

Proposal to Médecins Sans Frontières (RFP by Vincent Virgo)

Prepared by Bruce LeBel, Executive Director, World Shelters 2011.10.01

Addendum to proposal for Transitional Shelter, per MSF request:

World Shelters “TShel2” Single Family Two-Story Transitional Shelter

The TShel2 is a single-family two-story transitional shelter. The configuration shown is 24 m². The TShel2 is an adaptable low-cost building system appropriate for transitional shelter requirements from Haiti to Japan.

The TShel2 is a configurable, light-gauge steel framed, supported-floor, adjustable footing transitional shelter. The TShel2 is designed to be upgradeable to permanent housing using locally available construction materials and techniques.

The TShel2 was developed collaboratively by World Shelters and UberShelter following requests for assistance from World Shelters by USAID.

Please see the T-Shel2 summary flyer below for basic design information. Adaptations to meet further MSF functionality or design requirements can be engineered as a services engagement.

The panel material is flame retardant, UV-resistant 5mm corrugated polypropylene, with a 10-year lifetime if left unpainted, and a 15 year lifetime if primed and painted.

For its foundation the TShel2 does not require a concrete pad. Only six concrete footings are required to achieve the necessary strengths. (Site preparation and concrete footings are not included in our quoted price.)



A demonstration model is in Port-au-Prince for evaluation by agencies performing shelter programming including constrained land for development or ultra-small parcels where a two-story solution is required to provide adequate living space. With a single family dwelling, the residents can be established on their own parcel of land.

The demonstration model is one version of a configurable system adaptable to different needs and constraints. The dwelling size of the demonstration model is approximately 24 m² (18 m² enclosed plus 6 m² exterior covered space.) Photos of the demonstration model in Haiti can be seen at this Picasa web album link: [TShel2 - link to web album photos of demo shelter](#)

Please see the engineering analysis of the TShel2 for structural strength specifications by opening the embedded .pdf document below. (Double-click on the icon to open the file.)



TShel2 eng
review-2010-11.pdf

All materials used, and all costs, are detailed in the costed bill of materials, which can be provided in the next phase of evaluation.



Each TShel2 when palletized is 8' x 4' x 2.5' and weighs 1200 lbs. Depending on configuration, 30 each TShel2 should ship in an ocean freight container. The material kits can be distributed locally in lighter weight bundles as needed.

(Cost information removed from this version. Contact World Shelters for costs.)

Production in volume is rapidly available. Due to the wide range of configurations possible, production is always to order. Lead times are quoted at time of order.





WORLD SHELTERS

World Shelters is a US 501(c)(3) non-profit and international NGO with the mission of providing temporary and transitional shelter to meet the assessed needs of established agencies.

Agencies working on transitional shelter (t-shelter) projects in Port-au-Prince have found that many parcels of land are too small for typical t-shelters. A second story of living space is needed to provide adequate shelter area per person on these tiny lots. World Shelters was requested by USAID to develop a 2-Story T-Shelter for this assessed need. World Shelters and Uber Shelter partnered in a design that includes multi-level elevated flooring, variable configuration and adjustable feet for unlevel terrain. The resulting "T-Shel 2" is made from a galvanized steel frame and fire retardant UV-resistant polypropylene walls and roof. By adding SIP, CGI, or other permanent sheathing materials, the existing structure can transition to permanent housing. More rooms can be added using modular extensions or local construction. In-country programming can include fabrication steps, assembly and other opportunities for paid work by Haitians.



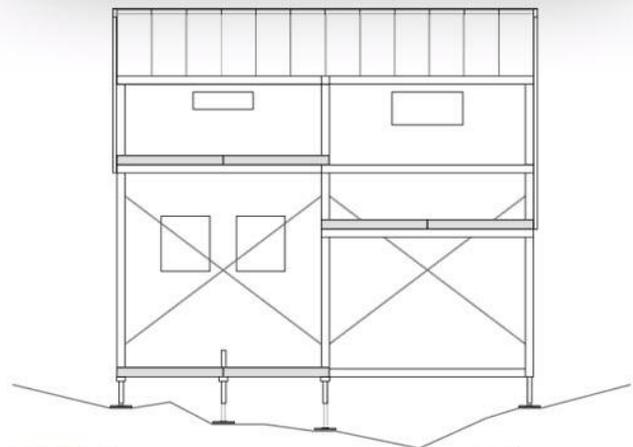
collapsed shelter 1.2x2.4x.76 m (4x8x2ft.)



18 sq m. interior (190 sq ft), 6 sq m. exterior porch

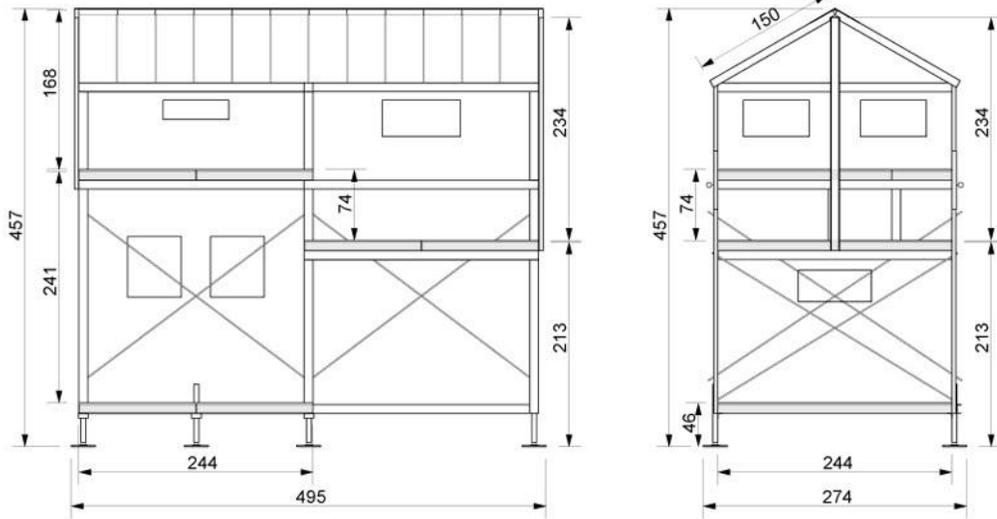
Strength Specifications: The designed strength loads for the T-Shel 2 are 100mph rated wind loads, per the Transitional Shelter Guidelines for Haiti, and 25 lbs/ft² floor loads. The T-Shel 2 demonstration model in Port-au-Prince has been determined, by analysis of licensed civil engineer, to have 86mph ultimate wind load and 70mph rated wind load with 1.5 safety factor. Incremental structural elements have been defined to achieve the design goal of 120mph ultimate wind load, 100mph rated wind load with 1.5 safety factor. Floor loads are 25 lbs/ft² with 1.5 safety factor.

Status: The demonstration model of the T-Shel 2 will be available in Port-au-Prince for evaluation by agencies. World Shelters and our manufacturing partners have capacity for production in any required quantity.



Contact: info@worldshelters.org and rafael@ubershelter.org or by phone at +1 707.845.5654.

● dimensions in centimeters



1 collapsed shelter 122 x 244 x 76 cm (4x8x2ft.)



2 assemble frame and floors



3 attach walls and windows

assembly

4 attach roof



● 18 sq meters interior (190 sq ft), 6 sq meter exterior

● 12 sq meter footprint

● modular design for variable configurations

modularity:



modular addition



duplex



fourplex