

# Environmental Product Declaration



## Insulation material Classic 039 ECOSE<sup>®</sup> Technology



**KNAUF**INSULATION

Issuance date: 15.02.2010

Validation date: 20.12.2010

Validity date: 01.01.2014

Product characteristics made by:

Building Research Institute, 00-611 Warsaw, ul. Filtrowa 1, www.itb.pl  
and verified by LCA expert group.

### Manufacturer

Knauf Insulation spol. s r.o. 417 42 Krupka, Pod Dolni drahou 110, Czech Republic  
Certificate of conformity EC 0764 – CPD – 0122, EN 13162 : 2001 and EN 13162:2009/AC:2005

### Basic information

Life cycle: Cradle to Gate (A1-A3 module prEN 15804) + A4

The year of preparing the characteristic: 2010

Declared durability: 50 years

Functional unit (FU): 1 m<sup>2</sup> insulation with a thermal resistance R of 1m<sup>2</sup>K/W,  $\lambda=0,039$  W/mK

Table 1. Product basic technical information

Product	Specification
Standard	EN 13162
$\lambda$ accepted for calculations , W/mK	0,039
Reaction to fire class	A1
Application	Thermal and acoustic insulation

## Product description



Insulating material Classic 039 ECOSE® Technology is made of mineral glass fiber. It is a hydrophobic multipurpose product. This product is produced in Czech Republic in Krupka u Teplic. The thermal and acoustic insulating properties make the material suitable for use in constructions of light claddings of buildings, primarily in wood or metal based constructions. It can also be applied as filling in joist ceilings. In case of application in the open diffusion systems no moisture barrier needs to be applied on the inside. In compositions it is very well applicable in the skeletal systems of wooden or metal frames. Product is Eurofins Indoor Air Comfort Gold certified, GREENGUARD® Indoor Air Quality Certified.

## Use advantages

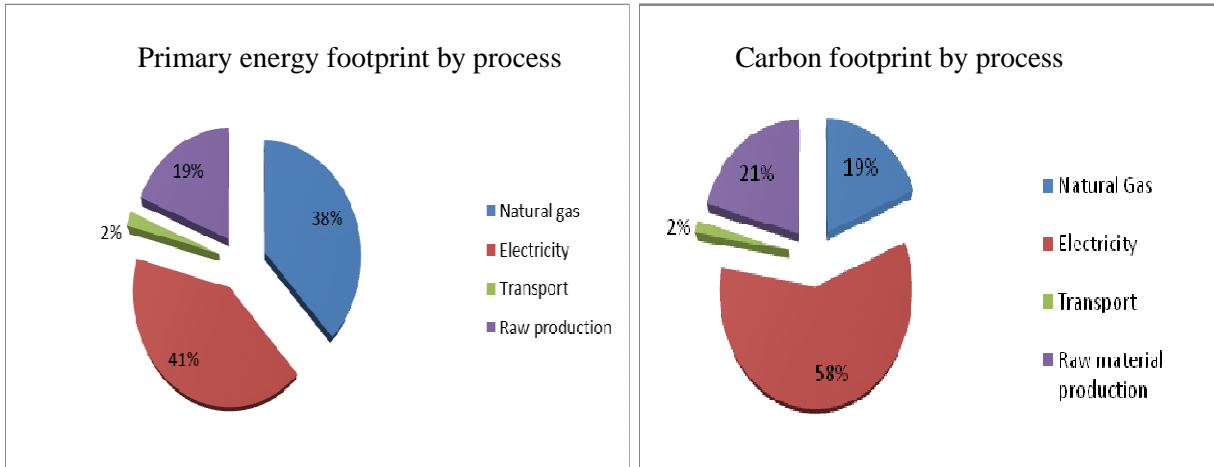
- bonded using a bio-based technology free from formaldehyde
- softer feel, odourless and easy to cut
- improve indoor air quality compared to our traditional mineral wool
- excellent thermal, acoustical and mechanical properties
- hydrophobic product
- reaction to fire: A1
- compressed in package – easy to carry and store

## Package

The product Classic 039 ECOSE® Technology is supplied in rolls that are packed in PE plastic film. The protective package is marked with the manufacturer's logo and a type label indicating specification of the product and recommended mode of application.




