

Date: June 17<sup>th</sup>, 2019

## 1. RAW MATERIALS

### 1.1. HEMP HURDS

MATERIAL:	Hemp hurds for building and insulation.	
NAME:	HES-hurds.	
DESCRIPTION:	Is the stem of the hemp plant, cut into chips (called hurds), after removal of the hemp fibres, sifted and cleaned for dust, it represents a material 100% natural.	
TECHNICAL DATA:	Density	Approx. 120kg / m <sup>3</sup>
	Thermal conductivity	0.05 w/mk
DESCRIPTION OF COMPOSITION:	<u>Standard grade:</u> "HES-hurds S" A balanced mix of large, medium, and small hurds, dust free. Minor presence of small fibres tolerated. No chemical treatment of the hurds. Size of chips varies from 5 to 20 mm	
	<u>Medium grade:</u> "HES-hurds M" Medium size hurds are used for HES-wall. Size of chips varies around 5 to 10 mm.	
	<u>Fine grade:</u> "HES-hurds F" Small size, dust-like hurds particles are used for HES-finish. Size of chips varies around 1-4 mm.	
	The 3 grades must be approved by Hemp Eco Systems SA.	
PACKING:	All hurds - 20 kg bales.	
UTILISATIONS:	Mixed with a binder and water, used as insulating and building material.	
STORAGE:	Dry place, under the roof, or covered with tarpaulins.	
SAFETY:	No hazard.	





## 1.2 BINDER

MATERIAL:	Hydrated lime.
NAME:	HES-lime A
TYPE:	Purity of 95-98.
DESCRIPTION:	Hydrated lime of superior and selected quality. This pure lime is able to contribute to the thermal and humidity regulation, cures by carbonation and uptake of CO <sub>2</sub> .
PACKING:	25 kg bags.
STOCKAGE:	In dry atmosphere.
SAFETY:	Use eyes protection, gloves and mask during the mixing process.





### 1.3 ADDITIVE TO BINDER

MATERIAL/PRODUCT: Composed natural additive for HES-mix and HES-wall.

NAME: HES-plus

DESCRIPTION: A blending of several natural minerals (no processed chemicals or cements) that have the effect of an accelerated curing of the lime (from 4-6 months to 1-2 days), without losing its important up-take of CO<sub>2</sub> (allowing continued carbonation), gives better mixing properties, and permits reduced quantity of binder.

USE: Add 3kg of HES-plus per 25kg HES-lime A, or follow specifications.

PACKING: 3 kg or 15 kg bags.

SAFETY: Use eyes protection, mask and gloves while mixing.

COLOR: Light grey.

HAZARD: None.





## 1.4 WATER

DESCRIPTION: Clean potable water.

USE: Water is added during the mixing process, first wetting the HES-hurds and at the end of the mixing process, to adjust the mixture.

PRECAUTION:

- The quantity of water used is very important.
- It is the water that will initiate the carbonation process.
- The quantity will vary with the outside temperature.
- Follow instructions.
- Too much water or too little can cause the curing to stop and the material will not stand-up.  
This effect is seen immediately.