

The TranShel

Frameless Hard Panel Shelter

Prototype for the Transitional Shelter Consortium

Benefits to Aid Recipients:

- ◆ Rapidly deployable secure shelter
- ◆ Pleasant hard-panel living space
- ◆ Adaptable as core house using local materials

Benefits to Shelter Providers:

- ◆ Compliance with draft standards
- ◆ Desired price point achievable
- ◆ Designed for easy transport
- ◆ Durable, re-usable, recyclable



Designed to Transitional Shelter Standards

- ◆ 18 m² space with excellent clear height
- ◆ Fire retardant panels
- ◆ Strength exceeds requirements

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Frameless hard-panel structures of precision die-cut panels made from flame-retardant UV-resistant corrugated polypropylene, configurable as needed. The initial TranShel exemplifies a design paradigm that can achieve diverse shelters appropriate for different climates and cultures.

TranShel and related structures are readily assembled, disassembled and are re-usable. Material has no off-gassing and is recyclable.

World Shelters' TranShel: Status

- ▣ WS created the TranShel design and prototype through to pre-production readiness in 10 weeks.
 - ▣ CAD + CAE + CNC + low-cost tooling + global production sources = rapid design, engineering, prototype and production
 - ▣ Frameless hard-shell structure of fire-retardant corrugated polypropylene can be any shape, size or strength to maximize benefits for low cost.
 - ▣ Multiple models possible for different cultures or climates, e.g. round with conical roof and many windows, or fully winterized for cold and snow.
- ▣ World Shelters' TranShel prototype meets load and strength specs, verified by licensed engineer's analysis, and below target price point.
- ▣ Manufacturing capacity defined in China, India, Chile, US. Manufacturing processes are simple and consistent. Ubiquitous global capacity.
- ▣ Initial price break at 50 shelters. Pricing model economy of scale at 1000 units.
- ▣ Ready for field pilot, of a contextually adapted configuration.



Full Engineering Analysis Report available at World Shelters website www.worldshelters.org

Page 1 of 23

ER-87451

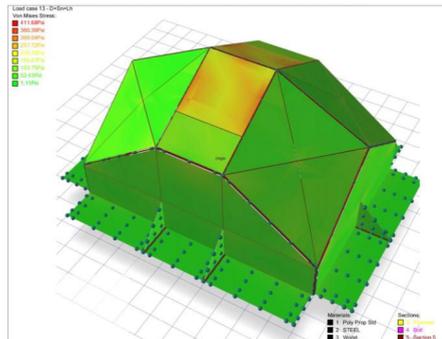
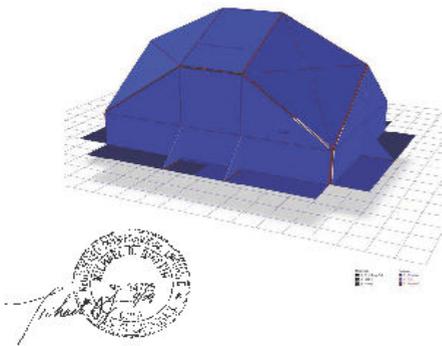
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Transitional Shelter Prototype

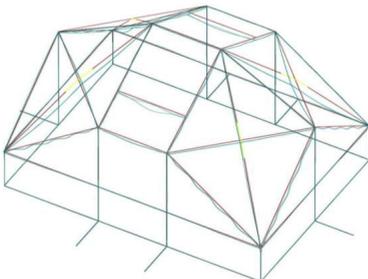
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Draft Engineering Report:
Shell Structure
24 April 2009

Panel load analysis and deflection graphics. See full report for details.

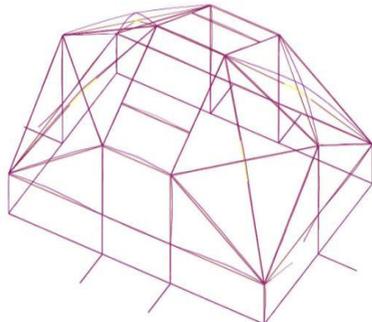


Live Load Deflection x 5



Live Load Deflection x 5

Drift Strain (2.5 mil)



World Shelters and the TranShel support agencies' transitional shelter programming

- ▣ World Shelters as an NGO is aligned with agencies' goals of rebuilding community and fostering economic development.
 - ▣ Minimizing foreign expenditures and maximizing local expenditures benefits the local economy.
 - ▣ WS can provide field support for transitional shelter projects boosting local productivity.
- ▣ TranShel encourages local architecture.
 - ▣ Panels provide ready attachments exterior and interior for using local materials.
 - ▣ Physically extensible into permanent dwelling using local materials.
- ▣ Transitional Shelter programming will require integrative cross-cutting methods to facilitate the transitional process.
 - ▣ More complex community processes and extended time-frames.
 - ▣ Capital inputs to fund local building adaptations.
 - ▣ Demonstration of and support for replication of localizations, to spark local building initiatives.
 - ▣ Program guidelines are important inputs to shelter design.