Picture 1. Label of analyzed product Classic 039 ECOSE® Technology



Picture 2. Percentage share of particular energy carriers (left) and CO<sub>2</sub> emission by the processes (right) for a cradle to gate period

Table 2. Environmental and energetics characteristics for product Classic 039 ECOSE® Technology

<b>Environmental Profile Declaration</b>			
	Date of LCA start	November 2010	
	Date of LCA finish	January 2011	
	Data source	Manufacturer's LCI data, ITB, EcoInvent, IEA, scientifically approved data	
	Country	Czech Republic, valid for Poland	
	Representativeness	1 plant, data 2010	
	LCA methodology	UEAtc, pr EN 15804, ISO 14040, ISO 14044	
	Allocation	99% impact; 6,59% production	
	Validation date	January 2011	
	Validity date	January 2014	
	Limits	Cradle to gate, A1-A3	
	<b>Units</b>	<b>The values of criteria (a) per:</b>	
	<b>Mg</b>	<b>FU (0,49kg)</b>	
<b>Environmental impact</b>			
Greenhouse effect GWP	kg CO <sub>2</sub>	1524	0,75
Depletion of ozone layer ODP	kg CFC11	0,0001	4,37E-08
Acidification effect AP	kg SO <sub>2</sub>	8,7	0,0043
Air contamination: potential for ozone creation POCP	kg C <sub>2</sub> H <sub>4</sub>	0,37	0,00018
Water contamination eutrophication EP	kg PO <sub>4</sub>	1,52	0,00075
Depletion of mineral resources	kg Sb	0,129	6,32E-05
Depletion of fossil fuels	MJ	11649	5,71
<b>Environmental aspects</b>			
Water consumption	m <sup>3</sup>	5,05	0,0025
Use of renewable energy EP	MJ	448	0,22
Use of primary energy	MJ	14185	6,95
<b>Reference point</b>			
	<b>Per an inhabitant of Poland (b)</b>	<b>Reference values (a/b*100%) [%]</b>	
Greenhouse effect GWP	9000 kg CO <sub>2</sub>	-	0,008%
Depletion of ozone layer ODP	0,0069 kg CFC11	-	0,0006%
Acidification effect AP	80,4 kg SO <sub>2</sub>	-	0,005%
Air contamination: potential for ozone creation POCP	32,23 kg C <sub>2</sub> H <sub>4</sub>	-	0,0005%
Use of primary energy	78,3 GJ	-	0,009%
Water contamination: eutrophication EP	65,62 kg PO <sub>4</sub>	-	0,001%
Water consumption	292 m <sup>3</sup>	-	0,0008%



Instytut Techniki Budowlanej

Zakład Fizyki Ciepłej, Instalacji Sanitarnych i Środowiska  
02-656 Warszawa, ul. Kaszewów 21

## ŚWIADECTWO DEKLARACJI ŚRODOWISKOWEJ III TYPU

Wyrób:

wełna mineralna szklana CLASSIC 039 w ECOSE® Technology

Producent:

**Knauf Insulation Sp. z o.o.**

02-146 Warszawa, ul. 17 Stycznia 56

potwierdza się poprawność ustalenia danych uwzględnionych przy opracowaniu  
Deklaracji Środowiskowej III typu oraz zgodność z wymaganiami norm:

**PN-EN ISO 14040:2009**

Zarządzanie środowiskowe. Ocena cyklu życia. Zasady i struktura

**PN-EN ISO 14044:2009**

Zarządzanie środowiskowe. Ocena cyklu życia. Wymagania i wytyczne

Niniejsze świadectwo, wydane po raz pierwszy 12 stycznia 2011 r. jest ważne 3 lata,  
lub do czasu zmiany wymienionej Deklaracji Środowiskowej.

Prezesa  
Zakładu Fizyki Ciepłej,  
Instalacji Sanitarnych i Środowiska  
  
Krzysztof Kasperiowski



Dyrektor  
Instytutu Techniki Budowlanej  
  
Michał Kopyt

Warszawa, styczeń 2011 r.



The basis for LCA analysis was:  
CEN TC 350, prEN 15804 - PCR -“core rules for the product category of construction products”

Independent verification corresponding to ISO 14025 & 8.3.1.

internal

external

Verification of LCA calculation method and PCR: UEATc LCA Expert Group, [www.UEATC.com](http://www.UEATC.com)

Data collection: M.Sc. eng. Pavel Michalek, [pavel.michalek@knaufinsulation.com](mailto:pavel.michalek@knaufinsulation.com)

Environmental audit and input data verification: dr eng. Michał Piasecki, [m.piasecki@itb.pl](mailto:m.piasecki@itb.pl)

Verification of LCI and LCA data: dr eng. Halina Prejzner, [h.prejzner@itb.pl](mailto:h.prejzner@itb.pl)