



LĪDERIS ĒKU BUVNĪCĪBĀ UN RENOVĀCIJĀ  
NO EKOLOĢISKIEM MATERIĀLIEM  
HES (HEMP ECO SYSTEMS)



**Declaration of conformity**  
according to LVS EN ISO 17050-1

Manufacturer: Hemp Ecosystems Latvija SIA VRN 40103733379  
"Vakari", Tīnūžu pag., Ikšķiles novads, LV-5015

Object:  
HES-mix hemp hurd wall block.

Application: residential and public external and internal wall heat insulation constructions.

EU Regulation NO 305/2011 System Nr. 3  
LBN 002-15 - confirmed.  
LVS\_EN\_771-3-2011 - confirmed.  
EN 1602:2013, - confirmed. Not for use as load bearing element.  
EN 1604:2013 - confirmed. Not for use as load bearing element.  
LVS EN 13823:2010 - confirmed. Fire reaction Class A2.

Autorised person: Jorgen HEMPEL - HEMP ECO SYSTEMS SA  
Rue du Collège 2 - 1450 St-Croix - SWITZERLAND - 0041 (0) 24.441.60.17,  
www.hempecosystems.com - hemp@hempecosystems.com



## HES-mix DECLARATION OF PERFORMANCE

LĪDERIS ĒKU BŪVNĒCĪBĀ UN RENOVĀCIJĀ  
NO EKOLĒGĪSKĪEM MATERIĀLIEM  
HES (HEMP ECO SYSTEMS)

Page 1 from 2

1. ID of product type:

2. ID of a batch:

3. Intended use of this product - in accordance to the specification below:

3.1. Mechanical resistance and stability. HES-mix is not intended to be and should not be used in a construction as load bearing element.

3.2. Safety in case of fire. HES-mix is safe to fire - does not generate or spread neither fire, nor smoke, meets requirements of fire safety Class A2 (Bs1, d0).

3.3. Hygiene, health and the environment. HES-mix has humidity regulation features - it absorbs extra humidity from air and releases it afterward thus regulating micro climate in the room and that, in combination with antibacterial features of natural lime, creates healthy living conditions.

3.4. Safety in use. Individual protecting clothing should be used during construction works to protect skin and respiratory tract from lime dust or mortar.

3.5. Energy economy and heat retention.

Third party testing has proved that HES-mix is in line with European guidelines ETAG004 for External Thermal Insulation Composite Systems (ETICS), Latvian construction regulations LBN 002-15 "Ēku norobežojošo konstrukciju siltumtehnika" and LBN 003-15 "Būvklimatoloģija". HES-mix layer of 400mm meets requirements for external insulation walls set in LBN 002-15 for residential and public buildings.

3.6. Sustainable use of materials and energy conservation. Material is made of natural ingredients - hemp hurd, lime and water. In relation of Carbon footprint, HES-mix is taking up CO<sub>2</sub> throughout its life cycle. After demolition it does not create pollution.

4. Name of a manufacturer, address:

"HEMP ECO SYSTEMS LATVIA" SIA reg.no. 4010373379 „Vakari”, Tīnūžu pag, Ikšķīles nov, LV-5015, Latvija

5. Authorized representative:

Hemp Eco Systems SA Rue du Progrès 31 A 1450 ST-CROIX - Suisse

6. Product is manufactured according to System 3, as stated by EU Regulation 305/2011

7. Requirements of Latvian standard LVS\_EN\_771-3-2011 are met and proved by:

- BRE Centre for Innovative Construction Materials, Dpt. of Architecture and Civil Engineering  
University of Bath BA2 7AY United Kingdom April 17, 2013 LAMBDA test test report

- "Meža un koksnes produktu pētniecības un attīstības institūta Testēšanas laboratorija" (Meka) Test reports Nr.1272-1/2014 and Nr.1272-2/2014

- Vilnius Gediminas Technical University Scientific Institute of Thermal Insulation Test report No 1434, March 27, 2014



HEMP ECO SYSTEMS LATVIA

## HES-mix PRODUCT DESCRIPTION

LIDERIS ĒKU BUVNĒCĪBĀ UN RENOVĀCIJĀ  
NO EKOLÓGISKIEM MATERIĀLIEM  
HES (HEMP ECO SYSTEMS)

**HES - mix** is mix of hydrated lime and hemp hurd. It is also called as hemp concrete. All HES-mix products contain **HYDRATED lime**, which is pure lime used as binder. It contains minimum 75% calcium. HES-mix is made using catalysor HES+ which is know-how of Hemp Eco Systems. Hydrated lime gains strength and continues to absorb CO<sub>2</sub> after HES-mix is applied in construction.

