



Green Building with Industrial Hemp

Presented by Annie Rouse- US Fulbright Scholar: Canada





Technical
Fibers
Left: Baled
Right: Loose



Right:
The Core or Hurd



Hemp Insulation Fibers

Thermal Conductivity:
 0.038W/mK

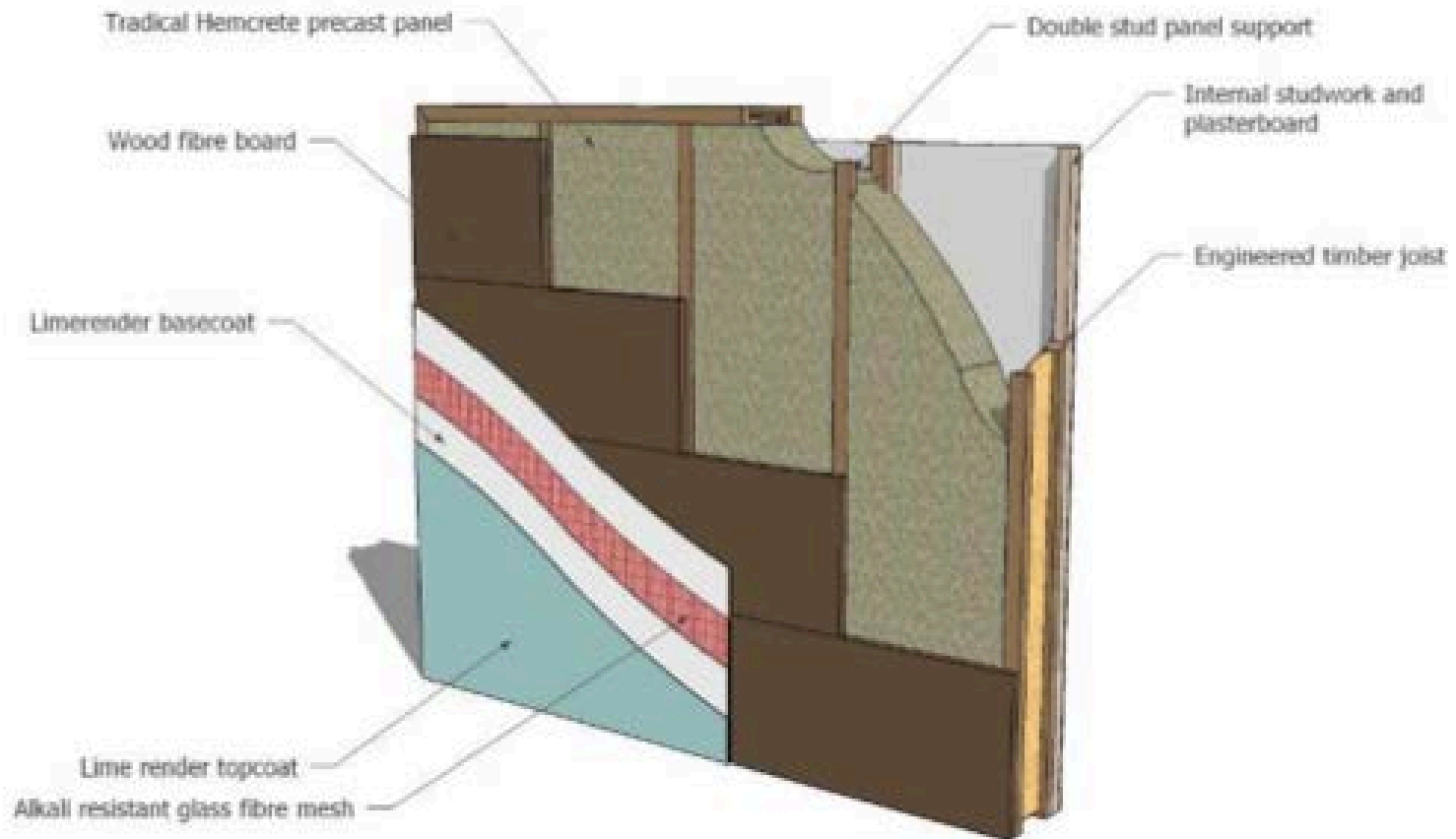


Australia and Europe



Source:

Hembuild® Structural Panel





Pictures provided by Mike Duckett, Stemia

Hemcrete® thermal conductivity



Conventional U-Values

U-value with 15% timber bridging fraction

layer	description	d (mm)	λ layer	λ bridge	fraction	R layer	R bridge
1	Rsi					0.13	
2	Lime Plaster	10	0.12	-	-	0.083	
3	Tradical® Hemcrete®	200	0.07	-	-	2.857	
4	Tradical® Hemcrete®	100	0.07	0.13	0.15	1.429	0.769
5	Tradical® Hemcrete®	200	0.07	-	-	2.857	
6	External Render	20	0.5	-	-	0.04	
7	Rse					0.04	
	TOTAL	530				7.436	

