NOTE: Folded Homes is in the process of integrating this set of original Icosa Village Inc. POD FAQs into the online Folded Homes FAQ database (http://www.foldedhomes.com/client_support.html). In the event of conflict between information available in that online database and information in this document, information on the Folded Homes website (http://www.foldedhomes.com/index.html) should always be assumed to be more accurate.
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POD FAQs

Frequently Asked Questions (FAQs) about our Pods are organized in alphabetical order in the following categories

- POD CHARACTERISTICS (PC)
- ASSEMBLY & MAINTENANCE TIPS (AMT)
- MATERIALS, PERFORMANCE & TESTING (MPT)
- PURCHASE INFORMATION (PI)
- FOLDED HOMES, INC. (FH)
- SALES, DISTRIBUTION & MANUFACTURE (SDM)

FAQ FORMAT

At the end of many FAQs there is a bracketed section [See <category_abbreviation:Other_FAQ_name_1, ... <category_abbreviation:Other_FAQ_name_N> that refers you to related FAQs that may provide additional useful information. To access them, simply go to the specified category and click on the appropriate FAQ name in the hyperlinked FAQ table of contents on the website at http://www.foldedhomes.com/client_support.html.

As Folded Homes products evolve and experience increases, the FAQ database grows and it is possible that some FAQs will be updated. Each FAQ ends with a fine print (Created <date>) or (Updated <month/day/year>) that specifies either when this FAQ was originally created, or received its latest update.

FAQ ACCURACY

Folded Homes makes every effort to keep this Frequently Asked Questions database up-to-date. However, we are constantly improving our Pods and it is possible that the features and characteristics of our Pods may have changed since a particular FAQ was produced. Therefore, Folded Homes can make no guarantee as to the accuracy and appropriateness of a given FAQ for your Pod or your application. When in doubt, please don't hesitate to ask for a clarification.

Please email us at info@icosavillage.net if you have a FAQ that is not answered in this list. We will answer your question and add it to our FAQ database. If you have a comment about your experience with Folded Homes and our Pods we'd like to hear it. We are also interested in 'testimonials' about using our Pods and would like to make such 'real world' accounts available to potential owners.
POD CHARACTERISTICS (PC)

AIR CONDITIONING A POD

No tests have been performed yet with regards to air conditioning a Pod. [See PC: Ventilation & Exchange of Temperature in Hot and Humid Regions.] (Created 9/23/2003)

AVAILABLE ACCESSORIES


CAMP PODS & POD VILLAGES

Pods are attractive structures for semi-permanent camps and villages. Their attractive shape, rich interior natural lighting and rigid walls provide their inhabitants a more psychologically reassuring environment than flexible single-walled structures like tents. Their external appearance enhances the sense of permanence and can be effective in reducing local Not In My Back Yard (NIMBY) phenomenon. [See PC: Health Benefits]

Their ease of assembly without the need for power tools make them ideal for remote Eco-tourism destinations and 'semi-permanent' villages like commercial camps which set up shelters at the beginning of the season and take them down at the end of the season. For these applications, Pods are a superior alternative to canvas structures with the added benefit that you don't need to take down the Pod at the end of the season. Pods should not be considered for camping applications that require frequent and repeated set up and take down. The image above (copyright A. Argelich) and to the right show portions of the Forum Barcelona Peace Camp constructed in 2004. [See AMT: Disassembly & How Many Times A Pod Can Be Reused and AMT: Assembly Time & Required Manpower.] (Updated 7/01/2004)
COLOR AVAILABILITY

Pods typically come in flat white with white-translucent windows. It is possible to get a wide variety of custom colored windows. You can paint your pod any color you want. During manufacture ShowPods can be printed with a company's logo or advertising theme. [See PC: ShowPods – 3-Dimensional Billboards] (Updated 7/01/2004)

CONNECTING PODS TOGETHER TO CREATE MULTI-ROOM STRUCTURES

We have designed Pod Connector units that allow any pod to be connected to any five other pods. As a result there is an endless variety of multi-room configurations combining both IcoPods and DecaPods. (Updated 11/14/2003)

COOKING IN A POD

The Pods are constructed from flammable materials. They will burn! Open flames are not recommended. Any heat source (stove, furnace, etc.) should be kept well away from the wall of the Pod and should only be used in complete compliance with the manufacturer's instructions regarding ventilation and necessary installation requirements to prevent fire. (Created 9/23/2003)

DARKENING A POD

It is possible to make the Pods completely dark as they are manufactured with double walls with the inner wall six inches inside of the outer wall. Thus the walls themselves can be made completely opaque (although they can also be translucent as is the case for our GrowPods.) Pod windows are designed with "double panes"; one near the inside wall and one extending out from the outside wall. However, in order to make the Pods completely dark, window parts can be manufactured from opaque plastics rather than from the translucent plastics normally used. This can be done relatively cost effectively by our manufacturer in "one off" mode using an automated cutting table rather than producing on the manufacturing line. (Updated 10/26/2004)
IcoPods and DecaPods use identical door port components. There are several portal alternatives: Pods are typically delivered with a door port assembly that includes a one-inch thick rigid door made of the same materials as the Pod walls. There are several methods (both mechanical and Velcro) to latched shut this door, however it should not be considered lockable from the perspective of preventing entrance. [See PC: *Door Port Dimensions*] Alternatively, the Pod can be built with a solid door frame that fits a standard 32"-wide door. The images here show two prototype implementations. A door fitted in this solid frame could be locked. A third alternative is to make almost the entire triangle area be the opening. This is discussed in AMT: *Pod Conversion Triangles*, [PC: *Handicapped (Wheelchair) Accessibility*, and PC: *Safety & Emergency Exits.*) (Updated 7/01/2004)
**DOOR PORT DIMENSIONS**

IcoPods and DecaPods use the same standard door port. Its dimensions are shown in the schematic below. Click [http://www.foldedhomes.com/PDF_docs/DecaPod%20Spec%20Sheet%20v3.0.pdf](http://www.foldedhomes.com/PDF_docs/DecaPod%20Spec%20Sheet%20v3.0.pdf) to download JPEG image of the Door Port schematic. [See PC: *Door Port Alternatives & Can the Door be Locked*, AMT: *Pod Conversion Triangles* and PC: *Handicapped (Wheelchair) Accessibility.*] (Updated 7/01/2004)

---

**Door Port**

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**DOOR PORTS – HOW MANY CAN THERE BE?**

Each IcoPod and DecaPod comes with a single standard door located in a Door Port triangle. [See PC: *Door Port Dimensions*] A Door Port can be located in any one of the five IcoPod wall triangles which has one of its’ edges lying along the ground. Similarly a Door Port can be located in any one of the five DecaPod wall triangles that have one of their edges lying along the ground AND which are not the middle triangle of a 3-triangle-wide flat wall. In other words, Door Ports always go in one of the IcoPod or DecaPod wall triangles that has its top point intersecting with one of the five corners of the Pod’s pentagonal roof. [See PC: *Structural Rigidity*] But you can put more than one door in a Pod. In principal you could put in up to five doors. However, A Door Port triangle has less structural rigidity than a Pod wall or ceiling triangle composed of three interlocking Panel Beams. Each triangle constructed of three interlocking Panel Beams is itself a single structure unlike a Door Portal triangle which is comprised of two side-assemblies and a header-assembly which are
IcoPod and DecaPod FAQs

installed as three distinct units. Therefore, a Pod’s Door Portal relies to some extent upon the structural rigidity provided by the interlocking triangles around it. Thus, if you place two Door Portal Assemblies side-by-side in a Pod, you introduce some reduction of structural rigidity. We recommend placing no more than two Door Portals in an IcoPod located under roof pentagon vertices that are separated by at least one other vertex. These restrictions can be relaxed for DecaPods although some reduction of structural rigidity is incurred every time an additional Door Portal is added to a Pod. [See AMT: Pod Conversion Triangles for a discussion of an alternate way of creating solid wall triangles which can be fitted with doors.] (Created 3/10/2005)

FLOORS – DO I HAVE TO BUILD MY OWN POD FLOOR?

Folded Homes’s outdoor, four-season, all-plastic Pods do not require a floor if the ground they are being assembled on is flat and level. But you will probably want to build a floor of some sort for the comfort of the people using the Pod. There are several ways to do this, and these are described in the following FAQs. [See AMT: Ground Covers, AMT: Ground Surface Requirements, AMT: Keeping the Bottom of the Base-Ring Dry, AMT: Pod Platforms] (Created 1/13/2005)
HANDICAPPED (WHEELCHAIR) ACCESSIBILITY

Standard Pods are delivered with a Door Portal and door manufactured from the same material as the Pod Walls. The bottom dimension of that door entrance is 32.25 inches wide (81.9 cm). The base of the door opening lies at the top of the Pod's Base Saddle that is 12" (30.5 cm) above the level of the floor of the pod. The base width of the Pod Portal door is wider than a standard 32" door, so most wheelchairs should be able to fit through although it is a tight squeeze. Because the standard Pod material is not impervious to puncture damage there could be a danger of eventually damaging the Door Portal sides if the wheel chair bumps up against them during entry or exit.

The principle barrier to wheelchair accessibility to a Pod is the step formed by the Base-Ring-Base-Saddle structure. [See PC: Door Port Dimensions.] Together, the Base-Ring and the Base-Saddle that sits directly on top of it act as a compression ring that ensures that the Pod keeps its shape. It is the Pod's foundation. Typically it should not be removed or otherwise cut since the Pod will lose a significant amount of its structural rigidity if this is done.

