7.1 THE HEMP RENDER

Hemp render is applied as both an interior and exterior wall coating. It can be applied to existing and new wall surfaces.

The hemp for insulating renders has, in general, a smaller particle size than the hemp used in the other compositions.

Hemp render can be ordered especially through Hempcrete Australia or Insulcore can be sieved to separate the smaller particles.

The binder INSULIME, or INSULIME white, is also used as a render and is conform to the European norms NF EN 459-1 and NF P 15-201-1.

7.1.1 The Mix

<table>
<thead>
<tr>
<th>Material</th>
<th>For 1m³</th>
<th>For 1m² (50mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulcore/Hemp wood</td>
<td>1000Ltr</td>
<td>52.5Ltr</td>
</tr>
<tr>
<td>Insulime</td>
<td>500kg</td>
<td>26.2Kg</td>
</tr>
<tr>
<td>Water</td>
<td>550 - 650Ltr</td>
<td>28.8 - 34Ltr</td>
</tr>
<tr>
<td>Sharp Sand</td>
<td>Variable</td>
<td>Variable</td>
</tr>
</tbody>
</table>

7.1.2 Hempcrete render has the following properties:

Please refer to Appendix charts, Weight & Thermal Properties.

- **Density:**
  - 800 - 1000kg/m³
  - 40 - 50kg/m² (50mm wall thickness)

- **Elasticity:**
  - 20 MPa after 90 days

- **Resistance to compression:**
  - >1 MPa after 90 days

- **R rating:**
  - 0.35

- **Thermal conductivity λ:**
  - 0.14

- **Thermal resistance:**
  - 0.71m²KW⁻¹ per 100mm

Mechanical strength, sound and thermal insulation depend on the amount of binder and hemp in the mix.
7. Hempcrete Installation: Hemp Render

7.2 PREPARATION AND GENERAL INFORMATION

A variety of surfaces such as brick, stone, timber, concrete and fibre cement sheet can be fitted with the insulating hempcrete render.

7.2.1 Surface conditions

- Timber surfaces must be well cured or dried.
- Surfaces must be dampened before render is applied, as per standard render applications.
- Loose particles should be removed and repairs undertaken with the same binder as used in render i.e. Insulime.
- Surfaces should be sound.
- Surfaces should have adequate flashing and waterproofing.
- A bond surface should be applied e.g. a stipple coat with a lime/cement render, or ties should be installed to encourage the best possible adhesion to the wall. Ties can be made of timber. See Figures 27 & 28.

Openings such as windows and doors should be adapted to the new thickness of the finished wall.

For external walls, a second render coat should be applied no sooner than 48 hours after application of the initial render. Render is applied in 20-40mm coats wet on wet.

Colorant and/or colored sands can be added to the final lime and sand coat.

The final coat should be a weaker lime mix, or a lime render with less compression strength.

This coat will be applied in two passes as per render standards.

Interior surfaces can be finished with lime wash.

The render must be able to breathe in all situations and at least one of its surfaces should be permeable.

Acrylic paint finishes are not applicable.

7.3 MIXING THE RENDER

1. Introduce 55-65 litres of water
2. Add the INSULIME or chosen render.
3. Mix for 3-5 minutes to obtain a homogenous milky paste.
4. Add the hemp and mix for 5-10 minutes until obtaining a homogenous mix and uniform colour.

The final mix should be fatty and smooth.

Do not mix for too long as the mix can become fluffy and lose its strength.
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Technical support
Please get in touch with us if you require further information - contacts below. The Hempcrete Australia website installers’ login is a rich source of information.

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