E+00	2,90E-05	4,06E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 11. Environmental characteristic for 1 m² of Atlas ROKER (silicone render), 25 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	5,89E+01	1,14E-01	3,66E-01	5,94E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,36E-05	0,00E+00	0,00E+00	9,36E-05
Acidification potential of soil and water	[kg SO_2 eq.]	2,33E-01	8,56E-04	1,05E-04	2,34E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	8,87E-03	5,98E-05	8,45E-06	8,93E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,68E-02	1,51E-04	6,02E-05	2,70E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	3,32E-01	0,00E+00	1,36E-06	3,32E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	5,98E+02	9,89E-01	4,21E+00	6,03E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	8,59E+00	6,65E-02	1,28E-01	8,79E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,58E+02	1,04E+00	4,42E+00	6,63E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,19E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,22E+00	0,00E+00	0,00E+00	1,22E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	7,19E-02	1,31E-08	1,72E-09	7,19E-02
Non-hazardous waste disposed	[kg]	1,09E+00	1,22E-05	3,29E-06	1,09E+00
Radioactive waste disposed	[kg]	6,17E-04	0,00E+00	0,00E+00	6,17E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	4,06E-01	0,00E+00	2,90E-05	4,06E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 12. Environmental characteristic for 1 m² of Atlas ROKER (silicone-silicate render), 10 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	2,78E+01	1,23E-01	3,66E-01	2,83E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,28E-05	0,00E+00	0,00E+00	9,28E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,10E-01	9,10E-04	1,05E-04	1,11E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	4,62E-03	6,47E-05	8,45E-06	4,69E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,47E-02	1,61E-04	6,02E-05	1,50E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,50E-01	0,00E+00	1,36E-06	1,50E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	2,55E+02	9,87E-01	4,21E+00	2,60E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,47E+00	6,64E-02	1,28E-01	5,67E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	2,80E+02	1,04E+00	4,42E+00	2,86E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,18E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,14E+00	0,00E+00	0,00E+00	1,14E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	5,08E-02	5,27E-08	1,72E-09	5,08E-02
Non-hazardous waste disposed	[kg]	7,44E-01	4,90E-05	3,29E-06	7,44E-01
Radioactive waste disposed	[kg]	1,63E-04	0,00E+00	0,00E+00	1,63E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	2,87E-01	0,00E+00	2,90E-05	2,87E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 13. Environmental characteristic for 1 m² of Atlas ROKER (silicone-silicate render), 12 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,21E+01	1,23E-01	3,66E-01	3,26E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,29E-05	0,00E+00	0,00E+00	9,29E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,27E-01	9,10E-04	1,05E-04	1,28E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	5,21E-03	6,47E-05	8,45E-06	5,28E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,66E-02	1,61E-04	6,02E-05	1,68E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	1,75E-01	0,00E+00	1,36E-06	1,75E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,00E+02	9,87E-01	4,21E+00	3,05E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,47E+00	6,64E-02	1,28E-01	5,67E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	3,30E+02	1,04E+00	4,42E+00	3,36E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,18E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,14E+00	0,00E+00	0,00E+00	1,14E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	5,08E-02	5,27E-08	1,72E-09	5,08E-02
Non-hazardous waste disposed	[kg]	7,45E-01	4,90E-05	3,29E-06	7,45E-01
Radioactive waste disposed	[kg]	1,63E-04	0,00E+00	0,00E+00	1,63E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	2,87E-01	0,00E+00	2,90E-05	2,87E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 14. Environmental characteristic for 1 m² of Atlas ROKER (silicone-silicate render), 15 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	3,85E+01	1,23E-01	3,66E-01	3,90E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,32E-05	0,00E+00	0,00E+00	9,32E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,53E-01	9,10E-04	1,05E-04	1,54E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	6,09E-03	6,47E-05	8,45E-06	6,16E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	1,93E-02	1,61E-04	6,02E-05	1,95E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,13E-01	0,00E+00	1,36E-06	2,13E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	3,68E+02	9,87E-01	4,21E+00	3,73E+02
Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,47E+00	6,64E-02	1,28E-01	5,67E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	4,05E+02	1,04E+00	4,42E+00	4,10E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,18E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,14E+00	0,00E+00	0,00E+00	1,14E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA
Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	5,08E-02	5,27E-08	1,72E-09	5,08E-02
Non-hazardous waste disposed	[kg]	7,47E-01	4,90E-05	3,29E-06	7,47E-01
Radioactive waste disposed	[kg]	1,63E-04	0,00E+00	0,00E+00	1,63E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	2,87E-01	0,00E+00	2,90E-05	2,87E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 15. Environmental characteristic for 1 m² of Atlas ROKER (silicone-silicate render), 20 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	4,93E+01	1,23E-01	3,66E-01	4,98E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,37E-05	0,00E+00	0,00E+00	9,37E-05
Acidification potential of soil and water	[kg SO_2 eq.]	1,95E-01	9,10E-04	1,05E-04	1,96E-01
Eutrophication potential	[kg $(PO_4)^3$- eq.]	7,56E-03	6,47E-05	8,45E-06	7,63E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,38E-02	1,61E-04	6,02E-05	2,41E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2,76E-01	0,00E+00	1,36E-06	2,76E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	4,81E+02	9,87E-01	4,21E+00	4,86E+02
Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,47E+00	6,64E-02	1,28E-01	5,67E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,29E+02	1,04E+00	4,42E+00	5,34E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,18E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,14E+00	0,00E+00	0,00E+00	1,14E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA
Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	5,08E-02	5,27E-08	1,72E-09	5,08E-02
Non-hazardous waste disposed	[kg]	7,49E-01	4,90E-05	3,29E-06	7,50E-01
Radioactive waste disposed	[kg]	1,63E-04	0,00E+00	0,00E+00	1,63E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	2,87E-01	0,00E+00	2,90E-05	2,87E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 16. Environmental characteristic for 1 m² of Atlas ROKER (silicone-silicate render), 25 cm MW

