## Shelter Works Philosophy

"Sustainable, local, life cycle cost, green, embodied energy, healthful, LEED, thermal mass, carbon sequestering, indoor air quality, zero energy". *This vocabulary is part of the new language of building and construction*.

We live in a dynamic, creative, and exciting time to be in architectural design and construction. We are at the beginning of a revolution in the way we view shelter, energy, and ultimately, how we live together in our communities.

At ShelterWorks we are committed to this new paradigm and are enthused and proud to manufacture and offer the Faswall™ system. Our staff has a background in construction, material engineering, manufacturing and business management. The commitment to quality manufacturing and customer service runs through the entire organization. Our state of the art manufacturing facility is located in the beautiful Willamette Valley in western Oregon to make this proven, 'green' building product that embodies many of the qualities of the new way to design and build our shelters. The Faswall™Wood Chip ICF is our first in a series of products to be made available for the environmentally conscious architect, builder, developer, or homeowner.

ShelterWorks Ltd. is a licensee of K-X Faswall International Corp.



21,000 sq ft, commercial building-\$300-350/month heating costs in lowa's cold climate.



If we all had unlimited time, the 'greenest' way to build our shelters would be from the earth beneath our feet. Methods for owner-built construction have been rediscovered and refined using earth materials including rammed earth, cob, pressed earthen blocks and adobe.



We applaud the creative, innovative people that are raising their shelters with locally available resources.

Many of us are unable to build our own homes and need to partner with builders and designers and architects using commercially available products.

Being fully aware that there is not one commercially available product that has all 'pluses', we believe that

the Faswall™ wall system certainly has an impressive list. Truly a natural and sustainable product, please study the features list and judge for yourself. Our aim is to provide you with the facts of this product without hype and overstatement.

Manufacturing this product in Oregon gives this product one of the lowest embodied energies available in a commercially available wall system in the Western United States.

For Quotes, Plan Reviews, and Consultation please contact us.



Healthful and Sustainable Building Products

Phone: 541.929.8010

E-mail: info@shelterworksonline.com www.shelterworksonline.com



TEL: 541.929.8010 EMAIL: info@shelterworksonline.com www.shelterworksonline.com

## FASIVALL \*\*-Background

After World War II amidst the rubble and destruction a way was discovered to take the huge volumes of wood waste, grind it into chips, mineralize the chips to neutralize the natural sugars that cause rot, and bond them to cement to form a building block. This is the genesis of the Faswall™ ICF Wall Form. Since then, tens of thousands of homes and commercial buildings have been built in Europe and Asia



and North
America with
this remarkable
material. This
remains one of
the preferred
methods of
building in
Europe. It has
been available in

North America for close to 30 years. In 1987 Hans and Leni Walter of K-X Faswall International Corp. advanced the state of the art with a patented mineralization process that allows virtually any wood or cellulose fiber to be bonded to cement.



PO Box 832

Corvallis, Oregon USA 97339

Phone: 541.929.8010

E-mail: info@shelterworksonline.com www.shelterworksonline.com

Add'l information: www.Faswall.com

## FASSALL": non-foam ICF for a healthful & sustainable building envelope

- What's it made of?—85% mineralized wood chips from recycled wood and 15% Portland cement/fly ash; that's all.
- **Durable.** Faswall™ buildings can have useful lives measured in centuries, not decades.
- Utilizes a **renewable**, **sustainable resource** with one of the lowest embodied energies in a building material-wood. Unique and patented mineralization process allows use of many wood species.
- 4 hour fire rating. No flame spread, no smoke development (ASTM C-119-88, E-84-89a)
- Freeze and Thaw. Passed 300 cycle test (ASTM C-666)
- **Termite and Pest resistant.** Unlike foam, termites do not tunnel through Faswall™. Test by Univ. of Georgia Dept. of Entomology.
- Suitable for all seismic zones.



- **Sound Proof** (ASTM E 90-90). STC rating of 55: Creates exceptionally quiet indoor space.
- Cuts with carpenter's tools. Takes screws and nails on all surfaces. No installation or searching for furring strips.
- Meets or exceeds building codes and energy codes in all states.
- **Breathable.** Wall slowly exchanges air between outside and inside without compromising insulation value, eliminating any moisture buildup in the wall.
- Minimal bracing as compared to foam ICFs; concrete cures faster and more evenly as the hydration moisture can be released through the wall form; and up to 10' lifts are achievable without blow-out d
- Up to 60% LESS concrete infill compared to foam ICFs for similar wall thickness.
- Insulation inserts insulate the thermal mass into the living

**space** gaining the full benefit of a thermal fly wheel effect whereas foam ICFs isolate the mass from the living space.

- No fume out-gassing, no VOC's, no formaldehyde...period.
- For those interested in Bau Biologie, Faswall<sup>™</sup> has an ion ratio of **60% negative:40% positive**-approximates the outdoors
- Comparable installed cost to foam ICFs, SIPS, and advanced framing...
- Supervised unskilled labor can be used for installation. Ideal for owner built homes.
- Excellent substrate for plasters and stuccos; keys-in on the porous surfaces.
- Wall is highly alkaline and breathable. These two factors combine to be inhospitable to mold growth.. period.
- Faswall™ is hydroscopic; it absorbs and releases water vapor in a "sink effect' evens out indoor humidity.
- Insulated thermal mass into the living space contributes to lower temperature swings and significantly reduced heating and cooling costs. **Non thermal mass enhanced R value of 22 with 3" mineral wool inserts.** Performance R values significantly higher depending on glazing quality, southern exposure and climate.
  - Very low life -cycle energy cost.





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