



Environmental Product Declaration

According to ISO 14025



Locking cylinders

Fachverband
Schloss- und Beschlagindustrie e.V.

Declaration number
EPD-FVS-2011411-E
Institut Bauen und Umwelt e.V.
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Überreicht an:

ROTO FRANK AG



	<p align="center">Brief version Environmental Product Declaration <i>Environmental Product Declaration</i></p>	
<p>Institut Bauen und Umwelt e.V. www.bau-umwelt.com</p>	<p align="center">  <small>Institut Bauen und Umwelt e.V.</small> </p> <p align="right">Programme holder</p>	
<p>Fachverband Schloss- und Beschlagindustrie e.V. Offerstr. 12 D-42551 Velbert</p>	<p align="center">  <small>FVS+B</small> </p> <p align="right">Declaration holder</p>	
<p>EPD-FVS-2011411-E</p>	<p align="right">Declaration number</p>	
<p>Locking cylinders</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: 2012-12" PCR document.</p>	<p 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 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 align="right">Content of the Declaration</p>	
<p>14 June 2014</p>	<p align="right">Issue date</p>	
<p align="center">  <hr/> <small>Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)</small> </p>	<p 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 align="right">Testing the Declaration</p>
<p align="center">  <hr/> <small>Prof. Dr.-Ing. Hans-Wolf Reinhardt (Chairman of the SVA)</small> </p>	<p align="center">  <hr/> <small>Dr. Frank Werner (tester appointed by the SVA)</small> </p>	<p align="right">Signatures</p>



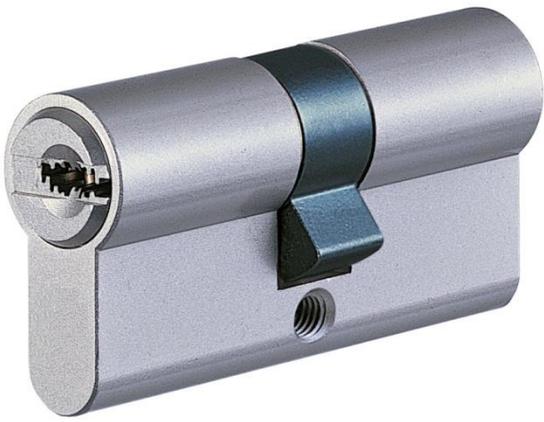
**Brief version
Environmental
Product Declaration
*Environmental
Product Declaration***

This Environmental Product Declaration applies for profile cylinders, industrial cylinders and electronic profile cylinders.	Product description
Locking cylinders are used in residential and commercial buildings as well as in automatic vending machines. They serve towards unlocking and locking doors as well as locking control and operating elements.	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 locking cylinders.	Life Cycle Assessment framework

Results of the Life Cycle Assessment

Locking cylinders									
Analysis factor / Unit	Profile cylinder (without key)			Industrial cylinder (without key)			Electronic profile cylinder (without key)		
	Manufacture	Transport to use	EoL	Manufacture	Transport to use	EoL	Manufacture	Transport to use	EoL
Non-regenerative primary energy [MJ]	25.31	0.05	-12.95	9.92	0.02	-4.67	45.67	0.07	-15.20
Regenerative primary energy [MJ]	2.33	5.8E-05	-1.45	0.94	2.4E-05	-0.50	3.98	7.8E-05	-1.63
Global Warming Potential (GWP 100 years) [kg CO ₂ equiv.]	1.69	3.8E-03	-0.86	0.68	1.6E-03	-0.31	4.07	5.1E-03	-0.94
Ozone depletion potential (ODP) [kg R11 equiv.]	1.7E-07	6.4E-12	-6.8E-08	6.5E-08	2.6E-12	-2.3E-08	3.8E-07	8.5E-12	-7.7E-08
Acidification Potential (AP) [kg SO ₂ equiv.]	6.3E-03	1.5E-05	-3.7E-03	2.4E-03	6.1E-06	-1.3E-03	1.2E-02	2.0E-05	-4.1E-03
Eutrophication Potential (NP) [kg PO ₄ ³⁻ equiv.]	4.3E-04	2.5E-06	-2.4E-04	1.8E-04	1.0E-06	-8.7E-05	1.2E-03	3.3E-06	-2.5E-04
Summer Smog Potential (POCP) [kg C ₂ H ₄ equiv.]	4.3E-04	1.5E-06	-2.6E-04	1.7E-04	6.0E-07	-9.7E-05	1.0E-03	2.0E-06	-2.9E-04

Created by: PE INTERNATIONAL, Leinfelden-Echterdingen	 PE INTERNATIONAL <small>EXPERTS IN SUSTAINABILITY</small>	
No documentation required in accordance with the PCR.	Documentation and tests	



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