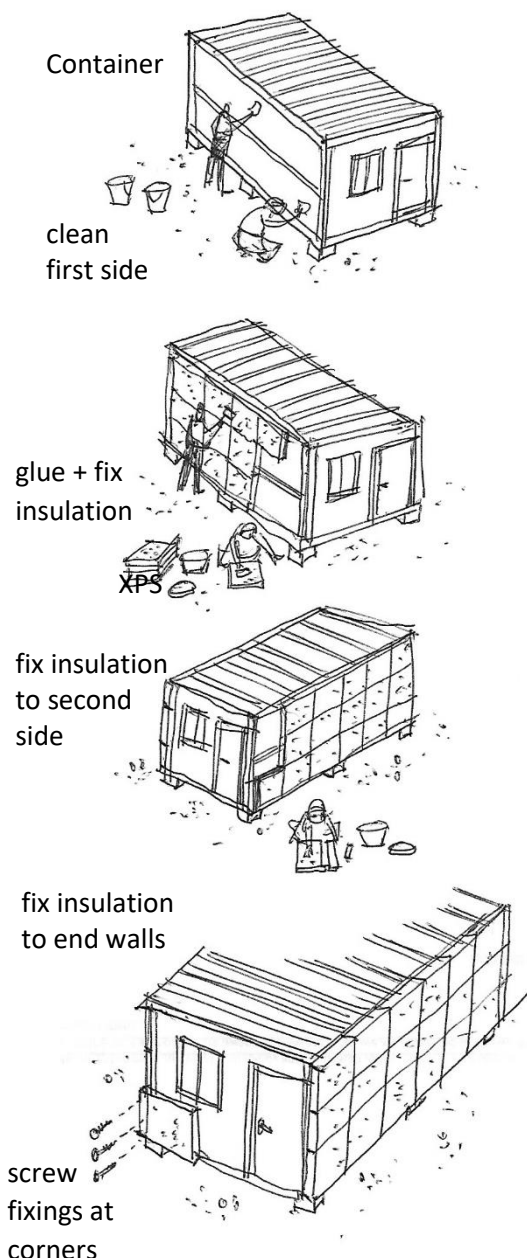


SUGGESTED IMPROVEMENTS FOR FOLDABLE CONTAINERS

The Türkiye Shelter Cluster TWG carried out field visits to Hatay, to the village of Zey (Adiyaman) and to the temporary accommodation centre (TAC) at Bebek (Adiyaman) to investigate potential shortcomings of the recently-installed foldable containers. The containers are constructed of plastic sandwich panels hinged together as a flat pack that can be quickly unfolded on site to form a c. 5.8m (L) x 2.5m (W) x 2.5m (H) temporary accommodation unit. Main concerns identified include: minimal insulation; gaps between panel elements; fragile flooring and roofing (tba); lack of partitions; potential for overturning in high winds. The following suggestions aim to address these issues as part of a low-cost winterisation upgrade which can easily be implemented by camp managers, by occupants and/ or neighbours.

A. External Improvements: Walls

(refer also to UNHCR BoQ and guidance)



Step 1

- Ensure that the container is level and adequately supported at corners and below mid-point of side walls using concrete blocks
- Use duct tape and silicone to seal all gaps in external walls
- Check you have all items / right quantities of the kit.
- Get a bucket of clean water and one of soapy water (detergent) and two clean cloths, one of them should be dry
- Clean the first side wall on the outside with a cloth and soapy water, rinse off with clean water.

Step 2 (DO NOT smoke from this point on)

- Prepare the glue as per manufacturer's instructions; spread glue evenly on the panels one by one with an applicator.
- Paste side of panels with glue and apply to the clean wall one by one as follows: you will do two lines of panels. You should start in an upper corner carefully aligning the piece with the edges. Then continue with more panels until it is necessary to cut using a sharp knife four small pieces from one panel to complete the whole wall. Use the roller to firmly fix the panels.

Step 3

- Repeat same steps on the opposite side wall.

