SUMMARY OF THE ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Description of the Company

The Fassa Group currently has 13 production facilities in Italy, the most recent located in Calliano, Asti province, one site in Portugal, 3 sales offices in Italy, three in Switzerland, one in France, one in Spain and **one in the UK**. Considering the employees and the sales force more than 1,300 people work for Fassa.

As the leading company in the sector of products and solutions for the building industry, FASSA offers a complete product range, including: lime and derivates, lime/cement plasters, lime/gypsum plasters, smoothing compounds for concrete, paints, white and coloured mineral coatings, adhesives for building, adhesives for tiles, self-levelling floor screeds, paints and coatings in paste, external thermal insulation composite systems, products for restoring damp walls and repairing deteriorated concrete, biological plasters, machines and tools for the building site as well as the new Plasterboard System GYPSOTECH® with a complete range of plasterboards and accessories for the installation.

Constant concern for maximum quality, guaranteed by rigorous controls throughout the production phase, and the efficiency of a rapid, professional service makes FASSA an expert and reliable partner in any kind of construction or renovation work. Always up-to-date with the evolution of the market, FASSA satisfies widely different operative needs, from the smallest to the largest building site.

Description of FASSATHERM PLUS

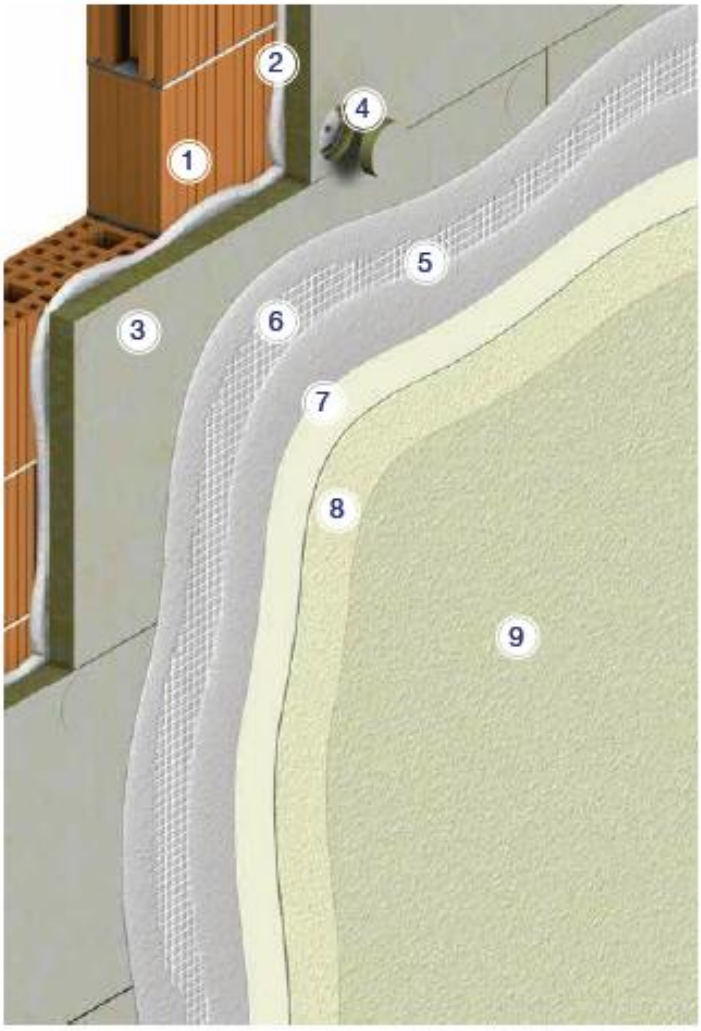
Fassatherm® is another exclusive system developed from centuries of the Fassa Bortolo company's experience in the building industry.
A leading brand, with over 300 years of history and a multitude of product lines based on the same philosophy: excellent quality.
The Fassatherm PLUS is an external thermal insulation system. It preserves the micro-climate of a building, insulating the walls in a safe and continuous manner, even with the use of different materials. It is an actual thermal covering, which is able to ensure insulation against hot and

cold, with tangible improvements to living comfort, it saves gas and/or electrical expenses to heat and/or cool down rooms, it reduces the impact that these forms of energy have on the environment.