Total resistance: Upper limit: 7.329; Lower limit: 7.273; Average: 7.301 m²K/W

U-value = 0.137 W/m².K



Collective-evolution.com



Liebenfels.com

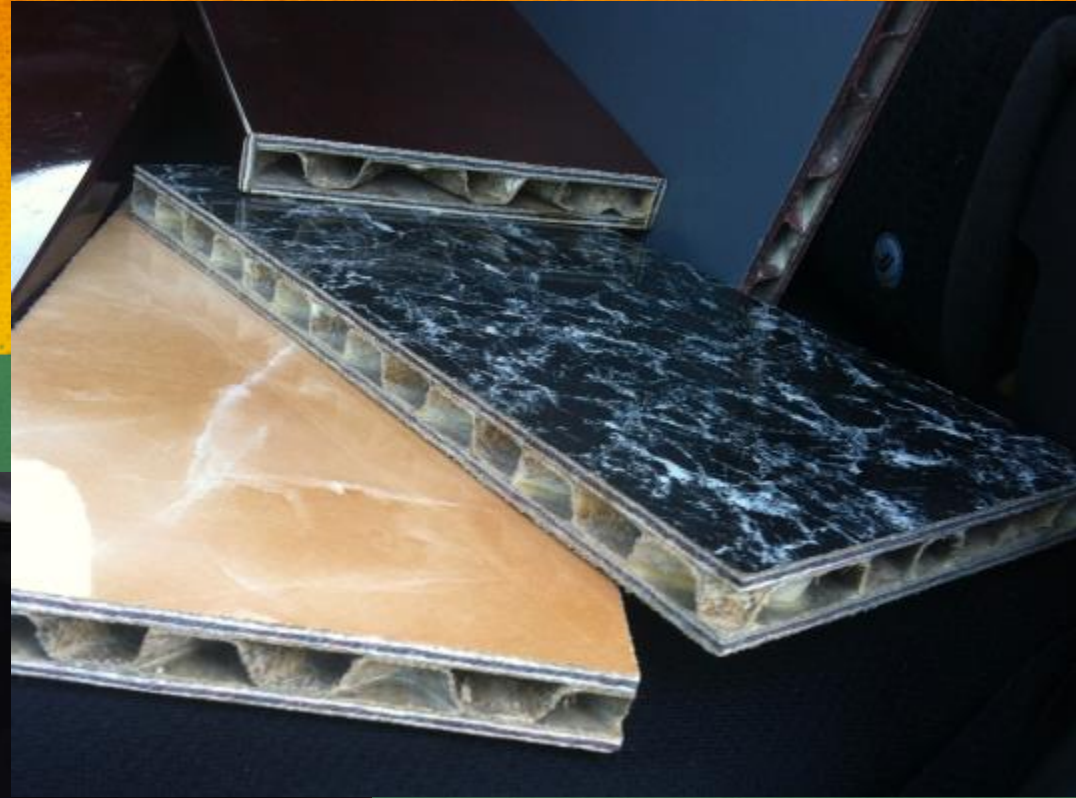


Thehempbuilder.com



Limetechnology.co.uk

Canada



Biofiber Hemp Block (left):
TTS, Inc.