To make a Pod wheelchair accessible either the step must be removed or some sort of ramp needs to be constructed that allows a wheelchair to pass over it. Here are both external (above) and internal (right) views of access ramps that make a DecaPod wheelchair accessible.

A ramp built to make a Pod wheelchair accessible will need to have sufficient run to rise gradually both on the outside and the inside of the Pod. Because of the limited space in an IcoPod, it is not practical to have a ramp inside. So for an IcoPod, you will need to raise the floor to the level of the top of the Base-Saddle if you wanted to make it easily wheelchair accessible. To make a DecaPod wheelchair accessible with a ramp, the standard door has to be modified to end above the top of the ramp. (It can also be replaced by another type of closure like a hanging curtain that could be pushed aside but when closed would brush along the top of the ramp creating a better seal.)

We have also designed Pods with an aluminum frame base and doorframe. This aluminum frame maintains the integrity of the base ring because the tensions are transferred above and below the standard 36” door that the frame is built to hold. Such framed Pods are also
suitable as wheelchair accessible Pods or storage structures and greenhouses allowing cart and wheelbarrow access.

Alternately, for more unimpeded access, the entire triangle that is taken up by the Door Portal can be removed and replaced by a large framed triangular entrance. The framing for such a structure is not trivial to build, since it contains a multitude of angled planes. [See AMT: Pod Conversion Triangles] (Updated 7/01/2004)

HANGING THINGS FROM THE WALLS

While the shell of the Pod is quite strong, able to hold hundreds of pounds of evenly distributed weight, it is not advised to hang any object of more than a few pounds from the shell since it is likely to pull out of the wall or distort the Pod shell increasing the chance of leaks. The wall material is quite thin (typically 2mm) and can only support limited weight concentrated in a small spot. If you must suspend things from the walls of the pod, locate your suspension points at the vertices of the wall triangles and design a hanger that distributes the weight being supported across as large an area as possible. [See MPT: Snow Loads & Pod Crush Testing.] (Updated 10/26/2004)

HEALTH BENEFITS

The visual and sensory appeal of Pods along with their superior temperature, light, and noise insulation characteristics when compared to single-skin structures (e.g. fabric tents, and fixed-wall structures without a sandwich construction) contribute to a more livable shelter. The power of light to rejuvenate the body and mind – treating everything from lethargy to "winter blahs" to clinical depression – has been suspected for thousands of years, but only recently have scientific studies revealed evidence of the correlation (www.daylitech.co/pages/benefits.html). Both health and psychological benefits accrue. (Created 11/6/2003)

HEAT BUILDUP AND VENTING YOUR POD

The walls of the Pods are constructed from several layers of extruded plastic [see MPT: Extruded Plastic, What's That?] and at need, they can be very warm especially if insulated [see PC: Insulation]. When deployed in hot environments, the Pods can take advantage of passive ventilation to stay comfortably cool [see MPT: Passive Ventilation]. But, unlike materials like tent clothe, the walls of the Pod can’t “breath”. So, hot or cold, summer or winter, it is essential to install the supplied vents in the walls and ceiling of your Pod in order to maintain a comfortable temperature in your Pod [see PC: Vents and PC: Ventilation & Exchange of Temperature in Hot and Humid Regions.] Failure to do so will result in both a stuffy Pod, and the possibility that humidity generated from body heat
and activities in the Pod will condense on the inside walls of the Pod and drip down on your head. (Created 3/23/2006)

**HEATING**

The Pod is manufactured from flammable materials. It will burn! Open flames are not recommended. Any heat source (stove, furnace, etc.) should be kept well away from the wall of the Pod and should only be used in complete compliance with the manufacturer's instructions regarding ventilation and necessary installation requirements to prevent fire. [See PC: Insulation, PC: Wiring, PC: Lighting, PC: Cooking in a Pod, and AMT: Stovepipe and Chimney Options.] (Updated 2/25/2004)

**HUMIDITY**

Properly assembled, all of our outdoor Pods are completely watertight. Sufficient and proper ventilation is important if multiple persons use the Pod as humidity can condense on the inside walls of the Pod. (Updated 10/26/2004)

**INSECTS**

Assuming the Pods are sealed to the platforms or ground cover upon which they are built, and the door seals tightly, they are completely insect proof. [See AMT: Ground Covers, and PC: Windows (Opening).] (Updated 11/24/2004)
INSULATION

Pod Wall R-Values vary from 10.06 to 25 depending upon configuration. The Pod Window R-Value is 9.05 without insulation if the inner windowpane is temporarily sealed with tape.

The insulating characteristics of our Pods vary depending upon the outer coating (surface emissivity) and whether the 6” enclosed hollow space between the inner and outer wall is left as sealed air spare or filled with insulation.

There are several ways to insulate the 6-inch thick walls. After the Pod is assembled, foam or cellulose insulation can be blown into the Pod walls from existing openings in the Pod wall between the inner and outer windows.

But a very simple and effective approach is to assemble each One-Panel with a fiberglass insulating batt inserted. A single standard 6 ½” x 15” x 93” Encapsulated Batt will fit perfectly without any cutting (see image above).

Three insulated One-Panels will then form an insulated triangle (see image at left). A bag of nine John Manville R-19 Encapsulated Batt costs about $40, enough for three triangles. You will need 55 batts (45 for the triangles and door portal top and sides, 5 for the base ring, 5 for the base saddle) to completely insulate the walls of an IcoPod, and 140 batts (120 for the triangles and door portal top and sides, 10 for the base ring, 10 for the base saddle) to completely insulate the walls of a DecaPod.

If you are insulating your Pod for extremely cold environments it may be advisable to temporarily insulate many of the triangular windows with insulating batts as well. Naturally this will reduce the amount of light entering your Pod, but it will substantially increase the overall insulation-value of your Pod. After all, if your Pod walls have an insulation R-value of 23.8 but all your many windows have an R-value of only 9.05, then you are going to lose most of your heat out the windows. There are 14 windows in an IcoPod and 39 windows in a DecaPod. [See PC:Windows] You will probably not want to insulate them all because then you won’t have any ventilation or natural light in your Pod. But if you did insulate them all, you would need another 5 batts for an IcoPod and another 13 batts for a DecaPod.
So you will need a total of 60 batts (7 packets ~$267) to insulate an entire IcoPod and 153 batts (17 packets ~$680) to insulate an entire DecaPod.

For cold weather environments you can assemble your door panel with a 1”-thick Styrofoam panel between the inner and outer door panels. If you are going to do this, you will replace the door braces between the inner and outer panels by a foam board carefully cut from a 2’x8’x1” blank to fill as much of the space inside the door as possible. This will very substantially reduce the heat loss through the door.

The following table provides R-value data for a number of different configurations.

[See PC: Ventilation & Exchange of Temperature in Hot and Humid Regions and Heating.] [Updated 11/29/2005]

<table>
<thead>
<tr>
<th>Pod Wall R-Values</th>
<th>Total R-Value</th>
<th>Panel</th>
<th>Insulator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollow Walls Non-Reflective Surface</td>
<td>10.06</td>
<td>4</td>
<td>6.06</td>
</tr>
<tr>
<td>Hollow Walls Reflective Foil Surface</td>
<td>12.34</td>
<td>4</td>
<td>8.34</td>
</tr>
<tr>
<td>Cellulose filled Walls (loose fill, blown in)</td>
<td>23.5</td>
<td>4</td>
<td>19.5</td>
</tr>
<tr>
<td>Fiberglass Batting filled Walls</td>
<td>23.8</td>
<td>4</td>
<td>19.8</td>
</tr>
<tr>
<td>Cellular Foam filled Walls</td>
<td>25</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Pod Window R-Values</td>
<td>9.05</td>
<td>4</td>
<td>5.05</td>
</tr>
</tbody>
</table>
LAYOUT MEASUREMENTS – DECAPOD BASE-RING & CUT-AWAY VIEW

The DecaPod’s outside dimensions are 26’ 1½” (7.96m) wide, and 16’ (4.88m) tall. It encompasses 472 square feet (43.85 square meters) of living area. It has full 7’ 3” (2.21m) headroom throughout rising to 15’ 4” (4.67m) at its center. The DecaPod door port measures 58 ½” (1.49m) by 32 ¼” (0.82m) wide. There is a 12” (0.3m) door sill which brings the top of the door opening to 70” (1.78m) from the ground. There is sufficient opening for wheelchair access assuming a wheelchair ramp is installed.

If you want to do DecaPod layout planning, use the DecaPod Base-Ring & Cut-away View dimensions below.

Deca Pod Base Ring

A Download a JPEG-file copy of the DecaPod Base Ring schematic.
Click http://www.foldedhomes.com/PDF_docs/DecaPod%20Spec%20Sheet%20v3.0.pdf to download a JPEG-file copy of the DecaPod Cut-away schematic. [Please see PC: Size, Layout & Lofts, PC: VOLUME (CUBIC FEET ENCLOSED), and PC: Door Port Dimensions.] (Updated 02/08/2005)
LAYOUT MEASUREMENTS – ICOPOD BASE-RING & CUT-AWAY VIEW

The IcoPod's outside dimensions are 13' 2½" (4.04m) wide, and 11' 8½" (3.58m) tall. It encompasses 108 square feet (10.03 square meters) of living area. It has full 7' 3" (2.21m) headroom throughout rising to almost 12' (3.66m) at its center. The IcoPod door port measures 58 ½" (1.49m) by 32 ¼" (0.82m) wide. There is a 12" (0.3m) door sill which brings the top of the door opening to 70" (1.78m) from the ground. There is sufficient opening for wheelchair access assuming a wheelchair ramp is installed.

