



Hemp Building in the US and the Hemp Building Institute

Jacob Waddell, President of the Hemp Building Institute
11th International Hemp Building Symposium

PRESENTATION SUMMARY

- **Status of hemp building materials in the United States**
- **Hemp-lime appendix in 2024 International Residential Code**
- **USHBA hemp-lime commercial construction guide**
- **Hemp Building Institute - Hemp Building in Affordable Housing**

US HEMP BUILDING INDUSTRY

- **Increased Product Availability**

- HempWood - HempWood flooring and lumber
- Hempitecture - Hemp batt insulation, Hempcrete binder
- Americhanvre - Spray applied hempcrete application and Ereasy US manufacturer
- Homeland Hempcrete - Hempcrete panel system
- Divita Block and HempBlock USA construct building in US.
- Hempcrete and block development occurring across the country.
- Hemp supply chain continues to grow in the US.

- **Grant Opportunities**

- US Army SBIR (small business innovation research) program awards \$12.25 million to sustainable materials. Americhanvre announced as awardee.
- Home Innovations Research Lab, with the HBI and USHBA, apply for NYSERDA grant to create retrofit solutions with hempcrete.
- US Housing and Urban Development (HUD) Green and Resilient Retrofit Program (GRRP) makes available \$1.47 Billion for projects utilizing green retrofit materials and practices.



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INTERNATIONAL RESIDENTIAL CODE APPENDIX

- **International Residential Code (IRC) Hemp-lime Appendix**
 - Appendix BL - Hemp-lime (Hempcrete) Construction Appendix will be included on the soon to be published 2024 IRC code.
 - Important inclusions in the appendix are requirement for vapor open finishes and wall system.
- **Product testing started in the US**
 - Americhanvre performs ASTM C518 R-value testing on Eready spray system assisted by the Hemp Building Institute.
 - University of North Texas uses IRC required testing to evaluate a range of hemp-lime formulations.
- **Next Steps**
 - Code adoption by jurisdictions throughout the US.
 - Commercial construction acceptance.

HEMP-LIME COMMERCIAL CONSTRUCTION GUIDE

- **Commercial vs Residential codes in the US**
 - Commercial codes are focused on performance of the material than residential codes, which can be prescriptive.
 - Many code differences from common construction materials needed for hemp-lime can be referenced from the IRC appendix, if needed.
- **US Hemp Building Association (USHBA) announces development of hemp-lime commercial construction guide.**
 - Architects use guide specs when incorporating a material into a project's construction documents.
 - Most guide specifications for materials are reused for different projects and provided to architects to create specifications for a project.
 - By creating guide specifications for hemp-lime, the barrier to use these materials by architects in commercial projects is lowered.



Mission Statement

The Hemp Building Institute's mission is to research natural building materials and sustainable building practices, to educate the public on their benefits, and develop affordable housing concepts utilizing these technologies.

Jacob Waddell
President
Hemp Building Institute



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Accomplishments and Activities this year

- Sept. 2022 - International Residential Code (IRC) Appendix for Hemp-lime (Hempcrete) Construction approved.
- Jan. 2023 - Launched the Hemp Building Institute (HBI) to bring natural building materials to affordable housing.
- Jan. 2023 - Advised Savor the World on efforts to bring hemp building to Kenya.
- Feb. 2023 - Guided R-Value testing of Eready spray applied hemp-lime from Americhanvre.
- Feb to May 2023 - Advised research at the University of North Texas performing testing stated in the IRC appendix.
- Feb. to June 2023 - Led the completion of the commentary for the IRC hemp-lime appendix.
- June 2023 - Presented on hemp building materials to the National Association of Home Builders (NAHB) with Bob Escher AIA.



AFFORDABLE HOUSING WITH HEMP-LIME

- Affordable housing is often substandard housing.
- Substandard housing have increased health issues.
- Substandard housing has higher operational costs.
- If we can make these materials accessible to affordable housing, we can make it available to everyone.



HBI - FUTURE PLANS

- **Sustainable Affordable Housing** - Utilize natural building materials and sustainable building practices to develop affordable housing.
- **Research** - Natural building materials and sustainable building practices with a focus on how to implement in affordable housing.
- **Education** - Affordable housing: why it's necessary, what are the problems facing this process, and the solutions that natural building and sustainable business practices can provide.

CONTACT AND FOLLOW THE HBI

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