



Addendum to proposal to MSF U-Dome200 18.5m² Shelter for 5

*A uniquely efficient shelter. A new shelter paradigm.
Advantageous solution for a wide range of shelter needs.*

Price, in quantity of 5000 for MSF:

- (Cost data removed. Contact World Shelters for costs.)

Benefits:

- Lightweight compact shipping
- Pleasant secure living space
- Simple assembly
- Flame retardant
- UV-resistant (long life)
- Low cost, durable
- Withstand high wind, rain
- Snow load option (Snow Peak)
- Insulation panels option
- Disassemble and re-use



Design Features:

- Shingled construction
- Shell structure, no internal frame
- Panels form internal support struts
- U-Dome200 is 16 ft diameter, 12 ft tall, 200 square feet (18.5 m²)
- Several door options
- Several floor and platform plans for various site conditions
- Roof vents and panel vents, including 25-watt solar powered roof vent
- One opening screened window and one fixed window
- Graphic instructions supplemented with multi-language details
- Re-usable nylon fasteners install with simple hand tools
- Assembles with four people in four hours
- 75 units ship in a standard ocean freight container.
- Recyclable material



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U-Dome200 Specifications

Dimensions	4.88 m diameter x 3.66 m height (16 ft diameter x 12 ft height) 18.6 m ² enclosed space (200 ft ²)
Materials	Panels are flame-retardant corrugated polypropylene, 5mm thick (mat'l specs available) Precision die-cut panels of five shapes, including pre-punched bolt holes 3 to 5 year panel lifetime if not painted or protected from UV Can paint with exterior latex enamel (water based) for UV protection and extended use
Fasteners	Bolts nylon M6x30mm Philips panhead, natural Nuts nylon 66 "Push-n-Twist" M6 black Washers nylon 25mm OD x 6.3mm ID, natural
Design	Weatherproof shingled laminar dome of diamond panels, scored/folded into triangles 2v icosahedron geometry, ½ dome on vertical wall 1.17m (46") Internal framework provided by "origami beams" folded from the panels on every interior edge External shingling of every edge and vertex
Doors	Dome panels pre-cut to frame 24"x72" 10mm poly or RV-style locking solid and screen double door Interior wooden door frame included for 24"x72" doors Dome panels pre-cut to frame 30"x80" door, for US pre-hung exterior door (acquired locally)
Vents	Roof vents: aluminum hooded and skirted vent, 4", 6" or 12" diameter Panel vents: aluminum screened and shingled vent, 6"x16" Cooking vent or wood stove vent: galvanized steel panel with pass-through for specified vent pipe
Windows	Acrylic (Plexiglas) triangle windows 17" tall x 34" wide, with screened opening mechanism.
Snow/Cold	Snow Peak option shunts snow off of the uppermost / most horizontal roof section Insulation panels option provides R17 insulation. 4mm FR inner panels enclose 10cm thick sections.
Floor options	Floors are provided by user, as appropriate for each site Plans provided by WS for joisted floor using ¾" OSB and PT 2x4's
Modularity	Multiple U-Domes can be joined together
Load capacities	Standard single-shell U-Dome: Wind resistance to Force 9; Snow load to 10cm (4") on ground snow Double-U Dome for winter, with Snow Cap: snow loads in excess of 25cm (10") ground snow Insulation by dead-air gap of 9cm (3 ½"), minimizes both conduction and convection
Anchor/guying	Footing at base of vertical wall panels provides screw-down anchor points into wooden platforms Attachment eyes at key locations on U-Dome for attaching guy lines and/or anchor lines Anchoring is mandatory. Guy lines recommended when wind exceeds 40mph.
Instructions	Iconic instructions and labeling on every edge of U-Dome panels guide the assembly process
Assembly	Four people can assemble a complete U-Dome in four hours.
Standards	Complies with Sphere standards, suitable for maximum five residents
Shipping	1.82m x 1.52m x .25m (72"x60"x12") unit pack includes U-Dome shell, fasteners, instructions, tools Packed in one parcel of 91kg (200lbs), can be hand carried by 2-3 people to site of use 75 unit packs fit inside a standard 40' shipping container = 1,784 m ² (19,200 ft ²) shelter per container

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Engineering Strength and Load Analysis

Following is the Engineering Report for the U-Dome200 by World Shelters' licensed civil engineer.. The embedded .pdf file can be opened by double-clicking on the icon.



U-Dome200 5mm eng
report.pdf

Summary:

World Shelters is an international NGO and US non-profit (501c3) with the mission of supporting established agencies' expressed needs for shelter. We are unique in that we design and manufacture our own lines of shelters appropriate for a wide variety of emergency relief and transitional shelter contexts.

World Shelters emphasizes the importance and value of transitional shelter as a means towards rebuilding communities by enabling productivity and economic development as a corollary outcome from provision of shelter. Whereas emergency relief shelter is an expense with no mid-term or long-term value, transitional shelter has retained value as an asset with specific purpose on a path towards permanent housing.

World Shelters' U-Dome is the most cost-effective and strongest by weight transitional shelter available today. U-Domes are rapidly deployable, and able to be dismantled and relocated if needed.

The double-shell insulated W-Domes with Snow Peak are appropriate for areas that can have one meter or more of ground snow. The double shell provides R17 insulation value, and also significantly increases the strength of the structure.

We trust that you will find that these shelters offer significant value and are appropriate for your requirements. Please engage us with any questions you may have.

For World Shelters it will be our privilege to be of service to MSF.

Bruce LeBel
Executive Director

2011.09.19



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Options in addition to the U-Dome200 18.5m² Shelter for 5
(Costs removed from this version. Contact World Shelters for costs.)

Item	Total
<u>U-Dome200 configured</u> Shelter only (as detailed on p.1)	\$ Cost as configured for MSF
Option: Base and floor <u>Base and floor for U-Dome200</u> Deliverable kit plus local labor	\$ OSB and PT 2x4's, on gravel or sand base
SUBTOTAL SHELTER + BASE	\$ Not including freight



Option: Door upgrade
Door Upgrade for U-Dome200:
 Door, double with screen, RV style

\$ incl. inner wood frame; cost increase over 10mm poly door

Options: Snow Peak and Insulation Panels
Snow Peak Upgrade for U-Dome200:
 Snow Peak
 Insulation Panels

\$ Shunts snow from the upper (most horizontal) roof section
 \$ Inners shell of 4mm FR/UV panels for R17 insulation

Option: U-Dome120 (10.2m²) Shelter for 2-3
 Can be quoted upon request