If you want to do IcoPod layout planning, use the IcoPod Base-Ring dimensions below.

![Ico Pod Base Ring Diagram]

The walls of the IcoPod provide full 87" headroom throughout, rising to almost 12' tall at the center of the Pod. Click http://www.foldedhomes.com/PDF_docs/IcoPod%20Spec%20Sheet%20v3.0.pdf to download a JPEG-file copy of the IcoPod Cut-away schematic. [Please see PC: Size, Layout & Lofts, PC: VOLUME (CUBIC FEET ENCLOSED), and PC: Door Port Dimensions.] (Updated 02/08/2005)

LIGHTING

The Pod's many windows provide substantial natural lighting. However, after dark other sources of light are required. The Pod is manufactured from flammable materials. It will burn! Open flames and light sources that generate heat (e.g., candles, incandescent lights, etc.) are not recommended. Fluorescent and LED lighting is recommended. One source of LED lighting is Holly Solar (www.hollysolar.com) [See AMT: Lighting the Door Port, PC: Wiring and PC: Cooking in a Pod.] (Updated 2/25/2004)

PERMANENT DWELLING REGULATIONS

There is a plethora of national, state, local and municipal regulations governing human habitations in the United States. Folded Homes makes no claims about the Pod's appropriateness for any purpose including human habitation other than to describe them as "semi-permanent shelters for consumer and humanitarian applications." The Pod's
IcoPod and DecaPod FAQs

Instruction Manual states that "The Pod is not a toy; it is an experiential product intended for use only by intelligent, emotionally secure, responsible and self-aware adults. The pod, its components, and all products sold or distributed by Folded Homes, Inc., are intended for adult novelty use only." You will need to contact officials knowledgeable about housing regulations in your area to determine the laws, building codes, and regulations for your area. Please carefully read our warranty and Liability Waiver documents before choosing to purchase a Pod. [See SDM: Pod Warranty] (Updated 11/16/2003)

PLAYPODS & BIGGER OR SMALLER PODS

Folded Homes has prototyped the PlayPod, a scaled-down version of the IcoPod intended as an "edutainment" toy; an educational assembly project and playhouse for children. While it roughly resembles a ½ or 1/3rd-size IcoPod, it may be a single-walled structure comprised of far fewer pieces. Double-walled Pods smaller than an IcoPod can be assembled from identically shaped but smaller parts. However, they would not be significantly cheaper than our 108 square-foot IcoPod because, while materials costs are proportionally reduced, manufacturing and packaging costs are not. Please contact Folded Homes if you have a serious interest in a custom-sized pod. Pricing would reflect the required custom design and manufacture. Because it is not easy to manufacture, ship, or assemble a Pod constructed of larger triangles than those currently used in the IcoPods and DecaPods Folded Homes has no plans to increase the sizes of our IcoPods and DecaPods. [See PC: Size, Layout & Lofts and PC: Size – Why Only 108 & 472 Square Feet?] (Updated 10/26/2004)

PLUMBING

Plumbing should not be routed through the walls of the Pod. It is best routed up through the platform upon which the Pod is constructed. [See AMT: Ground Surface Requirements & Pod Platforms.] (Created 9/23/2003)

POD WALLS - HOW STRONG ARE THEY?

Boys will be boys… One day Folded Homes received the following query

> How sturdy are these pods? Lets say we were goofing off inside and someone got shoved into a wall (this scenario involves my brother, who weighs … 250 lbs.) Would the wall collapse?

It's a good question, and the answer is complex. Structurally, a Pod's 6-inch thick walls can be thought of as a icosahedron sphere within a sphere with the two spheres connected together by a multitude of transversal struts. This results in an extremely strong spherical structure. A Pod will support a tremendous snow load on its surface. [See PC: Structural Rigidity, MPT: Pod Engineering – How the Pods are Designed, MPT: Snow Loads & Pod Crush Testing]. The 6-inch thick walls of the Pods are connected together using slots and tabs and are then taped [See AMT: Assembly Basics – How a Pod Goes Together]. This interlocks them together quite strongly. One year when demolishing them at the end of an Alpha test cycle, we drove a truck through a DecaPod and though it did a lot of damage, most of the wall triangles did not pull apart from each other. The surface of the wall is manufactured from 3mm extruded plastic [See MPT: Extruded Plastic – What's That?] While this material is quite resistant to puncture damage, and it will not tear, it can be creased. It will do a good job resisting casual bumps and dings (like smacking a chair leg against the Pod's Base Ring.) But it will not appreciate having a 250 pound gorilla run into its side full bore. Similarly, one needs to be careful about hanging things from the Pod walls. [See PC: Hanging Things From the Walls] (Created 5/2/2005)
PODS AS EVENT MEETING ROOMS

Folded Homes Pods (both the 13’ diameter, 12’ tall, 108 square-foot IcoPods, and the 26’ diameter 16’ tall, 472 square-foot DecaPods) are well suited as event meeting rooms. There 6”-thick double walls and double-pane windows have good sound deadening characteristics. [See PC: Insulation] The windows of the Pod can be clear, translucent or completely blacked out. [See PC: Darkening a Pod] In addition the outside surface of the Pod can be customized with your company’s logo or event message. [See PC: ShowPods – 3-Dimensional Billboards] If the event is held indoors or in dry conditions, Pods manufactured from “short-life” materials will be sufficient. If you require that the Pods tolerate damp or rainy conditions, a Pod manufactured from outdoor materials will be essential. [See MPT: Four-Season Performance] (Updated 10/26/2004)

RAIN OR SNOW? – NO PROBLEM

Folded Homes outdoor, four-season Pods are all plastic. They are completely waterproof, impervious to water damage, and support massive snow loads. [See PC: Waterproofing, AMT: Assembling Waterproof Window Seals, AMT: Ground Surface Requirements, AMT: Keeping the Bottom of the Base-Ring Dry, AMT: Sealing the Pod to Prevent Leakage, MPT: Four-Season Performance, and MPT: Snow Loads & Pod Crush Testing.] (Created 1/13/2005)

RESIDUAL VALUE

Pods are expected to perform for the specified longevity period of the model. [See MPT: Longevity and PI: Pod Rental Not Available.] (Created 10/16/2003)

SAFETY & EMERGENCY EXITS

Each Pod has a single door and multiple triangular windows around all sides at ground level. A light push will “punch out” a window to use as an emergency exit. [See PC: Door Port Dimensions.] (Created 9/23/2003)
SHOWPODS: 3-DIMENSIONAL BILLBOARDS

Both our 108 square-foot IcoPods and our 472 square-foot DecaPods can be custom manufactured as ShowPods with company logos, advertising messages, or any multi-color artistic schema of your design appearing everywhere on the exterior (optionally including the windows if so desired). These designs are printed onto the Pod walls and windows during the manufacturing process so that during assembly there is no additional application work required.

There are 3 types of design possible on a ShowPod: Basic Replicated Design, 3-Part Design, and Large-Area Custom Design.

**Basic Replicated Design:** The design is replicated on each One-Part used in triplets to construct each of the Pod’s equilateral wall triangles. This results in a symmetrical tiled look from a distance. It is more textural than representational as far as the impact the completed pod will have. This is simple and fairly inexpensive as there is only one part printed with a single graphic. These graphics can be flexo or offset printed. Most any type of printing or lamination may be done.
Additionally, when manufacturing indoor Pods out of fiberboard, we can laminate a customer’s existing packaging material (liner paper or foil) to our panel part. For example, the foil liner for beer 12 packs comes in 60 inch master rolls which we could laminate directly to our panels. This would create a textural effect.

Since one panel forms both the inside and outside faces of a Pod, the printing may be designed to show on either, or both sides.

**3-Part Design**: The graphic design is printed in 3 parts, such that thirds of the design are printed on each of 3 basic One-Panel parts, resulting in a completed triangular unit panel which has a single integrated image. A completed Pod could then have all triangles printed, or only a few offering great graphic flexibility. This approach would allow one large logo on a pod for example.

Note that the window may be made from printable translucent or opaque material so that portion of a triangular panel may become part of the design. Since one folded panel part forms both the inside and outside faces of a Pod, the printing may be designed to show on either, or both sides.

**Large-Area Custom Design**: Any custom design may be printed on a defined portion, or whole of a pod. This requires complex layout and specific assembly of parts to properly render the desired graphic image. This approach will require the customer’s art director, or designer, to work with a 3d modeler to properly lay out and proof the design. This is a relatively modest expense as many designers will already have the appropriate 3-D software. Very large images that cross over large portions of the Pod would be printed on a large format ink jet since each part has a discreet portion of the overall design. Again, the windows may be made from printable translucent or opaque material so that portion of a triangular panel may become part of the design. Since one folded panel part forms both the inside and outside faces of a Pod, the printing may be designed to show on either, or both sides.

