

The background image shows an outdoor workshop for natural building. In the foreground, a large pile of dark brown soil sits on the ground. Behind it, a low wall is under construction, featuring a base of stacked logs and a section of straw bales. Several people are visible in the background, some working on the wall and others standing nearby. A large tree stands to the left, and a building with a red-tiled roof is visible in the distance. The entire scene is framed by a decorative border with scrollwork in the corners.

RADICAL TO CONVENTIONAL

(Building Material Alternatives)



Presented by Myles Danforth of Reclamations
Natural Building and the Cascadian
Community Builders Cooperative

Alternative Building Materials

(to modern American standards)



- ❧ Clay(plasters,cob,mortar)
- ❧ Straw
- ❧ Charring (shou-sugi-ban)
- ❧ Clay-slip-straw
- ❧ Stone
- ❧ Sand
- ❧ Compressed Earth
- ❧ Wattle
- ❧ Earthbags
- ❧ Cordwood
- ❧ Natural Latex
- ❧ Linseed Oil
- ❧ Beeswax
- ❧ Dung
- ❧ Lime
- ❧ Gypsum
- ❧ Wool (animal fibers)
- ❧ Hemp
- ❧ Cork
- ❧ Bamboo

Shou-Sugi-Ban

(burnt cedar board)

- ❖ Charred Wood Siding
- ❖ Usually Cedar, Spruce, Pines or Redwood
- ❖ By the action of heat, charring removes hydrogen and oxygen from the solid, so that the remaining char is composed primarily of carbon.
- ❖ Leaves wood; UV, rot, pest, weather, and fire resistant!
- ❖ Unique Product Patterns



History

✧ Charring wood for construction purposes is thousands of years in practice; usually in the form of fence and building posts/piers.

Traditional Japanese cedar board charring has been recorded back at least to the 1700's in Japan.

✧ Process mimics the natural weathering of wood by ocean waters till preserved from elements. (driftwood)

✧ Advent of cement and plastics paired with cedar resource depletion has led to the practice as a "lost art"

✧ Recently regaining popularity worldwide



Shou-Sugi-Ban, Charred Siding, Yaki-Sugi

Methods

- **Ancient:** Pass boards across burning pit
- **Traditional:** 3 boards matched length to length wired together to make wooden chimney
- **Modern:** Use propane/natural gas torch to char wood surface.



Linseed Oil

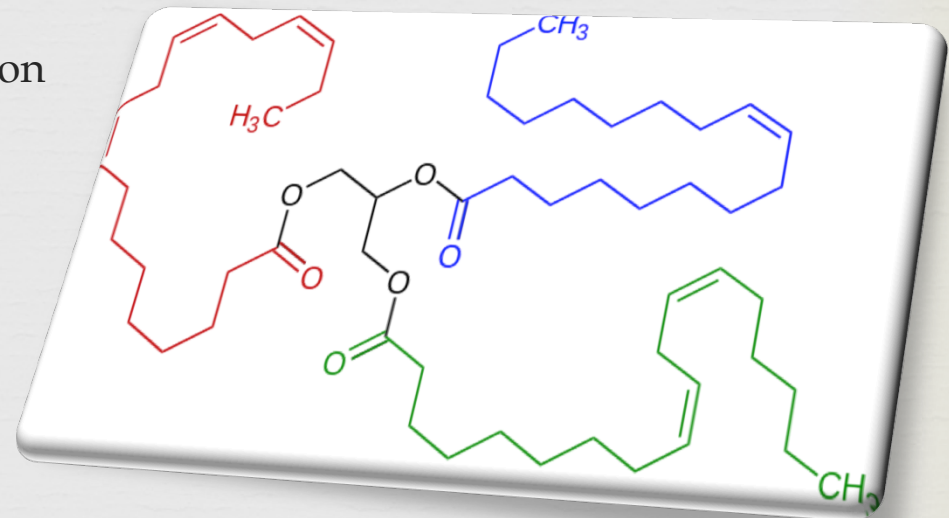


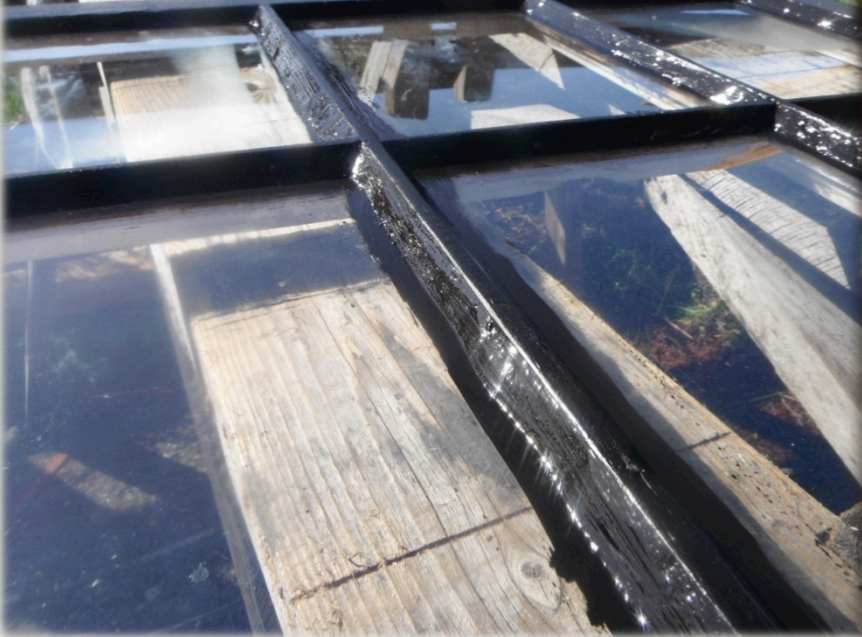
- ❧ Window Glazing Putty
- ❧ Earthen Floor hardener and sealer
- ❧ Wood Sealer/Preserver/Stain
- ❧ Non-Toxic
- ❧ Paint Binder
- ❧ Linoleum
- ❧ Food – (cold pressed)
- ❧ Pairs well with other naturally occurring finishes like Beeswax and nut oils

- Most applications of linseed oil exploit its drying properties, i.e., the initial material is liquid or at least pliable and the aged material is rigid but not brittle. The water-repelling (hydrophobic) nature of the resulting hydrocarbon-based material is advantageous.
- Having a high content of di- and triunsaturated esters, linseed oil is particularly susceptible to polymerization reactions upon exposure to oxygen in air. The reaction is exothermic.
- Used in paints and lubricants commercially since the late 1800's in the USA.
- Natural, petroleum solvent free*, indoor air safe once dried.



Linseed oil (aka Flaxseed oil)







Quick Find Sources

- ❖ <http://srshardware.com/shop/sarco-dual-glaze-putty/>
 - ❖ <http://www.solventfreepaint.com>
 - ❖ https://en.wikipedia.org/wiki/Linseed_oil
 - ❖ <http://charredwood.com/about/>
- ❖ The Natural Building Companion - <http://greenhomebuilding.com/reviews/naturalbuildingcompanion.html>