Environmental Product Declaration
Short Version

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Producer

EAA-2006-100-201-001-EN

Declaration number

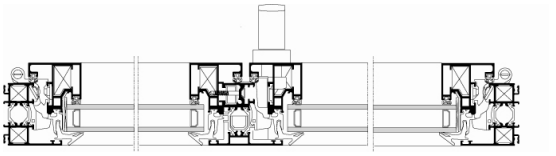
19.10.2007

Date of issue

Project Name: BATIMAT
Product Name: BATIMAT

Soleal

Declared product

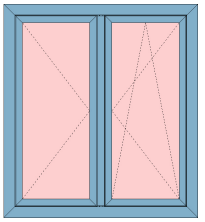


Profile system

The declared window is a two leaf turn window produced using the declared profile system.

Product type

Product characteristics:



Characteristics of the window

Window size:

Width:	1.45 m
Height:	1.48 m

Transparent area:

Transparent Area:	1.38 m²

Surface:

Surface treatment:	powder coating

Total weight of the window:

Mass:	59.6 kg

Characteristics of the window:

Thermal transmittance (uw-value) [W/m²*K]:	1.6
Light transmittance value of glass (TL) [%]:	80
Solar factor (g-value) [%]:	65
Burglar resistance:	1
Acoustic performance [dB]:	32
Resistance to fire:	A1

According to /EN 14351-1/: npd - no performance determined
Characteristics provided by producer

This validated declaration applies to the above mentioned products for three years from date of issue. The producer is liable for the information and evidence on which the declaration is based. EAA is not liable for the user input relevant for the declaration.
A long version of the EPD can be obtained from the producer.

Validity

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Comparability

This EPD is based on information modules that do not cover all aspects of the product's use. An environmental assessment of a product has to consider also the product's application in the building and the respective environmental aspects during the use phase. Comparisons of building products or EPDs without considering the use stages in the context of the environmental impacts of the whole building are not valid. EPDs from different programs may not be comparable.

Product Category Rules

This EPD is based on the PCR Aluminium Building Products of the EAA Environmental Product Declaration Program. The PCR document is available from the EAA webpage www.aluminium.org.

Verification

Table 1: Verification information

Review of the PCR document by the independent Advisory Board. Chair of the Advisory Board: Dr. Eva Schmincke
Independent verification of the calculation system and the data the declaration is based on according to ISO 14025:2006 [ ] - Internal Verification [x] - External Verification
Verifier of the declaration tool: Dr. Eva Schmincke

Manufacturing

Assemblage of window:

The components, specifically the aluminium profiles which are already surface treated and connected with the thermal bars, are cut and tailored to the respective frame size. The residual aluminium profiles are preserved for recycling. Together with the float glass component (doubled glass layers filled with argon) and gaskets the frame is assembled. Finally the hardware components are attached to the frame.

The assemblage is placed in France.

Environmental management system

Registration number 345672 according to ISO 14001 series

Applications

Standard single side-hung casement window for installation in buildings.

Packaging

Product packaging

Usually the window is not packaged. In rare cases a PE plastic wrap for protection is applied. The plastic foil is fed to the regional municipal waste collection system. The packaged windows are placed in transport carriers and are placed on Euro-pallets. For transport to the building site a reusable carrier is applied.

Maintenance and service life

Periodical cleaning and maintenance are basis for a long service life of the window. Cleaning agents must be neutral (ph-value 5-8). For the EPD a periodical cleaning twice a year, maintenance of the hardware every 2 years and a service life of 50 years are used for calculations.

Recycling

Usually for windows demolition and disassembly happens at building site. Glass is broken and frames are cut into pieces. The glass is provided for material recycling. The aluminium frame as well as the polymers and hardware components are recycled. An average collection rate of 96% for the aluminium is used for the calculations.

Waste treatment

Since most materials of the window are recycled, only a small amount and the losses from the recycling processes have to be landfilled.