Environmental assessment information (MND – Module not declared, MD – Module Declared)																
Product stage			Construction process		Use stage							End of life				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-recovery-recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
MD	MD	MD	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Environmental impacts: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	6,00E+01	1,23E-01	3,66E-01	6,05E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	9,42E-05	0,00E+00	0,00E+00	9,42E-05
Acidification potential of soil and water	[kg SO_2 eq.]	2,37E-01	9,10E-04	1,05E-04	2,38E-01
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	9,03E-03	6,47E-05	8,45E-06	9,10E-03
Formation potential of tropospheric ozone	[kg Ethene eq.]	2,84E-02	1,61E-04	6,02E-05	2,86E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	3,39E-01	0,00E+00	1,36E-06	3,39E-01
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	5,93E+02	9,87E-01	4,21E+00	5,99E+02

Environmental aspects on resource use: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	5,47E+00	6,64E-02	1,28E-01	5,67E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	[MJ]	6,53E+02	1,04E+00	4,42E+00	6,58E+02
Use of secondary material	[kg]	1,60E-01	1,09E-01	0,00E+00	2,69E-01
Use of renewable secondary fuels	[MJ]	1,46E+00	5,18E-02	0,00E+00	1,52E+00
Use of non-renewable secondary fuels	[MJ]	1,14E+00	0,00E+00	0,00E+00	1,14E+00
Net use of fresh water	[dm^3]	INA	INA	INA	INA

Other environmental information describing waste categories: 1 m²					
Indicator	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed	[kg]	5,08E-02	5,27E-08	1,72E-09	5,08E-02
Non-hazardous waste disposed	[kg]	7,52E-01	4,90E-05	3,29E-06	7,52E-01
Radioactive waste disposed	[kg]	1,63E-04	0,00E+00	0,00E+00	1,63E-04
Components for re-use	[kg]	9,43E-05	0,00E+00	5,33E-05	1,48E-04
Materials for recycling	[kg]	2,87E-01	0,00E+00	2,90E-05	2,87E-01
Materials for energy recovery	[kg]	2,40E-06	0,00E+00	4,05E-07	2,80E-06
Exported energy	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00

VERIFICATION

The process of verification of an EPD is in accordance with EN ISO14025, clause 8 and ISO21930, clause 9. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

The basis for LCA analysis was EN 15804

Independent verification corresponding to ISO 14025 & 8.3.1.

☑ external ☐ internal

External verification of EPD: PhD Eng. Halina Prejzner

LCA, LCI audit and input data verification: PhD Eng. Justyna Tomaszewska

Verification of LCA: PhD Eng. Michał Piasecki

NORMATIVE REFERENCES

- ITB PCR A General Product Category Rules for Construction Products
- ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedure.
- ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
- ISO 14044:2006, Environmental management – Life cycle assessment – Requirements and guidelines.
- ISO 15686-1:2011, Buildings and constructed assets — Service life planning — Part 1: General principles and framework
- ISO 15686-8:2008, Buildings and constructed assets – Service life planning – Part 8: Reference service life and service-life estimation
- EN 15804:2012+A1:2013 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.
- PN-EN 15942:2012, Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- KOBiZE Wskaźniki emisyjności CO_2, SO_2, NO_x, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2017

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CERTIFICATE № 080/2019
of TYPE III ENVIRONMENTAL DECLARATION

Product:

External Thermal Insulation System ATLAS ROKER

Manufacturer:

ATLAS Sp. z o.o.

Św. Teresy 105, 91-222 Łódź, Poland

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

PN-EN 15804+A1:2014-04

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

This certificate, issued for the first time on 10th March 2019 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics
and Environment Department

Michał Piasecki, PhD

INSTYTUT TECHNIKI BUDOWLANEJ

Deputy Director
for Research and Innovation

Krzysztof Kuczyński, PhD

Warsaw, March 2019