Companies with access to 62”-wide rolls of paper preprinted with their company logo or other advertising message may be able to have their ShowPods manufactured using that material. *(Updated 10/26/2004)*

**SIZE, LAYOUT & LOFTS**

Icosa Village’s spherical Pods come in two sizes; our 108 square foot IcoPod (view right) and our 472 square foot DecaPod (view left). An IcoPod is built on a 5-sided base ring. A DecaPod is built on a 10-sided base ring. [See PC:Layout Measurements – IcoPod Base-Ring, and PC:Layout Measurements – DecaPod Base-Ring & Cut-away View.] Both of these Pod sizes offer a minimum of full 86” headroom throughout. At its center, an IcoPod is 11’ ½” tall inside. The center of a DecaPod is 15’ 4” tall providing sufficient room for a loft. UNHCR (United Nations High Commissioner for Refugees) Refugee Shelter Guidelines specify that required shelter space per person is 3.5 m². This means that an IcoPod is a snug fit for 3 adults, while a DecaPod comfortably accommodates 12 persons. [See PC:Layout Measurements –
SIZE – WHY ONLY 108 & 472 SQUARE FEET?

Folded Homes's spherical Pods come in two sizes; our 108-square foot IcoPod and our 472-square foot DecaPod. All our IcoPods and DecaPods are assembled from the repeated use of the same "One-panel" that is folded to create the equilateral triangles that form the shell of each Pod. [See MPT: Pod Engineering – How the Pods are Designed] The limiting factor in determining the size of the Pods is the ability of someone assembling a Pod to be able to reach out through any one of the triangular windows and reach any edge seam anywhere on the Pod. We believe the current size for the "One-panels" is optimal because it creates the largest IcoPod possible, while also creating a DecaPod that an average-sized person can assemble. It is possible to create intermediate sized Pods by connecting several Pods together. [See PC: Connecting Pods Together to Create Multi-room Structures, PC: Size, Layout & Lofts, PC: Layout Measurements – DecaPod Base-Ring & Cut-Away View, PC: Layout Measurements – IcoPod Base-Ring & Cut-Away View, PC: PlayPods & Bigger or Smaller Pods, and AMT: Pod Platforms.] (Updated 11/24/2004)

SOLAR PANELS

The Pods are sufficiently rigid to support solar panels provided that the framework for those panels is designed to rest along the vertices of the Pod (i.e. along the surface edges that intersect at each of the pentagonal corners of an IcoPod or DecaPod). [See PC: Structural Rigidity, PC: Heating, PC: Lighting, PC: Wiring, and PC: Insulation] (Created 3/9/2005)

STRUCTURAL RIGIDITY

Our IcoPods are designed as one-frequency domes. Our DecaPods are pseudo 2-frequency domes. Both are based on a one-frequency (1v) icosahedron shape. An icosahedron is a spherical structure comprised of 20 equilateral triangles.

[An equilateral triangle is a triangle whose three sides are all of the same length. A single or one frequency dome is one whose edges (or the struts) that border each triangular face of the dome are all of a single fixed length. A two-frequency dome has borders of two different lengths. The more frequencies the dome has, the more spherical the shape.]

Each of our Pods is constructed from the repeated use of our basic 'One-panel' part. Three One-panels (OPs) fold together to create the ‘Structural Panel Unit’ (SPU) which is a 3-D equilateral triangle with a triangular window in its center. For an IcoPod (green below), the SPU maps 1-to-1 to one of the equilateral triangles forming the icosahedron sphere. For a DecaPod (orange below), four SPUs laid out flat in a triangular shape would form one of the equilateral triangles of an icosahedron sphere. (In the orange diagram below gray lines outline each SPU.)

An icosahedron seems to be the most useful polyhedron for domes of the sizes we produce, IcoPods (shown green) and DecaPods (shown orange), since each vertex is the same distance from the center of the polyhedron and each triangle edge is the same length. This has two important benefits; 1)
each triangular face of the structure can be fabricated from three identical “One-panel” panels making manufacture and assembly easier, and 2) each vertex of the structure is the same distance from the center of the polyhedron. This makes it easy to measure that the base-ring is laid out completely symmetrically which is important to ensure that the Pod parts fit together snugly.

The double-wall structure of our Pods make these one-frequency domes extremely strong since the folded 6-inch thick walls form a dome within a dome honeycomb structure. [See FH: Pod Genesis, MPT: Pod Engineering – How the Pods are Designed.] (Updated 4/8/2004)

TRANSPORT REQUIREMENTS

The Pod is a semi-permanent shelter. Because of its rigid walls, it is closer to a house than a tent. This will help you appreciate its transport requirements. The basic building block of both the IcoPod and the DecaPod is the One-Panel, a thin panel that measures 118” x 58” x 1/8”. Although this panel can be folded in half in either direction, it still remains pretty big. Boxed One-Panel are shown at the right.

An IcoPod is shipped in four boxes:
2 – One-Panel Boxes: 103”x34”x9”
1 – IcoPod Base Box: 103”x33”x5”
1 – Door, Window, Tape & Manual Box: 72”x45”X4”

DecaPods are shipped in a nine boxes:
5 – One-Panel Boxes: 103”x34”x9”
2 – DecaPod Base Boxes: 113”x36”x3”
1 – DecaPod Saddle Box: 102”x28”x6”
1 – Door, Window, Tape & Manual Box: 72”x45”X6 1/2”

Individual orders are shipped boxed. Two people can easily carry any one of the individual boxes that also fit into a standard pickup truck or minivan.

Two DecaPods were shipped in the boxes shown at the left. Large Pod orders are shipped in containers with the various parts stacked flat on pallets.


VENTILATION & EXCHANGE OF TEMPERATURE IN HOT AND HUMID REGIONS

The Pod walls have an enclosed 6-inch cavity between the solid inner and outer walls. This allows for very efficient passive ventilation or for the possibility of inserting fiberglass batts or injecting foam insulation into the walls in cold climate environments.

In warm weather, passive ventilation [See MPT: Passive Ventilation] in the hollow 6-inch thick walls of the Pods serves to keep temperature inside the Pod lower. Using the principle
that warm air rises, ambient air (heated by the warmth of the outside wall of the pod) is drawn in from vents fitted to windows on the walls of the Pod or in the base ring of the Pod, drawn upwards through the hollow walls of the Pod, and vented out of the vents in the top of the Pod.

The Pods come with cowl vents that attach over one or more of the windows in the roof. These cowls allow ready ventilation while preventing dust and water from entering into the Pod. [See PC: Insulation, PC: Heat Buildup and Venting Your Pod, PC: Heating, PC: Humidity, PC: Vents, and MPT: Materials Safety.] (Updated 3/23/2006)

VENTS

Cowl vents fit over any one of the window openings of the Pod walls and ceiling. By placing one or more around the walls of your Pod and one or more in the ceiling of your Pod, passive ventilation circulates the air in your Pod keeping it fresh and cool. The vent openings can be fitted with mosquito netting to keep out critters.

A vent panel on the inside of the vent can be opened and closed. Operated with a simple draw string, the vent panel can be controlled in the ceiling vents without needing a ladder. [See PC: Ventilation & Exchange of Temperature in Hot and Humid Regions] (Updated 3/23/2006)

VOLUME (CUBIC FEET ENCLOSED)

Pod volume is calculated as a function of the space enclosed by the inside wall of your Pod.

- An IcoPod has a volume of approximately 842 cubic feet
- A DecaPod has a volume of approximately 3,932 cubic feet

Doing the Math:

The length \(L\) of each edge of the equilateral triangles forming the inside walls of the Pods are as follows

IcoPod: \(L = 88''\) long

DecaPod: \(L = 88+88+8 = 184''\) long.

The Volume \(V\) of a regular Icosahedron is given by the formula
The Volume of a DecaPod ($V_d$) is exactly half the volume of a regular Icosahedron. [See PC: Structural Rigidity] Therefore, $V_d = V/2$ where $V$ is the volume of a regular Icosahedron.

An IcoPod has the volume of a regular Icosahedron minus the volume of a five-sided pentagonal pyramid. [See PC: Structural Rigidity] The volume, $V_p$, of this five-sided pentagonal pyramid is given as

$$V_p = \frac{5}{6} L \times \left( \frac{L/2}{\tan(36)} \right) \times \left( \frac{L/2}{\sqrt{4 - 1/\sin(36)^2}} \right)$$

For an IcoPod, $V_p = 18.31$ cubic feet. Therefore, the volume of an IcoPod is approximately $860.39 - 18.31 = 842$ cubic feet. [See PC: Layout Measurements – DecaPod Base-Ring & Cut-Out View, and PC: Layout Measurements – IcoPod Base-Ring & Cut-Out View.]

(Waterproofing)

Our outdoor Pods are constructed from waterproof extruded plastic plastic sealed with a long life waterproof Polyester seam tape. As such our Pods are impervious to water damage and can even be set up in standing water. [See MPT: Plastic vs. Fiberboard – Materials Trade-offs, MPT: Longevity, AMT: Sealing the Pod to Prevent Leakage, and AMT: Maintenance Long-Term.]

(Updated 10/26/2004)

Weight

An IcoPod weighs about 300 pounds (136 kg). A DecaPod weighs about 760 pounds (345 kg). [See PC: Transport Requirements, PI: Shipping & Packaging.]

(Updated 12/9/2003)

What climates best suit the Pods?

Folded Homes outdoor Pods are true “four-season” dwellings. They perform well in hot and cold weather and wet or dry environments. In hot environments, they take advantage of passive ventilation to remain cool. For cold environments, their 6-inch thick walls can be insulated with a variety of materials for true warmth. [See MPT: Passive Ventilation, PC: Insulation]

Manufactured from extruded plastic, the Pods are impervious to humidity and water damage. [See MPT: Extruded Plastic, What’s That?]