Step 4

- Repeat same steps for front and back walls
- Note 1: overlap insulation panels at the corners so that there are no gaps, and fix at corners using screws through to insulation on side walls
- Note 2: carefully cut insulation to fit around the door and windows.
- Dispose of glue and waste responsibly

B. External Improvements: Roof

Step 1

- Cut sloping pieces of from (say) 200mm blocks of expanded polystyrene insulation board (e.g. XPS), min. thickness 50mm
- Glue boards to roof of container, minimise gaps
- **Note:** in high altitudes where snow loading will be critical, install sheets of 15mm plywood over the roof fscrowed down along the edges before laying XPS insulation over

Step 2: Option 1

- Install 1 no. 6 x 4m tarpaulin to approved Global Shelter Cluster specification centrally over the roof
- Fix bottom edges of tarpaulins to side wall insulation (**must not** penetrate container sandwich panel walls) using screws with rubber washers at c. 20cm/ 200mm centres

Step 2: Option 2

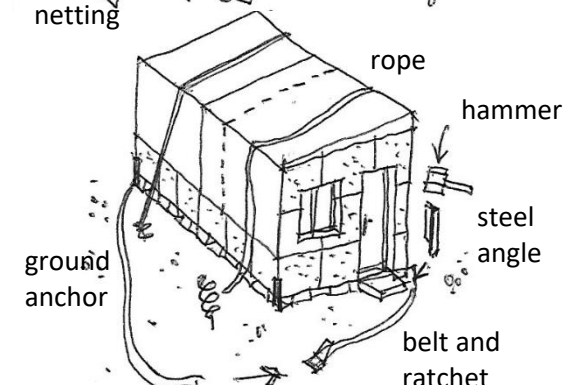
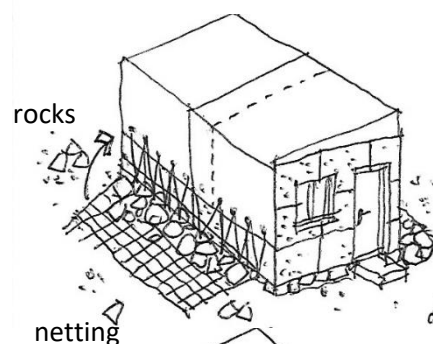
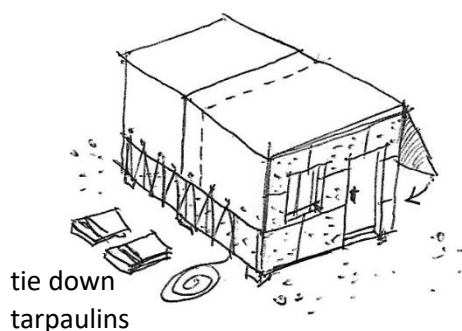
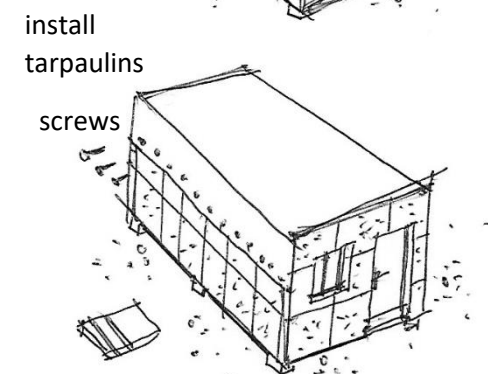
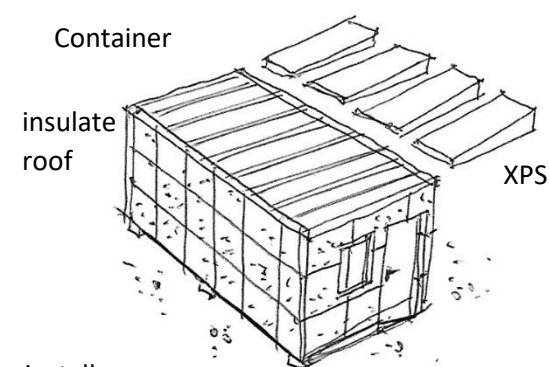
- Install 2 no. 6 x 4m or 5 x 4m tarpaulin with eyelets to approved Global Shelter Cluster specification centrally over the roof
- Minimum overlap of tarpaulins to be 1m, glue along join between tarpaulins as necessary
- Ensure bottom edges of tarpaulins are below horizontal fold line of container on both long sides
- Use 6mm dia. nylon rope or similar to tie down both tarpaulins
- Ideally pass rope under container using forked stick/ pole with ring attachment, tying down alternate sides of tarpaulin