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Scope of the LCA

The LCA comprises the manufacture of the primary materials regarding to the applied cut off criteria and their assemblage to windows. This includes also the transport of the semi-finished products to the assembly site and of the window to the building site.

For the use phase installation as well as cleaning and maintenance of the window are considered separately as installation and use/maintenance stage. Any aspects of the window in relation to the operation of the building are out of the scope of this EPD.

The End of Life is considered regarding material recycling of aluminium and other metals. Glass and polymers are leaving the lifecycle without credits. Transport from the building site to recycling sites and landfill are included.

Life Cycle Indicators

Table 2: Life Cycle Indicators

Aluminium Window [Soleal]		
Life Cycle Indicators	**Unit per window**	**Result for declared Life Cycle**
Primary energy, non-renewable	[MJ]	1948
Primary energy, renewable	[MJ]	129,5
Water consumption	[kg]	1819
Depletion of Abiotic Resources (ADP)	[kg Sb eqv.]	1,009
Global Warming Potential (GWP)	[kg CO2 eqv.]	200,6
Ozone Depletion Potential (ODP)	[kg R11 eqv.]	3,902E-005
Acidification Potential (AP)	[kg SO2 eqv.]	0,7912
Eutrophication Potential (EP)	[kg PO4 eqv.]	0,07797
Photochemical Ozone Creation Potential (POCP)	[kg ethene eqv.]	0,09789
Non hazardous waste	[kg]	6,853
Hazardous waste	[kg]	4,256

The indicators are calculated from average data representive for the EU aluminium production as well as from generic data for a standard glazing unit and standard gaskets as well as standard generic date for thermal bars.

Sections of the profile system

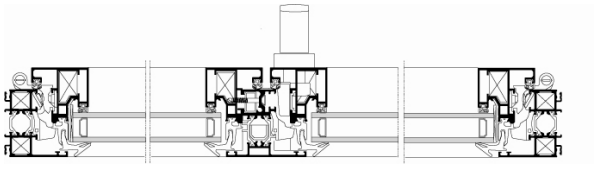

Figure 1: Horizontal section of the profile system

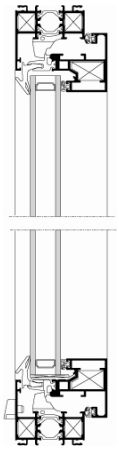

Figure 2: Vertical section of the profile system

Table 3: Environmental impacts according to French standard NF P 01-010

Appendix - Life cycle indicators according to French standard NF P 01-010

Environmental impacts according to French standard NF P 01-010			
Environmental impact	**Unit per window**	**Product indicator value Life cycle total per**	
		1 year	**TLT**
1. Total primary energy	[MJ]	83,09	2077
1.1 Renewable energy	[MJ]	5,178	129,5
1.2 Non-renewable energy	[MJ]	77,93	1948
2. Resource depletion (ADP)	[kg antimony eqv.]	0,04036	1,009
3. Total water consumption	[litre]	72,77	1819
4. Solid waste	[kg]	7,32	183
4.1 Total recovered waste	[kg]	0,1483	3,708
4.2 Eliminated waste	[kg]	7,171	179,3
4.2.1 Dangerous waste	[kg]	0,1702	4,256
4.2.2 Safe waste	[kg]	0,2741	6,853
4.2.3 Inert waste	[kg]	6,727	168,2
4.2.4 Radioactive waste	[kg]	0,004166	0,1042
5. Climat Change	[kg CO2 eqv.]	8,024	200,6
6. Atmospheric acidification	[kg SO2 eqv.]	0,03165	0,7912
7. Air pollution	[m3]	465,7	1,164E004
8. Water pollution	[m3]	0,7343	18,36
9. Destruction of the stratospheric ozone layer	[kg R11 eqv.]	1,561E-006	3,902E-005
10. Formation of photochemical ozone	[kg ethene eqv.]	0,003915	0,09789