Hydrated lime with its antibacterial features, ability to absorb CO<sub>2</sub> and regulate humidity (absorb and release it) are features that make HES-mix ideal material for maintaining healthy microclimate in residential and public buildings.

### Essential features of HES-mix :

- 1. Mechanical resistance and stability.** HES-mix is not intended to be used and should not be used in a construction as load bearing element.
- 2. Safety in case of fire.** HES-mix is safe to fire - does not generate or spread neither fire, nor smoke, meets requirements of fire safety Class A2 (Bs1, d0).
- 3. Hygiene, health and the environment.** HES-mix has humidity regulation features - it absorbs extra humidity from air and releases it afterwards thus regulating micro climate in the room and that, in combination with antibacterial features of natural lime, creates healthy living conditions.
- 4. Safety in use.** Individual protecting clothing should be used during construction works to protect skin and respiratory tract from lime dust or mortar.
- 5. Energy economy and heat retention.** HES-mix layer of 400mm meets requirements for external insulation walls set in Latvian standard LBN 002-15 for residential and public buildings.
- 6. Sustainable use of materials and energy conservation.** Material is made of natural ingredients - hemp hurd, lime and water. In relation to Carbon footprint, HES-mix is taking up CO<sub>2</sub> throughout its life cycle. After demolition it does not create pollution.

HES-mix can be used as efficient heat insulation material for walls, floors and roofs in residential and public buildings where maintainance of microclimat is essential.

### Main characteristics:

Thermal conductivity: 0,056 W/(m x K) (limit for external walls of residential buildings 0,18K).

Fire resistance: Class A2 (Bs1, d0)

Water wapour permeability:  $\mu$  5,48

### Contacts:

Jorgen HEMPEL - HEMP ECO SYSTEMS SA  
Rue du Collège 2 - 1450 St-Croix - SWITZERLAND - 0041 (0) 24.441.60.17  
[www.hempecosystems.com](http://www.hempecosystems.com) - [hemp@hempecosystems.com](mailto:hemp@hempecosystems.com)



## HES-mix DECLARATION OF PERFORMANCE

LIDERIS ĒKU BUVNĪCĪBĀ UN RENOVĀCIJĀ  
NO ĒKOĻOĢISKIEM MATERIĀLIEM  
HES (HEMP ECO SYSTEMS)

Page 2 from 2

Declared characteristics of

Essential characteristics	Performance	Technical specification or standard
<b>1. Mechanical resistance and stability.</b>	HES-mix is not intended to be used in load bearing constructions. Density 319 kg/m <sup>3</sup> Dimensions: length +/-0,3 %, width +/-0,2%, thickness +/-0,1%	EN 1602:2013, EN 1604:2013
<b>2. Safety in case of fire.</b>	Fire reaction class A2. During tests material did not react to fire, did not spread fire, did not generate sparks and did not burn through.	LVS EN 13823:2010 LVS EN ISO 11925-2:2011
<b>3. Hygiene, health and the environment.</b>	Antibacterial features thanks to natural lime. Microclimate regulating features thanks to natural micro-structure of hemp hurd - attracting and releasing humidity.	N/A - not applicable
<b>4. Safety in use.</b>	Individual protecting clothing should be used during construction works to protect skin and respiratory tract from lime dust or mortar.	N/A - not applicable
<b>5. Energy economy and heat retention.</b>	Thermal conductivity LAMBDA 0,056 W/m*K Thermal conductivity ratio U <sub>i</sub> 0,137 W/m <sup>2</sup> *K (wall thickness 400mm)	EN 12667:2001
<b>6. Sustainable use of materials and energy conservation.</b>	Material consists from natural organic and non-organic ingredients - hemp hurd, lime and water. HES-mix is taking up CO <sub>2</sub> throughout its life cycle. After demolition it does not create pollution, but returns in cycle of natural movement of substances.	N/A - not applicable

I declare that delivered materials corresponds to features and parameters declared above

St. Croix, Switzerland  
place

1st January 2016  
date

Autorised person: Jorgen HEMPEL - HEMP ECO SYSTEMS SA  
Rue du Collège 2 - 1450 St-Croix - SWITZERLAND - 0041 (0) 24.441.68.17  
www.hempecosystems.com - hemp@hempecosystems.com