Step 3: Stabilisation in high winds Option 1: Rural setting

- Pile up stones where available along the bottom edge of the container to make a low wall; **or better** is to capture rocks in strong netting tied to ropes holding down tarpaulin
- Use more loose stones to fill in the remaining gaps under the perimeter of the container to help improve the floor insulation

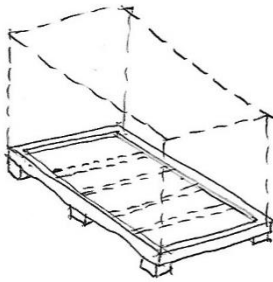
Step 3: Stabilisation in high winds Option 2: Camp setting

- To prevent overturning of the container in high winds, hammer 400mm long steel angles into ground at each corner
- Fit concrete blocks (no mortar) under the perimeter of the container to fill the gap, helps improve the floor insulation)
- For additional stability, fit a belt and ratchet around the base of the container and pull tight to keep steel angles close to corners
- For additional safety, use helical ground anchors twisted into ground/ gravel either side of container as secure fixings to tie down ropes over top of container



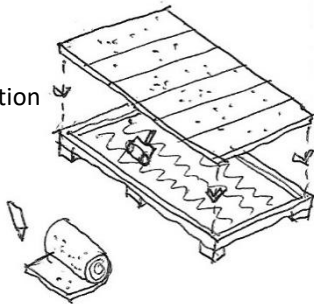
C. Internal Improvements

container
omitted



check and
clean floor

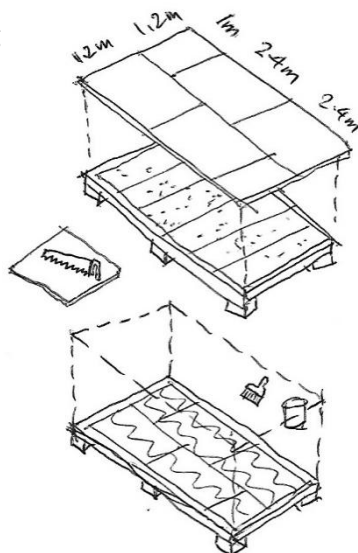
install insulation
boards



knife

matting

install
flooring



Step 1

- Place large rocks below the steel joists supporting the floor, wedged in as much as possible to give additional support
- Thoroughly clean and dry the internal fibre cement floor

Step 2

- Pre-cut 2.4m long sections of 30mm rigid board insulation ready for installation over the existing floor (XPS, PIR, PUR)
- Note: Check height of completed floor will not block door swing
- Starting from the door, loose lay first piece matting in place; try to keep the board tight to the perimeter
- Position the next piece adjacent to the first section, pressing the pieces together to minimise any gap
- Continue until the insulation board layer is complete

Step 3

- Cut 11mm plywood or OSB (oriented strand board) to size
- Re-check clearance of front door above proposed new level
- Starting from the door, install the first full board (2.4 x 1.2m) and half board (1.2 x 1.0m) as shown in the sketch
- Continue laying boards until the floor is complete, minimising gaps between boards and at wall edges

Step 4

- Apply quick-drying varnish, paint or other waterproofing finish to the whole floor using a wide brush or similar
- Once dry, install carpet/ rugs for extra insulation and comfort