

Environmental Product Declaration

According to ISO 14025



Window fittings

Fachverband
Schloss- und Beschlagindustrie e.V.

Declaration number
EPD-FVS-2011311-E
Institut Bauen und Umwelt e.V.
www.bau-umwelt.com




Institut Bauen
und Umwelt e.V.



Überreicht an:

ROTO FRANK AG



	<p>Brief version Environmental Product Declaration <i>Environmental</i> <i>Product Declaration</i></p>	
<p>Institut Bauen und Umwelt e.V. www.bau-umwelt.com</p>	 <small>Institut Bauen und Umwelt e.V.</small> <p style="text-align: right;">Programme holder</p>	
<p>Fachverband Schloss- und Beschlagindustrie e.V. Offerstr. 12 D-42551 Velbert</p>	 <p style="text-align: right;">Declaration holder</p>	
<p>EPD-FVS-2011311-E</p>	<p style="text-align: right;">Declaration number</p>	
<p>Window fittings</p> <p>This Declaration is an Environmental Product Declaration in accordance with ISO 14025 and describes the specific environmental features of the construction products in Germany outlined here. It intends to promote the development of construction which is compatible with the environment and health.</p> <p>This validated Declaration discloses all of the relevant environmental data.</p> <p>The Declaration is based on the "Locks and Fittings: 2010-12" PCR document.</p>	<p style="text-align: right;">Declared construction products</p>	
<p>This validated Declaration entitles the holder to bear the symbol of the Institut Bauen und Umwelt e.V. It exclusively applies for the products referred to for a period of three years from the date of issue.</p> <p>The Declaration holder is liable for the details and documentation upon which the evaluation is based.</p>	<p style="text-align: right;">Validity</p>	
<p>The Declaration is complete and comprises in detail:</p> <ul style="list-style-type: none"> - Product definition and physical construction data - Details on base materials and material origin - Description of the product manufacturing process - Information on product processing - Data on the utilisation status, extraordinary effects and re-use phase - Results of the Life Cycle Assessment - Documentation and tests 	<p style="text-align: right;">Content of the Declaration</p>	
<p>14 June 2014</p>	<p style="text-align: right;">Issue date</p>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">  </div> <p><small>Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)</small></p>	<p style="text-align: right;">Signatures</p>	
<p>This Declaration and the regulations upon which it is based have been tested by the independent Committee of Experts (SVA) in line with ISO 14025.</p>		<p style="text-align: right;">Testing the Declaration</p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">  </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">  </div> <p style="text-align: right;">Signatures</p>	
<p><small>Prof. Dr.-Ing. Hans-Wolf Reinhardt (Chairman of the SVA)</small></p>	<p><small>Dr. Frank Werner (tester appointed by the SVA)</small></p>	



**Brief version
Environmental
Product Declaration
*Environmental
Product Declaration***

Pivotal / Tilt-and-turn fittings open and close windows and French doors. Tilt-and-turn fittings are used for unlocking windows and French doors via handles by achieving a rotary position followed by a tilting position. Several locking points are operated by a system accommodated inside the window frame. Semi-concealed fittings or fully-concealed fittings are standard nowadays. Visible fittings are only to be found in historic landmark buildings.

Owing to the various designs of window profiles (frames), a distinction is made between pivotal / tilt-and-turn fittings as regards

- pivotal / tilt-and-turn fittings for wooden and plastic windows
- pivotal / tilt-and-turn fittings for aluminium windows.

Product description

Pivotal / Tilt-and-turn fittings are used in wooden windows, plastic windows, aluminium windows or in windows made of composite materials.

Area of application

The Life Cycle Assessment was performed in accordance with DIN ISO 14040/44 in line with the requirements of the guidelines to Type III Declarations by Institut Bauen und Umwelt e.V. Specific data provided by Fachverband Schloss- und Beschlagindustrie e.V. was applied as well as data from the "GaBi 4" data base. The Life Cycle Assessment comprises the extraction of raw materials and energy, raw materials transport, the actual manufacturing phase incl. packaging and recycling thereof, transport to use as well as disposal and/or recycling of the declared window fittings.

**Life Cycle Assessment
framework**

Results of the Life Cycle Assessment

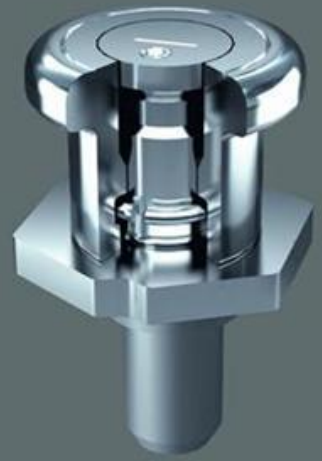
Pivotal / Tilt-and-turn fittings						
Analysis factor / Unit	Pivotal / Tilt-and-turn fittings for wooden and plastic windows			Pivotal / Tilt-and-turn fittings for aluminium windows.		
	Manufacture	Transport to use	EoL	Manufacture	Transport to use	EoL
Non-regenerative primary energy [MJ]	94.71	1.60	-38.26	131.01	0.88	-78.12
Regenerative primary energy [MJ]	5.13	1.7E-03	-1.36	20.85	9.6E-04	-15.51
Global Warming Potential (GWP 100 years) [kg CO ₂ equiv.]	6.577	0.115	-2.508	9.146	0.063	-5.562
Ozone depletion potential (ODP) [kg R11 equiv.]	3.1E-07	1.9E-10	-2.6E-10	9.5E-07	1.0E-10	-5.7E-07
Acidification Potential (AP) [kg SO ₂ equiv.]	1.9E-02	4.4E-04	-9.9E-03	3.7E-02	2.4E-04	-2.7E-02
Eutrophication Potential (NP) [kg PO ₄ ³⁻ equiv.]	1.8E-03	7.3E-05	-9.5E-04	2.0E-03	4.0E-05	-1.2E-03
Summer Smog Potential (POCP) [kg C ₂ H ₄ equiv.]	2.4E-03	4.4E-05	-1.3E-03	3.2E-03	2.4E-05	-2.4E-03

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No documentation required in accordance with the PCR.

Documentation and tests



Institut Bauen
und Umwelt e.V.

Publisher:

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Rheinufer 108

D-53639 Königswinter

Tel.: +49 (0)2223 296679-0

Fax: +49 (0)2223 296679-1

E-mail: info@bau-umwelt.com

Internet: www.bau-umwelt.com

Layout:

PE INTERNATIONAL AG

Photo credits:

Fachverband Schloss- und Beschlagindustrie e.V.

Offerstr. 12

D-42551 Velbert

Tel.: +49 (0)2051 9506-0

Fax: +49 (0)2051 950625

E-mail: info@fvsb.de

Internet: www.fvsb.de