The Fassatherm® External Thermal Insulation Composite System obtained European Technical Approval ETA 07/0280, ETA 09/0282, ETA 13/0352 which represent the positive technical evaluation of suitability for use in thermal insulation interventions, based on the compliance and observance of all requirements set forth by the Guideline ETAG 004.

The European Technical Approvals of the FASSA BORTOLO External Thermal Insulation Composite System are available in their complete version on the website www.fassabortolo.com.

The components of the FASSATHERM PLUS system are:



1.- Substrate

2.- Adhesive:

- A50 ó
- A96BL ó
- A96GR

3.- Isolation:

- Mineral Wool

4.- Mechanical fixing

5:- Base coats:

- A50 ó
- A96BL ó
- A96GR

6.- Reinforcing mesh

7.- Primer:

- FA249 ó
- FS412 ó
- FX526 ó
- FASSIL F328

7.- Coloured finish coat plasters:

- RTA549 ó
- RSR421 ó
- RX561 ó
- FASSIL R336

Of all the components indicated, FASSA manufactures **Adhesives/Base coats**, **Primers** and **Coloured finish coat plasters**. Each of them has its own composition. The Adhesives/Base coats are manufactured in Portugal, and the Primers and Coloured finish coat plasters in Italy.

The **CPC code** of the product is **54 Construction services**

This Environmental Product Declaration is carried out in accordance with **PCR 2012:01 v2.2** ***Construction Products and Construction Services*** from the International EPD® system and verified by **Tecnalia R&I Certificación**.

The EPD content is also compliant with the principles set in the standards ***ISO 14025 Environmental Labels and Declarations. Type III Environmental Declarations*** **and** ***EN 15804:2012 + A1: 2013.***

The EPD is based in the LCA developed by **ISOLANA Ahorro Energético SL**, following **CML-IA (Baseline) Methodology V4.2 September 2016**, simulated with **SimaPro software v8**. The database used is **Ecoinvent 3.3**.

Declared unit: **1 m² of Fassatherm Plus installed** (thermal resistance Fassatherm Plus with Mineral Wool 60 mm **1,65 m2.K/W)**

System boundaries: **Cradle to grave** as shown in the following figure.

Product stage			Construction process stage		Use Stage							End of life stage					Resource recovery stage
Raw material	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
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
X	X	X	X	X	NR	NR	NR	NR	NR	NR	NR	NR	X	X	X		MND

X= Included in LCA
MND= Module Not Declared
NR= Not relevant

Statements:

- EPDs of construction products may not be comparable if they do not comply with EN 15804.
- EPDs within the same product category but from different programmes may not be comparable;
- The verifier and the programme operator do not make any claim nor have any responsibility of the legality of the product.

The environmental impacts of 1m^2 of **FASSATHERM PLUS with mineral wool 60 mm** installed are shown in the table below:

	Units	Product Stage	Construction process stage	Use stage	End of life	TOTAL
Global warming potencial (100years)	kg CO_2 eq.	2,47E+01	9,57E-01	NR	5,71E-01	2,63E+01
Ozone depletion	kg CFC-11 eq	3,29E-06	1,51E-07	NR	1,25E-07	3,57E-06
Acidification of land and water	kg SO_2 eq	1,47E-01	3,59E-03	NR	2,30E-03	1,53E-01
Eutrophication	kg PO_4^{3-} eq	3,04E-02	6,19E-04	NR	4,70E-04	3,15E-02
Photochemical ozone creation	kg C_2H_4 eq.	7,47E-03	1,94E-04	NR	8,85E-05	7,71E-03
Depletion of abiotic resources (elements)	kg Sb eq.	5,72E-05	4,98E-08	NR	2,80E-07	5,75E-05
Depletion of abiotic resources (fossil)	MJ	3,12E+02	1,43E+01	NR	1,04E+01	3,36E+02

ANNEX I:

Environmental impacts of the FASSATHERM PLUS system depending on the thickness of the MINERAL WOOL: 50 mm, 80 mm, and 100 mm.

	THICKNESS OF MW (mm.)		
	50	80	100
Global warming potencial (100years) kgCO2eq./FU	**24.81**	**29.16**	**32.07**
Consumption of non-renewable resources MJ/FU	**318.68**	**371.70**	**407.04**
Energy consumption MJ/FU	**361.38**	**424.54**	**466.64**
Water consumption m^3/FU	**0.30**	**0.33**	**0.35**
Waste production kg/FU	**39.63**	**45.71**	**49.76**