



## Main innovative aspects

### Modularity

- Temporary structure with extended life span
- Envelope is made of panels while entire structure is composed of interchangeable components
- The structure is freely extendable and can be adjusted to different needs, including accommodation, temporary health care clinic, office, NFI distribution centre
- The steel frame can be combined with local materials; reusable and sustainable

### Sustainability

- Mounted with ground anchors - leaves no damage after disassembly
- Can be assembled, moved and reassembled multiple times
- Does not contribute to deforestation
- Flat packed: cost- and shipping efficient with minimised environmental impact

### Comfort

- Full standing height and vertical walls
- Silent and robust
- Solar powered light and USB port
- Safe - lockable door, semi-hard walls and small windows

### Scalability

- Can be assembled and efficiently scaled up in teams
- The shelter can be assembled by beneficiaries themselves; empowers and contributes to feeling of ownership of the shelter as well as motivates maintenance of it.
- Flat packed: no additional tools required with everything included in the kit
- Automated production chain

### Process

- End user focus to ensure that the innovation is embraced by its beneficiaries.
- Collaborative, cross disciplinary development process, in which expertise is brought in from the humanitarian industry and combined with private sector design and engineering industry.

## Needs met

Better shelter is a global post emergency family shelter.

### Customers

Cost efficiency - small shipping volume, light weight

No reliance on local materials

Operational efficiency - limited training required and all components, tools and manuals are included in the shelter kit

### Beneficiaries

Accommodation - activities of basic living, for privacy, dignity, security, familiarity and the need for a higher level of comfort.



## Key information

Cost	\$1250 per unit
Weight	169 kg
Volume (flat-packed)	1.13 m <sup>3</sup>
Floor area	17.5 m <sup>2</sup>
Eave height	1.85 m
Maximum height	2.85 m
Expected life span	3 years
Sphere compliant	Yes
PV system	4 hours/day or USB power

## Performance evaluation

During the development of the Better Shelter, requirements were set, together with UNHCR, in regards to weight, price, volume, UV resistance and rain resistance as well as more general requirements such as safety, security and health.

As there are limited standards available to evaluate the performance of this type of structure, standards from the permanent building industry were used to set certain performance criteria. These include;

- the strength of the frame (wind and snow) which was calculated according to Eurocode
- the fire safety performance of the panels which have been tested and approved according to EN and ISO at SP Technical Institute of Sweden
- water tightness, tested according to an ISO standard used for tents

Parallel to calculations and laboratory tests, the product has been tested and evaluated extensively in the field together with UNHCR and with end users.