1. RAW MATERIALS

1.1. HEMP HURDS

MATERIAL: Hemp hurs 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:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>Approx. 120kg / m3</td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>0.05 w/mk</td>
</tr>
</tbody>
</table>

DESCRIPTION OF COMPOSITION:

Standard grade: “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.

Medium grade: “HES-hurds M”
Medium size hurds are used for HES-wall. Size of chips varies around 5 to 10 mm.

Fine grade: “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

<table>
<thead>
<tr>
<th>MATERIAL:</th>
<th>Hydrated lime.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME:</td>
<td>HES-lime A</td>
</tr>
<tr>
<td>TYPE:</td>
<td>Purity of 95-98.</td>
</tr>
<tr>
<td>DESCRIPTION:</td>
<td>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 CO2.</td>
</tr>
<tr>
<td>PACKING:</td>
<td>25 kg bags.</td>
</tr>
<tr>
<td>STOCKAGE:</td>
<td>In dry atmosphere.</td>
</tr>
<tr>
<td>SAFETY:</td>
<td>Use eyes protection, gloves and mask during the mixing process.</td>
</tr>
</tbody>
</table>
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 CO2 (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.