If the large DecaPods are insulated (adding significant weight to the walls and ceiling) and/or deployed in an environment where they can be subject to snow-loads, they must be fully glued up and assembled with a central support column and other accessories to help support the large surface area they cover. The smaller IcoPods do not require special accessories to be deployed in snowy regions. [See MPT: Four-Season Performance, and SDM: Warranty] (Created 3/23/2006)

Wind

When properly anchored to the ground, the Pods are highly wind resistant. We've experienced wind gusts to 45 MPH without failure provided the Pods are anchored to the ground or an anchored platform as specified. [See AMT: Anchoring Pods.]
IcoPods have 14 triangular window openings. DecaPods have 39 triangular window openings. The opening in the Pod wall that holds each window is an equilateral triangle approximately 30" on a side. The area, \( A \), of an equilateral triangle with sides of length \( S \) is given by the formula

\[
A = \frac{S^2 \sqrt{3}}{4}
\]

Each Pod window therefore, has an area of approximately 2.7 square feet.

There are a number of window alternatives available for the Pods. The standard version of the Pod is delivered with non-opening translucent windows (e.g. triangular sources of natural light.) The image above shows various window and vent options. There are two flat-panel opaque windows on the right side and top of the Pod. Two vents are mounted in window openings top center left and wall center right. Finally, two clear windows can be seen in the two triangular wall panels on the left. [See PC: Windows (Clear), PC: Windows (Opening)] [Updated 11/24/2004]
The unique window frame design of the Pods allow them to be easily fitted with clear pane windows manufactured from clear Plexiglas or safety glass. The pane is mounted inside an opaque window frame identical to those supplied with your Pod but with the center cut out.

Three window panes can be cut from a single 3’ x 6’ 1/8” thick UV-resistant LEXAN XL10 sheet guaranteed by GE for 10 years. The materials cost per window (Plexiglas, hot glue, & UV-resistant silicon sealer such as DAP) Flexible Clear Sealant) is less than $30.

LEXAN XL10 is the least combustible safety glazing plastic sheet, but will ignite when exposed to an ignition source in excess of 800° F (426° C). [See PC: Windows, PC: Windows (Opening), MPT: UV Degradation & Extending the Life of Your Pod] (Updated 11/16/2005)

WINDOWS (OPENING)

There are a number of window alternatives available for the Pods. The standard version of the Pod is delivered with non-opening translucent windows (e.g. triangular sources of natural light.) Opening windows are also available. Since the 6”-thick Pod walls have insets for both exterior and interior window "panes" it is possible to use an opening window positioned at the exterior wall and a bug screen positioned as the interior window. (Updated 11/24/2004)

WIRING

Accessible compartments for three lights are arranged around the Pod Door Portal: above and to each side of the door. [See AMT: Lighting the Door Port]

But the Pods are made of combustible materials. They will burn. Therefore, ONLY LED lighting and other non-heat-or-spark-generating electronics should be routed in the walls of the Pods. Heat sources such as standard incandescent light bulbs SHOULD NOT be recessed in the Pod's 6”-thick double walls. (Updated 7/81/2004)
WHY ASSEMBLY IS EASY

Henry Ford revolutionized automobile manufacture by introducing the assembly line. Pod assembly benefits from the same principle. Unlike the construction of a traditional house comprised of a multitude of different parts, a Pod is assembled from a small set of repeatedly used parts. So while an IcoPod has 20 different parts, and a DecaPod has 24 different parts, in both cases, three quarters of all these parts are either the One-panel that forms most of the Pod's wall, or they are the inner or outer window. Now, the inner window just pops in. It requires no assembly. So once you learn the easy process of folding the One-panel and the outer window, you can set up your own "assembly line" to get three quarters of the work done fast. [See MPT: Pod Engineering – How the Pods Are Designed.] (Created 2/24/2004)
ANCHORING PODS

Pods that will be exposed to strong winds should be anchored to the ground or to the anchored platform upon which they are built. IcoPods are anchored to the ground with 5 anchor stakes and stake-plates. DecaPods are anchored to the ground with 10 stakes and stake-plates.

Stake-Plates are wood blocks that are 1” x 4” x 16” and have a 1” diameter hole drilled through them 2” from one end.

Stakes can be cut from 3/8-inch thick rebar at least 14” long with a 90° bend 2” from one end to form an “L”. For very soft ground, make your stakes longer.

Pods can also be anchored to platforms with bolts and plates or by gluing and/or taping the Base-Ring to the platform. Anchored pods have successfully resisted wind gusts of 45 miles per hour. [See PC: Wind and AMT: Pod Platforms] (Updated 11/13/2005)
ASSEMBLING WATERPROOF WINDOW SEALS

Window Compression Seal created with two layers of compression foam sandwiched between the wall and the window

In four-season mid-life and long-life Pods the joint between the plastic window and the surrounding wall material is made watertight by the installation of two layers of compression foam. When an outer window is installed the two layers of compression foam press against each other all around the plastic window creating a watertight seal. The photo to the left illustrates this compression seal.

If water CAN get in, it WILL get in. Failure to properly seal the windows during installation is the single largest cause of leakage in Pods. If there is one place where you absolutely can’t afford to cut corners, it is during installation of waterproof window seals. Take your time and do it right.

The first photo to the right indicates that the compression tape applied to the wall material was either raggedly cut at the corner leaving a gap for water to enter, or was so stretched during application that when the window was installed the compression tape in the corner was torn. In either case the window leaked.

LEAK SOURCE: Foam does not completely protect window corner.

The second photo to the left shows two raggedly cut ends of tape improperly butted up against each other. This provides a channel for water to leak through. Overlap the compression tape where two ends need to be connected.

LEAK SOURCE: Torn foam water channel. Always overlap foam edges.

POTENTIAL LEAK SOURCE: Apply foam carefully and press it down firmly.
The second photograph above right shows compression tape that was either incorrectly applied along the line of the crease so that at one point there is very little material to seal against the adjoining compression tape, or this line of compression tape was not tightly stuck to the plastic window during installation and as a result it slipped when the window was installed. In either case it represents a potential leak.

Leakage will occur if the foam does not overlap everywhere around the window. This is particularly important at the vertices of the windows. Very carefully follow the instructions in the Pod assembly manual so that the line of compression foam applied to the window “frame” is exactly centered along the exterior 90° angle (1/2-inch “outside” the window frame, and ½-inch “inside” the frame.) Correct installation is illustrated in the photo on the left.

On the plastic outer window, make sure the foam is correctly centered along the line where the outer window fits up against that exterior 90° angle. Don’t cut strips of the compression foam for each edge of the plastic window. Rather run up to each vertex of the plastic window, make the turn down the other side of the triangle without stretching the compression tape, and crimp the portion that extends out beyond the vertex with your finger. Don’t cut off the crimp, it provides material to help form a tight seal where the vertex meets the wall material. Correct installation is shown in the photo on the right. [See AMT: Sealing The Pod To Prevent Leakage] (Updated 7/01/2004)

ASSEMBLY BASICS – HOW A POD GOES TOGETHER

The Pods are assembled from parts that are folded and tongue-and-groove slotted together. The seams are taped to seal every seam and edge against the elements. Check out the IcoPod and DecaPod assembly series slide shows (http://www.foldedhomes.com/pods.html) illustrating the assembly process.

Following basic assembly your Pod can be customized with clear windows, additional vents, and its surface can be treated to protect it from UV degradation and enhance the Pod’s longevity. [Also see AMT: Documentation & Assembly Manuals, AMT: Assembly Time & Required Manpower, AMT: Assembly Tools Required, AMT: Essential Assembly Conditions, AMT: Maintenance Long Term, MPT: UV Degradation & Extending the Life of Your Pod] (Created 5/2/2005)

ASSEMBLY HELP – DO I NEED TRAINING?

Building a Pod is a little like folding an origami crane. The first time you look at one you think to yourself “that’s really complicated”. But by the time you’ve folded your second origami crane, you can practically do it in your sleep. The Pods are the same. By the time you’ve
built a couple, you know most everything there is to know about them. They go together with ladders and muscle. The best way to assemble one is to do it like an old-fashioned barn raising. Get a bunch of your friends, read the manual, take your time, and have a good time building it in a day. Assembling a Pod doesn’t require any powertools, and you don’t need any special training. What you DO need, is the willingness to read the instructions and follow them exactly. The Pods are not tent substitutes. They are house substitutes. They are quite sophisticated structures and if they are not assembled properly you will have problems with them. Folded Homes has developed a very comprehensive assembly manual that specifies everything you need to know to successfully assemble your Pod.

Unfortunately, time and again we’ve encountered people that just don’t seem to think that they need to follow the instructions. Believe me, you do… Pods are built by teams of assemblers. At the very least each assembly team working on a Pod must have a Team Lead who has read the manual cover-to-cover and is determined to make sure that each step in the assembly process is followed exactly.

A number of Folded Homes customers have made large volume purchases that require large assembly teams to deploy. Several of these customers turned down offers by Folded Homes to provide trained expert team leads. They thought they would save money that way. Invariably, that decision cost them more money than it saved because of improper assembly and other errors that needed to be corrected like not properly managing a parts inventory in a large deployment.

