



800-794-8037

www.shelterworks.com

FREEDOM SERIES™

PRODUCT DESCRIPTION

1.0 SCOPE

These descriptions outline the design, materials of construction, fabrication, assembly and characteristics of the standard Freedom Series™ fiberglass composite shelter. Optional features and additional provisions are also outlined.

2.0 GENERAL

2.1 Shelter Type

2.1.1 The Freedom Series™ shelter is a durable, corrosion-resistant, molded fiberglass composite structure comprised of four molded wall panels, a molded one-piece roof, and molded door(s). Floors are optional. The standard shelter is pre-assembled but can be shipped for easy on-site assembly.

2.2 Standard Sizes

2.2.1 Standard widths are 4 foot to 16 foot in two foot increments. Custom widths are available.

2.2.2 Standard lengths are 6 foot to 24 foot in four inch increments. Custom lengths are available.

2.2.3 Standard wall height is 8 foot. 9 foot and 10 foot wall heights are also available. The grid below is for a standard 8 foot wall height (overall height is relative to the width of the shelter):

Shelter Width	Shelter Height
4'	8'10"
6'	9'2"
8'	9'6"
10'	9'9"
12'	10'0"
14'	10'3"
16'	10'6"

2.2.4 The inside height is not less than eight foot near the walls. The vaulted inside ceiling height at the peak or ridge is the same as the overall height (less the thickness of the roof, which is typically 1.25").

2.2.5 A flat ceiling may be integrated as an option.

2.2.6 Custom heights are available at an additional cost.

2.3 Standard Weights

2.3.1 See table below for approximate weight of each shelter size.

Shelter Size & Weight Chart Approximate Weights					
Length	Width				
	4'	6'	8'	10'	12'
4'	420				
6'	500	630			
8'	580	750	880		
10'	660	870	1010	1150	
12'	740	990	1140	1290	1440
14'	820	1110	1270	1430	1590
16'	900	1230	1400	1570	1740
18'	980	1350	1530	1710	1890
20'	1060	1470	1660	1850	2040
22'	1140	1590	1790	1990	2190
24'	1220	1710	1920	2130	2340

Options which will increase the weight of each shelter:

- Floor systems, fiberglass, wood, aluminum or steel
- Additional optional equipment: heaters, A/C units, etc.
- **HARD CORE**, the addition of wood along with the foam core constructions. This is recommended when equipment and fixtures will be attached to the walls.

2.4 General Assembly

2.4.1 The standard shelter is delivered fully assembled.

2.4.2 Where on-site assembly is required, comprehensive, easy-to-follow assembly instructions are provided or SHELTER WORKS™ may be contracted to assemble the shelter(s) on site.

3.0 STRUCTURAL

3.1 Finish

3.1.1 All exterior gel coated finishes of the Freedom Series™ shelter are produced in molds, using 18-20 mils of high quality gel coat with U-V inhibitors. This produces a uniform, impermeable shield which protects against the sun's damaging rays and is free of pinholes or other irregularities which can allow water to penetrate the structure.

3.1.2 The gel coat is pigmented with standard or custom colors and never needs to be painted.

3.1.3 The gel coated finish is impervious to a corrosive atmosphere.

3.1.4 The interior surfaces of the walls and ceiling are coated with white gel coat which makes the shelter interior easy to illuminate and keep clean.

3.2 Walls

3.2.1 The seamless, one-piece walls are composed of a one-and-a-half inch foam core bonded between two stressed skins of fiber reinforced plastic (FRP), each skin approximately .125" thick. Total wall thickness is a nominal 1.25". Standard insulation value is R-11.

The exclusive FIBER-BEAM lamination system periodically connects the inner and outer fiberglass skins through narrow gaps between the vertical strips of foam core insulation. This structural connection between the inner and outer surfaces creates stiffer, stronger walls and roofs and ensures lasting structural integrity.

3.2.2 Improved wind load and insulation values can be gained by increasing the thickness of the foam core. This option is called PLUS CORE and is available in .5" increments.

3.2.3 If heavy equipment is going to be secured to the walls, we recommend that a layer of 1/2" wood sheathing be bonded to the foam core and encapsulated into the wall. This option is called HARD CORE. HARD CORE can be utilized in localized areas or throughout the entire structure.

3.2.4 If there is to be a large penetration through the wall (for example, an air conditioner opening), SHELTER WORKS™ may mold the opening, rather than cutting, whenever it is practical to do so. This helps to ensure the lasting integrity of the shelter.

