Haiti: Relief, Rebuilding and Recovery
2010 01 17

Trauma Center, Surgery Suite and Patient Care for Haiti

- Staffing, equipment and supplies by Project HOPE
- 3000 ft2 total enclosed space
- Separate rooms for surgical procedures
- Cots/”ward beds” for 30 - 50 patients
- Adequate lighting for different purposes
- Air conditioning and ventilation
- Refrigeration
- Water purification system
- Adequate power 120% of anticipated max load: 80% solar, 40% generator

Budget 3,000 ft2 Enclosures for Trauma Center, Surgery Suite and Patient Care

- Two each 44 ft diameter domes with enclosed rooms inside the shells
  - Galvanized steel frame
  - Assemble by hand – no special equipment required
  - Fire-retardant and UV-resistant cover
    - White “Tropical Plus” vinyl
  - Windows
  - Overlap fabric doors
- Two - Five (or more, as specified), enclosed rooms
  - Hard-panel frameless enclosed rooms
    - Options include 110 ft2, or 200 ft2
    - Price includes 3 ea 110 ft2, 2 ea 200 ft2
- High-efficiency LED lighting, appropriate for the purpose of each space
- Air Conditioning for both 44 ft2 domes
- Vent fans, self-contained solar powered
- Adequate electricity for all lighting and air conditioning
  - 80% of capacity from solar electric system
    - Solar panels, gel batteries, invertors, control boxes, wiring
  - Additional 40% of capacity (i.e. 120% of load total) provided by quiet generators
    - fuel to be specified (propane, gas, diesel)
- Refrigerator 12v DC 15 ft3 ultra-high efficiency for vaccines and similar items
- Extra-cold refrigerator 12vDC 10 ft3 ultra-high efficiency for whole blood and serum
- **TOTAL PRICE FOB ORIGIN: $177,000**
Interior structures are frameless, hard-panel fire-retardant structures of either 110 ft² or 200 ft².
Layout is adaptable based on needs. Additional interior enclosed rooms can be provided.
# 44 ft (13m) EVENT DOME

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>Diameter at Base</td>
<td>44 feet (13 meters)</td>
</tr>
<tr>
<td>Ceiling Height</td>
<td>22 feet (6.7 meters)</td>
</tr>
<tr>
<td>Floor Space</td>
<td>1,520 sq. feet (141 sq. meters)</td>
</tr>
<tr>
<td>Frequency</td>
<td>6 (1/2 sphere)</td>
</tr>
<tr>
<td>Round Event Doors</td>
<td>3</td>
</tr>
<tr>
<td>Linear Measurement</td>
<td>2,535 feet (773 meters)</td>
</tr>
<tr>
<td>Standard 0.92* Frame Weight</td>
<td>1,166 lbs. (520 kg)</td>
</tr>
<tr>
<td>Approx. Cover Weight</td>
<td>800 lbs. (363 kg)</td>
</tr>
<tr>
<td>Total Weight of Dome</td>
<td>1,966 lbs. (882 kg)</td>
</tr>
<tr>
<td>Assembly Time</td>
<td>12 hrs with crew of 3 or 4 (special equipment)</td>
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<tr>
<td></td>
<td>*may take 18 hours for first time setup crew</td>
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</table>

**Standing:**
- 217 people

**Row Seating:**
- 140 people

**Buffet Dinner:**
- 125 people

**Round & Stand Up Tables:**
- 100 people

Please contact us for more information about available options, alternative covers, or heavier frames.

*All weights are calculated, not actual shipping weights.*
Interior structures under the 44 ft dome shell:

World Shelters’ U-Dome200 and U-Dome110

Note: these structures can also be erected and used outside of the larger 44 ft dome shell.

Benefits:
- Lightweight compact shipping
- Pleasant secure living space
- Simple assembly
- Flame retardant
- Low cost, durable
- Withstand high wind, rain
- Disassemble and re-use

Design Features:
- Shingled construction
- Shell structure, no internal frame
- Panels form internal support struts
- Several door options
- Several platform plans for various site conditions
- U-Dome200 is 16 ft diameter, 12 ft tall, 200 square feet
- U-Dome110 is 10 ft x 14 ft x 10 ft tall, 110 square feet
- Recyclable material

U-Dome200 Specifications

Dimensions
- 4.88 m diameter x 3.66 m height (16 ft diameter x 12 ft height)
- 18.6 m² enclosed space (200 ft²)

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

World Shelters is an NGO - US non-profit 501(c)(3)
550 South G St., Suite 3, Arcata, CA 95521 USA  phone +1 707 822 6600  *  fax +1 707 633 1737
www.worldshelters.org  info@worldshelters.org
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 skirited 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.

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
76 unit packs fit inside a standard 40’ shipping container = 1,784 m2 (19,200 ft2) shelter per container

For additional information, please contact World Shelters
info@worldshelters.org
www.worldshelters.org

+1 707 822 6600 (office)
+1 707 845 5654 (24-hour disaster response line)
+1 707 633 1737 (fax)