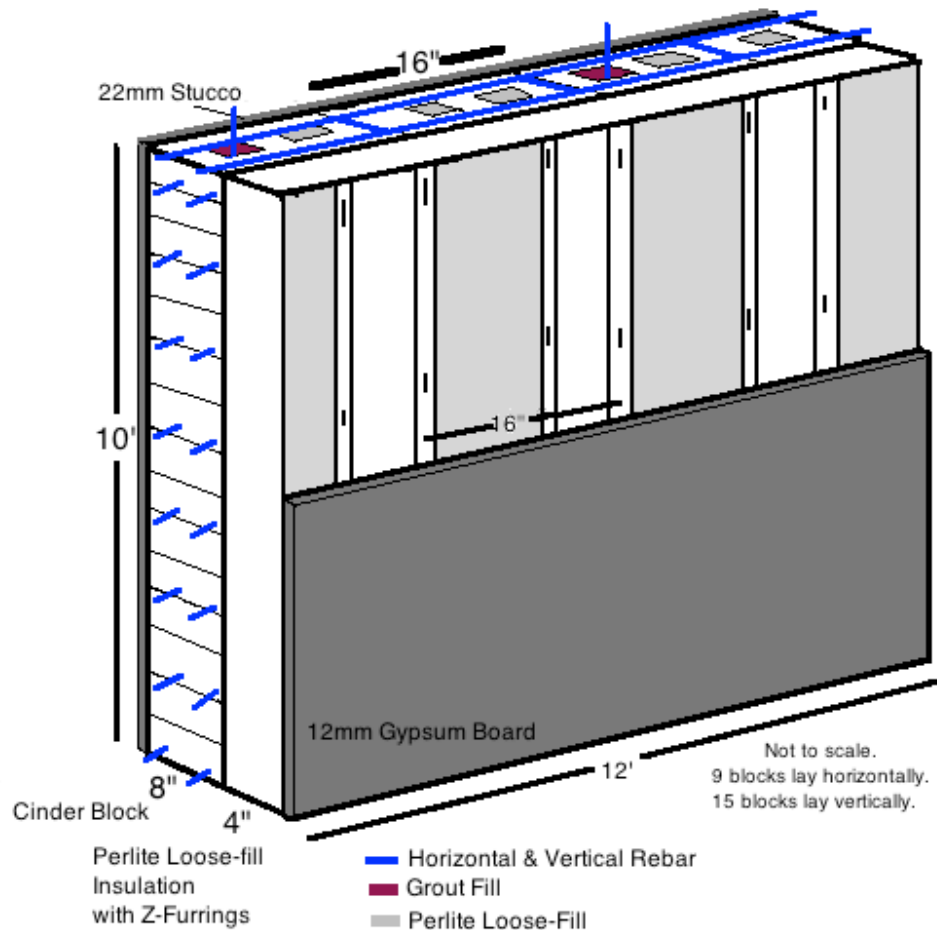
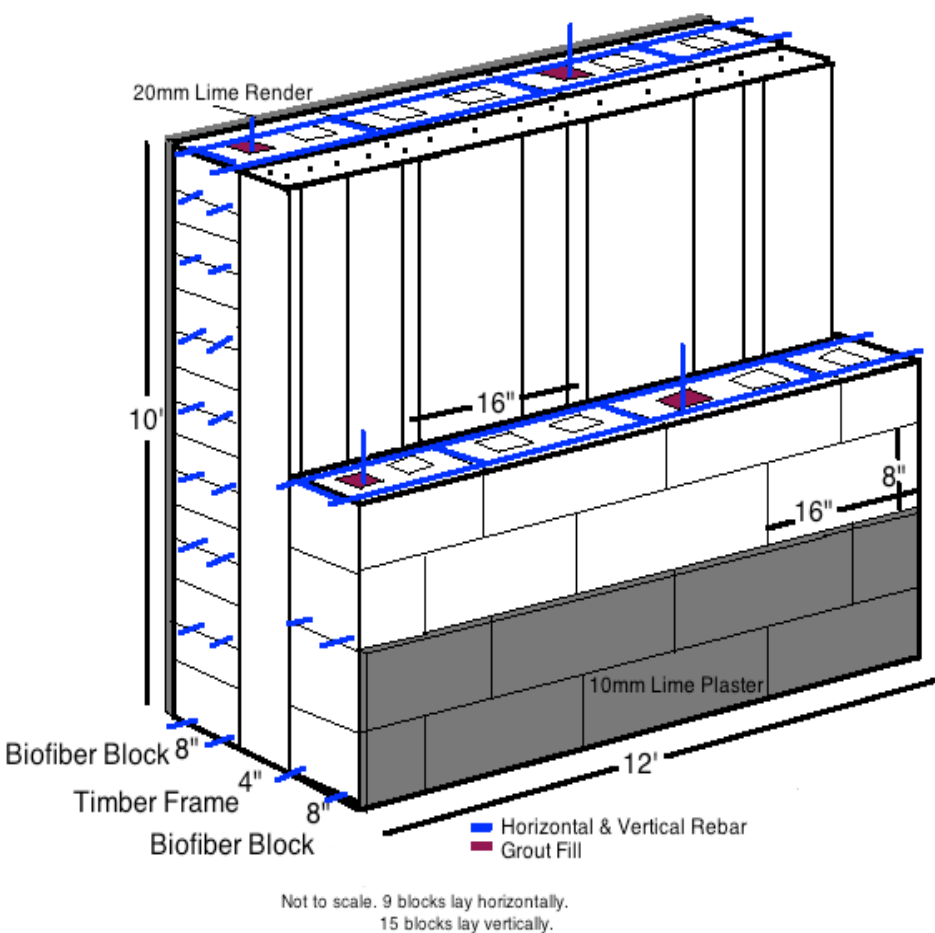
Hemp Panels and Beams
(above): Cylab Corporation
Alberta Ltd.

Benefits of Building with Hemp

- High insulation properties
- Low thermal conductivity
- Breathability acts as moisture buffer
- Minimizes thermal bridging
- Low effusivity improves thermal comfort
- Non-toxic, natural product
- Rounded walls
- Potentially carbon neutral



TTS Inc.'s Biofiber Hemp Block and LCA



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