3.2.5 At the base of each wall is a 4.75" wide base flange. This flange folds toward the interior of the shelter and is used for anchoring the shelter to the flooring system or base (concrete, metal, etc.).

3.2.6 Optional partition walls can be fabricated to divide a shelter into two or more rooms.

3.3 Roof/Ceiling

3.3.1 The roof is a vaulted hip design. There are no eaves. A flat ceiling can be incorporated as an option.

3.3.2 The seamless, one-piece roof is composed of a one-and-a-half inch foam core bonded between two stressed skins of fiber reinforced plastic (FRP), each skin approximately .125" thick. Total minimum roof thickness is a nominal 1.25". Standard insulation value is R-11.

3.3.2 Improved snow load and insulation values can be gained by increasing the thickness of the foam core. This option is called PLUS CORE and is available in .5" increments up to 3" thick.

3.3.3 Roof trusses may be molded and integrated into the roof to lend support where needed. The appropriate number of trusses are included to meet the design loads. These trusses may also be used as members from which to suspend items from the roof. Additional trusses may be added as optional equipment and can be strategically placed for convenient outfitting.

3.3.4 If heavy equipment is going to be secured to the ceiling, we recommend that a layer of plywood be bonded to the foam core and encapsulated into the ceiling. This option is called HARD CORE. HARD CORE can be utilized in localized areas or over the whole surface of the ceiling.

3.4 Doors

3.4.1 Using the same materials of construction, doors are fabricated by SHELTER WORKS™ to be completely compatible with our shelters. A standard door is three foot wide, six foot eight inches high, and 1.75" thick. A door can be placed anywhere on a wall.

3.4.2 The standard threshold is 3.5" high for easy stepover but can be raised as high as 12" above the floor level to allow for special environmental considerations (such as deep snow), or to allow the bottom portion of the shelter to be used for liquid containment.

3.4.3 Optional trip-proof threshold is only one-half inch high. This safety feature also allows equipment to be easily wheeled through the doorway.

3.4.4 Doors can be hung to swing right or left or may be hung as double doors. Mullions are optional with double doors.

3.5 Door Hardware

3.5.1 Each door is hung on 4" x 4" stainless steel ball bearing hinges with non-removable pins. The hinges are bolted through the door jam with stainless steel fasteners. For tamper resistance, the hinges are oriented in the full-mortised position with no fasteners exposed when the door is closed.

3.5.2 Each door comes with a heavy duty track-type door holder . This device prevents the door from opening beyond 95 degrees and allows for shock absorption. An adjustable tension setting allows for the door to be held in the open position until it is firmly pushed to close.

3.5.3 Standard doors are trimmed with a weather-tight neoprene gasket and a door sweep.

3.5.4 The standard latching device is a three-point system which holds the door snugly closed at the top, middle and bottom. Rollers are utilized to ensure smooth latching action. A handle is provided on the door which allows the door to be pulled closed from the inside. The cast stainless steel outside lever handle is pad-lockable and tamper resistant.

3.5.5 On double doors only one of the doors receives the hardware described in 3.5.4. The other door is held closed with a slide bolt.

3.5.6 Single-point and multi-point modern touch bar exit devices are optional at an additional cost. These can be ordered to match existing keys.

3.6 Door Jam

3.6.1 The door jams are molded as an integral part of the wall.

3.7 Floors and Skids

3.7.1 Floors and skids are designed and built per requirements.

4.0 THERMAL

4.1 Insulation

4.1.1 The Freedom Series™ composite shelter does not rely on studs and rafters to achieve its exceptional strength. Therefore our standard R-11 walls and roof with continuous foam core actually perform almost as well as a conventionally-built structure claiming insulation values of R-14.

4.1.2 Higher insulation values up to R-21 are easily achieved with our PLUS CORE options.

R-Value Requirement Guide Table

R-Value	R-10.5	R-14.3	R-19	R-21.7	R-25.8	R-30
Thickness	1.5"	2"	2.5"	3"	3.5"	4"

5.0 DESIGN LOADING and FIRE RETARDATION

5.1 Snow Load

5.1.1 Standard snow load specification: Thirty (30) pounds per square foot. Higher specifications can be met if required.

5.2 Wind Load

5.2.1 Standard wind load specification: 90 miles per hour. Higher specifications can be met if required.

5.2.2 Shelter must be properly anchored to meet the wind load specification. As an option SHELTER WORKS™ will pre-drill the holes in the base flange and provide the proper anchoring devices.