So, the Folded Homes training mantra is 1) READ THE MANUAL and FOLLOW IT EXACTLY, and 2) go, slow, and TAKE THE TIME TO BUILD YOUR POD RIGHT, and 3) if you are in charge of a large deployment, HIRE SKILLED FOLDED HOMES TRAINERS OR TEAM LEADS to help with your deployment. [See AMT: Assembly Basics – How a Pod Goes Together, AMT: Assembly Time & Required Manpower, AMT: Assembly Tools Required, AMT: Documentation & Assembly Manuals, AMT: Essential Assembly Conditions] (Created 3/23/2006)
ASSEMBLY TIME & REQUIRED MANPOWER

How quickly you assemble your Pod depends on several factors.

First and foremost, will you review the instructions in advance and followed them carefully during assembly? If you do, the times discussed below are accurate. If you don’t, you’ll go from what one Beta Partner called “origami bliss to erection hell”.

Next, the time to assemble your Pod is dependent upon whether you are building an indoor or an outdoor Pod, and whether you are insulating your Pod. Outdoor Pods take longer to assemble because you must carefully seal all windows and seams against the elements, and if you are insulating your Pod it takes time to install the insulation.

Finally, it will take longer to assemble your first Pod than any other Pod you ever build. It truly is origami architecture. The first time you fold that origami crane, it seems so complicated. After a couple of times, you can do it in your sleep. So, now reread that first and foremost factor above.

The assembly times specified below assume that you have already collected all your required tools, your team is ready to rock & roll, and the platform or surface that your Pod is going to be built on is already complete.

<table>
<thead>
<tr>
<th>Team Size</th>
<th>Skill Level</th>
<th>Setup Time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Temporary (Unglued)</td>
</tr>
<tr>
<td>IcoPod</td>
<td>4</td>
<td>1st Time</td>
</tr>
<tr>
<td></td>
<td>Pro</td>
<td></td>
</tr>
<tr>
<td>DecaPod</td>
<td>10</td>
<td>1st Time</td>
</tr>
<tr>
<td></td>
<td>Pro</td>
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</tbody>
</table>


ASSEMBLY TOOLS REQUIRED

No power tools are required to assemble our Pods. The Pods are assembled from parts that are folded and tongue-and-groove slotted together. The seams are taped to seal every seam and edge against the elements. The only tools required are a Box Knife (very handy for the cutting tasks), Scissors (useful for cutting tape accurately), Cotton Gloves (to protect against cuts from along the die-cut panel edges, and convenient for firmly pressing down the tape), a Table (table or piece of plywood set on saw horses to facilitate folding), and Ladders.

You’ll need at least one 8-foot ladder to build your IcoPod. But it is easier to assemble with two or three ladders (especially when installing the final roof components.) For the DecaPod you will need at least one 12-foot ladder and two 8 or 10-foot ladders. More are better. If you
are using hot-melt glue to glue your Pod together for extra rigidity, you will need electricity for the heating element of the glue gun. [See AMT: Assembly Time & Required Manpower, and AMT: Essential Assembly Conditions] (Updated 10/26/2004)

DISASSEMBLY & HOW MANY TIMES A POD CAN BE REUSED

Pods are semi-permanent structures manufactured from a variety of folded plastic materials. In general they should not be considered a replacement for a tent-like structure that can be repeatedly assembled and disassembled. However, if they have not been permanently glued together they can be carefully disassembled back to their constituent parts by cutting the plastic tape that seals their seams and carefully disassembling the various flaps that interlock under the tape. In 2003 we disassembled and stored a set of pods during our annual test program in the Nevada desert. Disassembly is substantially faster than assembly but must be performed carefully to not damage the parts. All Pod wall triangles and windows (comprising 90% of the structure) can be readily disassembled back down to flat 2-dimensional parts. Although it is possible with the exception of the flat 1"-thick door to fully disassemble all parts, typically the door port and the Pod base ring and saddle are not fully disassembled, but rather broken down into their constituent three-dimensional parts. The Pod's lighter structure and very simple assembly gives users the ability to reduce drayage and labor costs, while maximizing space and utility. [See AMT: Maintenance Long-Term.] (Updated 10/26/2004)

DISPOSAL

Our Pods are manufactured from recyclable materials (primarily polypropylene plastic). They are environmentally safe and can be fully recycled. [See MPT: Materials Safety and MPT: Environmentally Appropriate Materials] (Updated 10/26/2004)

DOCUMENTATION & ASSEMBLY MANUALS

At the present time, all documentation about Folded Homes Pod products is available through our web site (http://www.foldedhomes.com/index.html), including a large gallery (http://www.foldedhomes.com/pods.html) of photographs of the Pod shelters. The website contain links to our very comprehensive Frequently Asked Questions (FAQ) database. Look for the large question mark. A comprehensive assembly manual is included with your pod. (Updated 3/23/2006)

EASE OF TRANSPORT

Individual IcoPods and DecaPods are each boxed in a set of boxes (4 boxes for an IcoPod and 6 boxes for a DecaPod). [See PC: Transport Requirements] These boxes are each small enough to be comfortably carried by two people and fit into a pickup truck, small van or the back of a station-wagon. The set of IcoPod boxes takes up about 30.5 cubic feet. The set of DecaPod boxes takes up about 74 cubic feet. [See PI: Shipping & Packaging.] (Updated 1/22/2005)
ESSENTIAL ASSEMBLY CONDITIONS

Take Advantage of “Safe” Assembly Breaks: If you are assembling a Pod designed for use outside, it cannot be damaged by rain or snow. If you get caught in a rain shower, just wait for it to pass, wipe off the wet parts, and continue. You do not need to complete the assembly of your Pod all in one go. There are several “safe” stopping places during the assembly process so you can do it in several sessions. However, you have to reach one of these “safe” stopping places if you don’t want to risk damage to your Pod from wind. Your Pod assembly manual will tell you where it is safe to stop. [See AMT: Tape Application Tips & Problems with Pod Tape Not Sticking]

Don’t Assemble Your Pod on a Windy Day: The Pod is a geodesic dome. Until it is fully assembled, it only has a fraction of its final completed strength. Until it is fully assembled it can be easily damaged if distorted by the wind. You will be assembling your Pod from a number of large subassemblies. Some of these subassemblies require at least three people to transport and hold upright during the assembly process. Think of them as big sails during the assembly process and you will have an idea of what a good wind will do to them. It will be harder to hold these subassemblies in place if the wind is blowing. Wait for a calm day to assemble your Pod.

Don’t Assemble Your Pod in Rainy or Dusty Conditions: Tape is used to seal every seam and edge against the elements. If it is misapplied, these weather seals will fail. It is important that the tape is applied correctly. Do not stretch the tape out when laying it down along a seam. Once the tape is applied, make sure to rub it in well, as the adhesive requires evenly applied pressure to bond correctly. It is also important to have a clean surface to bond to. If you are in a dusty environment, wipe the area with a barely damp cloth first to remove any dust. The tape will not adhere to a dusty surface. Carefully applied tape will last a long time. Carelessly applied tape can peel off in as little as a few hours.

Don’t Assemble Your Pod if it is Too Hot or Too Cold: Several types of tape are used during the assembly of your Pod. Your Pod has come with a set of tapes appropriate for the Pod longevity model you have selected. [See AMT: Tape Application & Performance Range to know the temperature Application Range in which you can apply the tape and the temperature Operating Limit in which the Pod will perform well.] (Updated 10/26/2004)
GROUND COVERS

If your Pod is not being built on a platform that gets it off the ground, you will probably want to lay down some sort of ground cover. Wet environments will require a waterproof sheet between you, the Pod and the damp. Ensure that this waterproof sheet does not act as a collector of water that puddles under the Pod Base Ring. For dry, dusty environments (or as more comfortable covering over a waterproof sheet) we have had good results laying down “landscape fabric” available in a variety of types in various roll sizes. We used a gray landscape fabric in 2002 and a softer brown landscape fabric during the 2003 beta test cycle in the Nevada desert. Landscape fabric is available from farm or commercial plumbing supply stores. If you are not using a waterproof sheet under the landscape fabric, you will probably want to lay down a layer of heavy rosin paper to keep the dust from filtering up through the porous landscape fabric. Rosin paper is available from the paint dept at Home Depot. It can be neatly taped to the Pod Base Ring to seal the bottom of the Pod from insects [See PC:Insects.] (Created 11/4/2003)
GROUND SURFACE REQUIREMENTS

A flat surface is essential to avoid the accumulation of displacement errors during assembly as the triangles are attached and taped one to another. The Pods can be placed directly on the ground as long as the ground is flat. Typically for semi-permanent installations you will want to build your Pod on a platform to keep the Pod away from humid soil and standing ground water, and to ensure that run-off from rain and snowmelt does not accumulate around the Pod Base-ring. The platform top left is suitable for uneven ground. Another alternative that works well if you will be installing your Pod on level ground is to build a very low platform just to keep you and your Pod out of standing water. A pile of such platforms (stacked upside down) is shown below with a close-up of the upper surface below the stack. These are quite inexpensive to construct. Finally, you may find that something midway between nothing and a platform is ideal for your application. One alternative is to build an elevated foundation ring (as shown above-middle.) You can later build a floor inside the ring shown (left middle). [See AMT: Pod Platforms & AMT: Ground Covers] (Updated 11/29/2005)
HOLES AND WALL REPAIR

The Pod walls are manufactured from relatively lightweight materials. Between the inner wall and the outer wall there is a six-inch enclosed hollow space. The material that forms the inner and outer walls is rigid, but is not designed as a framework for suspending shelves or other heavy wall-hung items, nor as a framework for plumbing (which if required should be routed through a platform upon which the Pod can be built). The various wall components slot together and are then taped to form watertight seals. It is possible to puncture or cut through the material using a sharp object, but it is not easy to tear the extruded plastic material that comprises the walls and windows of the Pod. It is easy to repair slices or holes in the Pod walls. Make repairs to any holes in the surface as soon as they are detected to prevent water from being drawn up into the wall material flutes by osmosis. Clean the damaged area and carefully tape over or otherwise seal the hole with a silicon sealer. [See AMT: Sealing the Pod to Prevent Leakage, MPT: Pod Engineering – How the Pods Are Designed, MPT: Wall and Window Materials, PC: Insulation, PC: Plumbing, AMT: Assembly Tools Required and AMT: Tape Application Tips & Problems with Pod Tape Not Sticking] (Updated 10/26/2004)

HOW TO EASILY REMOVE TAPE BACKING (LINER) PAPER

An easy way to remove the tape-backing paper (or liner) during the taping portions of Pod assembly is the following.