5.3 Floor Loads

5.3.1 Floor systems are designed per specifications to meet the load requirements of each application.

5.4 Fire Retardation

5.4.1 Both class I and class II fire and smoke ratings are achievable through the use of special resins and additives. These are optional ratings and are readily available to meet the requirements of your application. These optional ratings are available for a nominal upcharge.

6.0 PACKAGED SYSTEMS

6.1 Electrical

6.1.1 SHELTER WORKS™ offers complete electrical packages. We will install and wire fans, lights, switches, outlets, junction boxes, breaker panels, load centers, alarm systems, etc.

6.1.2 All electrical systems are surface mounted.

6.1.3 Special requirements such as explosion-proof, vapor-proof, corrosion-resistant, weather-tight and foreign-power-compatible systems are also available.

6.1.4 All electrical packages are installed and wired in conformity to the latest edition of the National Electric Code. However, it will be the responsibility of the installing electrician to ensure compliance with all applicable local, state or national codes.

6.2 Heating, Ventilating and Air Conditioning

6.2.1 Standard ventilation options include adjustable louvers, exhaust fans, roof turbines and gravity louvers.

6.2.2 SHELTER WORKS™ offers complete HVAC systems based on the specified requirements of the shelter application.

6.3 Turnkey Systems

6.3.1 Complete turnkey integrated systems are available upon request. Our turnkey systems ensure that all of the requested work is coordinated and performed economically under one roof by people who are familiar with the special requirements of outfitting our fiberglass shelters. This eliminates the need for the shelter purchaser to coordinate and supervise myriad technicians.

6.3.2 You may purchase your components and have them shipped to us or we can source them for you, whereupon our technicians will integrate them in accordance with your specifications into an economical, ready-to-use system.

7.0 CUSTOM DESIGNS and OPTIONS

7.1 Versatility

7.1.1 The Freedom Series™ shelter can be easily customized to adapt it to the special needs of your application. We enjoy helping our customers find solutions to their enclosure-related challenges.

8.0 ADDITIONAL PROVISIONS

8.1 Documentation and Approvals

8.1.1 Prices quoted include basic drawings and documentation. Additional engineering, engineer seals, state approvals, insignias or drawings which may be required by local authorities or others for permitting or other purposes, may or may not be readily available. Whenever possible, SHELTER WORKS™ will try to accommodate any such requirements. Please contact SHELTER WORKS™ for availability and any additional costs to meet such requirements.

8.2 Shipping

8.2.1 Shelters are shipped via best way, FOB our factory. Quoted delivery costs are estimated and assume normal conditions of accessibility to the destination. Special handling equipment, local permits or requirements are not included in the delivery cost. Off-loading of the shelters shall be the responsibility of others unless otherwise agreed-to in the proposal. Actual delivery charges may differ from quoted estimates to account for actual mileage and special permits.

8.2.2 Items to be attached to the outside of the shelter which cause the shelter to exceed the legal shipping width, such as hoods, air conditioners, etc., will be removed and shipped along with the shelter. Unless other arrangements have been made, it shall be the responsibility of others to reattach or install any such items.

8.2.3 If Purchaser chooses to be responsible for shipping, SHELTER WORKS™ will provide insight and guidance to the carrier as to how to secure the load but it shall be the Purchaser's ultimate responsibility that the shelter be delivered in good condition.

8.2.4 SHELTER WORKS™ will make every effort to ensure timely delivery. However, SHELTER WORKS™ cannot be held responsible for delays in shipping caused by state agencies, weather, mechanical failures or other causes beyond our control.

8.3 Handling

8.3.1 A "Shelter Handling Guide" is provided with each delivery to help the receiving party properly determine how to off-load and handle the shelter until it is set on site.

8.3.2 Shelters are provided with lifting rings so that the shelter can be hoisted up using overhead equipment such as cranes, boom trucks, helicopters and hoists. If four lifting rings are provided it is important that all four rings be used for lifting.

8.3.3 If a structural base with lifting rings is attached to the shelter these rings are to be used to lift the shelter rather than those rings bolted through the walls.

8.4 Installation

8.4.1 A "Shelter Installation Guide" is provided with each delivery. If the shelter cannot be installed in one of the approved methods as described in the "Shelter Installation Guide", call SHELTER WORKS™ for guidance.

8.5 Warranties

8.5.1 The SHELTER WORKS™ equipment shelter has a five year limited warranty, which covers the materials and workmanship of the enclosure.

8.5.2 SHELTER WORKS™' liability on an item purchased by SHELTER WORKS™ and installed in a shelter does not exceed the limit of the warranty provided by the manufacturer of the respective item.



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