1. Cut the length of tape you require.
2. At one end of the tape, use your thumb and index finger of each hand to start a “tear”. The tape itself will not tear, but the backing paper liner will.
3. At the tear in the backing paper liner, grab an edge of the paper liner that has separated from the plastic tape and remove the liner. (Created 2/26/2004)

KEEPING THE BOTTOM OF THE BASE-RING DRY

Outdoor Pods are manufactured from plastic and are therefore impervious to water damage. They can even be set up in standing water. However, you won’t be particularly happy living in standing water. So it is a good idea to assemble your Pod in a location that will not accumulate standing water. If you build your Pod on a platform, one method to prevent rain and snow melt from seeping under the Pod Base-ring, is to apply a line of tape completely around the Base-ring sealing the joint between the Base-ring and the edge of the Pod platform. This way water will drain off below the layer of the Base-Ring. [See AMT: Sealing The Pod To Prevent Leakage] (Updated 10/26/2004)
LIGHTING THE DOOR PORT

You can install non-heat-generating lights above and to each side of your Pod portal. Your Pod Door Portal comes with three recesses for lights. On the outside of the Door Portal translucent plastic lenses diffuse the light from the light source inside. The lights themselves (and if appropriate batteries to run them) are inserted into three compartments accessible through removable panels inside the Door Portal. One light source is in the Door Port Header, the two others are at the bottoms of the two portal Side Assemblies to each side of the Door Port. If you want, you can replace the white translucent plastic lenses with colored lenses. [See PC: Lighting] (Created 2/25/2004)

LIMIT FLEXING

The strength of our Pods is derived primarily from their icosahedron shape and their double-walled honeycomb structure. [See PC: Structural Rigidity.] The parts are assembled using slots and tabs and then taped together both to enhance rigidity and to seal the seams between the different parts. For these reasons it is important to reduce the possibility of flexing as much as possible since over time the parts may become loose and the tape could detach from the surface. For instance, although a complete Pod can be lifted up and moved, don’t make a habit of moving your Pod around. To eliminate flexing, ensure that the platform that you are building the Pod on is absolutely rigid. It should not flex. [See AMT: Pod Platforms] So, while you could build a Pod on a raft, the raft itself would have to be rigid and not flex in the waves. And you would want to use an all-plastic Pod for an application like this that frequently gets wet. [See MPT: Plastic vs. Fiberboard – Material Trade-Offs] (Updated 7/01/2004)

MAINTENANCE LONG-TERM

Properly maintained, Folded Homes Pods will last a long time. As of February 2009, an IcoPod has been in continual use (http://www.foldedhomes.com/FH_whats_new/5_whats_new02_22_09.html) in a campground in Michigan state. Here are several suggestions for how to ensure the long-life of your Pod.

Tape Maintenance: Different tape types are supplied with the different Pod longevity models. The suppliers of this tape expect them to perform satisfactorily for the Pod longevity versions for which they have been supplied. However, if the tape is incorrectly applied, then over time, the tape may detach opening the Pod's seams to rain water. Thus periodic tape maintenance is recommended. Check your Pod. If any of the tape seams are beginning to
loosen or pull away from the Pod wall or roof surface, carefully tamp the tape back down and if necessary replace or reinforce the existing tape seam. You will substantially reduce your tape maintenance requirements if you consider “painting” the exterior surface of your Pod with one of the many “roofing” materials that can be applied with a paint roller. Painting the surface of your Pod with such a material will seal the tape seams below. [See AMT: Tape Application Tips & Problems with Pod Tape Not Sticking & AMT: Permanent Pod Surface Films & Extending the Pod’s Life]

Door Portal Hinge Maintenance: The hinge of the Pod’s standard door is the only “moving part” of the Pod. Overtime the ‘slot-and-tape’ hinge may become loose and need to be reattached. Gluing your door hinge to the side of the door portal will make a stronger hinge. [See PC: Door Port Alternatives & Can the Door Be Locked.]

Bear in mind that the most important thing that you can do during Pod assembly which will significantly reduce necessary maintenance is to assemble your Pod slowly and meticulously. Our experience through three years of beta testing cycles with “untrained volunteers” is that those that assembled their Pod carefully experienced few problems. Those that rushed the assembly of their pod and in particular the application of the tape experienced problems. (Updated 10/26/2004)

PERMANENT POD SURFACE FILMS & EXTENDING THE POD’S LIFE

It is possible to further enhance the longevity of your Pod by applying a permanent surface material such as fiberglass, Rhino (http://www.rhinolinings.com/realrhino/index.html) or one of the many roofing materials that can be applied with a paint roller. There are two important benefits from doing this. First, it additionally waterproofs your Pod, and second, it covers the plastic wall material eliminating long-term damage to the plastic from UV-radiation [see MPT: UV Degradation & Extending the Life of Your Pod]. Apply this protective material over the outside surface once the walls of the Pod have been fully assembled and taped together. There are two reasons that application of additional surface material must be applied after wall assembly. First, any addition to the thickness of the Pod wall parts being assembled will have a negative impact on tight fit and proper size. Second, by applying the surface material after wall assembly, you further reinforce water-tightness by additionally sealing the already taped and sealed joints between wall components. Unless the Pod is being assembled with windows manufactured from equally long-lived materials (such as glass), it is recommended that any permanent material being applied to the walls be applied while the windows are not installed so that they can be easily swapped out at some future time.

Please note that the Pod’s 6”-thick hollow walls are not strong enough to be a casting form for concrete. [See MPT: Longevity, PC: Waterproofing, AMT: Tape Application & Performance Range, and SDM: Pod Warranty] (Updated 11/16/2005)
POD CONVERSION TRIANGLES

You can replace up to five of the triangles around the base of a DecaPod or IcoPod with open inserts that can serve as enlarged openings, picture windows, or panels through which stove-pipes or other objects can traverse. Each of these conversion triangles must replace a standard triangle of the Pod that has a base that lies on top of the Pod Base-saddle. In DecaPods, you can only install conversion triangles in one or more of the five triangles that are not part of a three-triangle wall (i.e. they can replace any triangle that lies between any two 3-triangle walls. A 3-D image of an open conversion triangle is shown below followed by the conversion triangle design specs. [See *PC: Door Port Alternatives and Can the Door Be Locked*, and *AMT: Stovepipe and Chimney Options.*] (Created 7/01/2004)

Click [here](http://www.foldedhomes.com/PDF_docs/Pod_Conversion_Triangles.pdf) to download JPEG image of the Conversion Triangle 3-D Image
Deca pod triangle brace measurements in cm.

Use plywood no heavier than 2cm. Glue up construction and paint white. During installation, a bead of white caulk must be placed around the outer edge of the frame where the wood meets the pod material.

Outside edges of triangle must bevel inwards at 69 degrees.

Side boards:
- Must have long edge bevelled at 69 degrees
- Must have end edges bevelled at 30 degrees

A 20 to 22cm wide board will be fine as a spacing dimension for the width of the sideboard. Beveling the edges will make it slightly narrower.

Example showing minimum clearance for triangle "walk through" threshold

Page 45 of 76
POD PLATFORMS
For semi-permanent installations we recommend that you build your Pod on a platform of some sort to keep the Pod away from humid soil and standing ground water, and to ensure that run-off from rain and snowmelt does not accumulate around the Pod base ring. [See AMT: Ground Surface Requirements] Ensure that the platform you construct either does not have a flat surface outside the Pod’s base ring where water can accumulate, or that that outside surface slopes down and away from the Pod base. [See AMT: Keeping the Bottom of the Base-Ring Dry.] Example platform designs are available here (http://www.foldedhomes.com/PDF_docs/Pod_Platform_%20and_Anchoring.pdf). [See AMT: Limit Flexing.] (Updated 3/11/2009)

SEALING THE POD TO PREVENT LEAKAGE
All-plastic Pod’s cannot be damaged by leaks. But that’s not the case for your quality of life. A leaky Pod makes for unhappy inhabitants.

Typically there are four problem areas where water can enter:

- Damage to the Wall
  [See AMT: Holes and Wall Repair.]
- Poorly Sealed Seams
  [See AMT: Tape Application Tips & Problems with Pod Tape Not Sticking.]
- Leaking Window Seals
  [See AMT: Assembling Waterproof Window Seals]
- Poorly Sealed Base-Ring
  [See AMT: Keeping the Bottom of the Base-Ring Dry]

Avoiding these problems starts with proper assembly of your Pod, and continues with routine maintenance. [Please See AMT: Maintenance Long-Term and the related FAQs for more details.] (Updated 10/26/2004)

STORAGE LIFE & STORAGE CONDITIONS
Outdoor Pods are manufactured from plastic materials which have a prolonged shelf-life. However, in order to prevent premature degradation from ultra-violet (UV) exposure, they should not be stored in direct sunlight. [See MPT: UV Degradation & Extending the Life of Your Pod] Over a period of years there is the possibility that the adhesives used on the tapes might lose their stickiness. Additionally, since the plastics we use have some "memory", over an extended period, the crease lines indicating where folds should occur may become less pronounced. Finally, wet or very humid storage conditions could result in the development of fungal growth. For best results therefore, you should assemble your Pod within several months of receiving it. (Updated 11/16/2005)

STOVEPIPE AND CHIMNEY OPTIONS
Your Pod is made out of flammable materials. Even if you purchased a fire-retardant Pod, the operative word is "retardant". Your Pod will burn. [See PC: Heating.] So, when considering the placement of stovepipes or other chimney assemblies in your Pod, Folded Homes recommends following all the instructions for fire prevention provided with the appliance.

There are at least two ways you can install a stovepipe.

Method 1: Probably the easiest place to position a stovepipe is through one of the 14 IcoPod and 39 DecaPod window triangles in the wall or ceiling. Each equilateral window opening is
approximately 30” on a side. (We say approximately because the 6”-thick double-walled design of the Pods means that the window opening is bigger on the outside face of the Pod than on the inside face.) Carefully remove the inner and outer window, design a fireproof and heatproof insert that 1) will replace the removed windows, 2) be watertight, and 3) support the stovepipe in its center. Install the insert and your stovepipe.

Method 2: Completely replace one of the Pod wall triangles with a insert protected by fire-resistant materials and modified to meet the stove-pipe requirements of your appliance. The outer dimensions of such an insert are discussed in AMT: Pod Conversion Triangles.

Folded Homes strongly urges you to consult a professional builder for advice. You are responsible for ensuring that any and all applicable building codes and or regulations are properly followed, and that the insert you build is appropriately designed, sound and complete. (Updated 10/26/2004)

**TAPE APPLICATION & PERFORMANCE RANGE**

The table below specifies the temperature Application Range in which you can apply the tape and the temperature Operating Limit in which the Pod will perform well. If the weather conditions your Pod will be exposed to exceed the standard ranges provided here, contact Folded Homes to supply a custom set of tapes appropriate for the temperature range your Pod needs to tolerate.

<table>
<thead>
<tr>
<th>Pod Longevity Model</th>
<th>Tape Application Range</th>
<th>Tape Operating Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Life (not 4-season)</td>
<td>&gt; 65 F. (18 C.)</td>
<td>32 to 105 F. (0 to 40 C.)</td>
</tr>
<tr>
<td>Medium Life (5-year, 4-season)</td>
<td>50 to 110 F. (10 to 43.3 C)</td>
<td>-40 to 180F (-40 to 82.2 C.)</td>
</tr>
<tr>
<td>Long Life (10-year, 4-season)</td>
<td>50 to 110 F. (10 to 43.3 C)</td>
<td>-40 to 180F (-40 to 82.2 C.)</td>
</tr>
</tbody>
</table>

[See AMT: Essential Assembly Conditions and AMT: Tape Application Tips & Problems with Pod Tape Not Sticking.] (Created 10/14/2003)

**TAPE APPLICATION TIPS & PROBLEMS WITH POD TAPE NOT STICKING**

Once components of the Pod walls are folded and assembled together, all open seams are taped over. The purpose of this taping is to ensure water-tightness and to contribute to structural integrity. Only very specialized tapes, developed for multi-year external applications are used for the 4-season Pods. If Pod Seam Tape is not applied carefully, methodically, and correctly, problems of leakage, weakened structure and appearance can occur. Three key problems have been identified:

Tape must not be applied on a dusty surface: Recently, assembly during a severe dust storm resulted in a poor bond because dust on the underlying skin of the Pod was not removed resulting in a poor joint. It is easy to avoid the problem by wiping down the Pod seam prior to tape application with a damp rag to remove any accumulated dust. But be sure to make sure that the surface completely dries before applying the tape.

Tape needs to be applied methodically and neatly: Hasty and sloppy application of tape will look bad and inevitably cause problems with your weather seal. As discussed in the assembly manual, it should not be stretched during application, nor should it be applied with air pockets (bubbles) under the surface. Make sure it is firmly rubbed onto the surface of the Pod after application. [See AMT: Maintenance Long-Term]

The tape will not adhere properly if it is applied when weather conditions are too hot or too cold: [See AMT: Essential Assembly Conditions] (Updated 11/17/2003)
MATERIALS, PERFORMANCE & TESTING (MPT)

CONCRETE FORMS – NOT!

There are a number of ways to extend the life of your Pod and to transform it into a permanent structure. [See AMT: Permanent Pod Surface Films & Extending the Pod’s Life] However, the Pod walls are not strong enough to act as a form for pouring cast concrete (nor would you be interested in a 6”-thick concrete wall, unless you expect nuclear Armageddon ;-) (Created 3/24/2005)

DO I NEED A UV-HARDENED POD?

A Pod enthusiast wrote us that he was considering a "semi-permanent outdoor installation", and that he was "definitely going to paint" his Pod to protect it from UV-degradation. He wanted to know whether he should purchase a standard Pod or a more expensive Pod manufactured with UV inhibitors?

All plastics are affected to one degree or another by UV degradation. [See MPT: UV Degradation & Extending the Life of Your Pod] Pods manufactured with UV-inhibitors will resist the natural UV degradation process about twice as long as those manufactured without UV inhibitors. However, eventually they will also suffer from UV degradation. The only way to prevent UV degradation is to prevent the sun's rays from penetrating the plastic. The walls of the Pod can be protected from UV degradation by coating the outside of the Pod with a material that blocks penetration into the plastic. [See AMT: Permanent Pod Surface Films & Extending The Pod’s Life] The windowpanes supplied with the Pods are also manufactured with polypropylene plastic. If they are painted, they will no longer let light into the Pod. Unpainted they will also eventually suffer UV-degradation. There are a couple of options for protecting your Pod's windows. New Pod windows are relatively inexpensive and can be swapped in to replace the old windows when they wear out. Alternately you can assemble your Pod with windows that either do not degrade at all (for example using glass panes) or degrade much more slowly. [See PC: Windows (Clear)] If you decide to assemble your Pod using a different windowpane material but the original window frames, the frames themselves will need to be coated like the rest of the Pod's walls to prevent them from suffering UV degradation.

The Folded Homes warranty applies to all of our Pods. [See SDM: Pod Warranty] As such, the warranty period falls within the expected lifetime of the non-UV-enhanced plastics used in the manufacture of our standard Pods. If it is your intent to paint your Pod to protect it from UV-degradation, we strongly recommend that you do so during the initial assembly process or as soon thereafter as possible. The longer you wait to protect the plastic of your Pod, the more time it will have been effected by the sun’s UV. (Created 2/5/2006)

ENVIRONMENTALLY APPROPRIATE MATERIALS

Folded Homes is dedicated to the use of safe, environmentally appropriate materials and manufacturing methods in the production of its products. Each new design strives to be 100% recyclable. Where possible Pod products use post-consumer-waste plastics.

The inherent simplicity of a Pod unit allows for the use of fewer materials. On a cubic foot basis, Pod structures are five times more efficient than traditional wood frame structures. The superior design, with its passive ventilation and insulation, significantly reduces energy usage versus single-skinned temporary structures.

Environmental Aspects of Coroplast
Coroplast Technical Bulletin - CSS-014-93
Reducing environmental waste means looking for ways to reduce material used in our products, reusing products whenever possible, and recycling when the product's useful life is over.

Coroplast products contribute to the reduction of environmental waste on all three aspects.

**Reduce**

Coroplast's twin-wall fluted structure produces strength and rigidity at a lower weight, thereby reducing the amount of material required.

**Reuse**

The durability of Coroplast in outdoor use and in packaging applications means it can be used longer and reused over and over enabling a longer useful life.

**Recycle**

Coroplast uses polypropylene copolymers which makes for easy recycling at the end of their useful life. Polypropylene, being a polyolfin, recycles in processing streams such as plastic milk cartons and detergent bottles. Contact your local plastics recycling center for local information on polypropylene recycling.

EXTRUDED PLASTIC – WHAT’S THAT?

Your Pod is almost entirely manufactured from extruded plastic sheets. The structure of these sheets is very much like fluted cardboard; two sheets of material separated by horizontal fluting (see below). Extruded plastic is much stronger than fiberboard and is also 100% waterproof, making it ideal for wet, damp and humid conditions. And if you ever have to tear down your Pod, it is completely recyclable.

Extruded plastic folds really well (see the Pod Portal Header above), and is ideally suited for “tab and slot” connections since it remains quite rigid especially over short distances.

The Pod’s extruded plastic is manufactured by Coroplast (www.coroplast.com) or a similar manufacturer in translucent and multiple opaque colors (these images show translucent plastic.) The extruded plastic used for the Pods is between 2 and 3 millimeters thick.

The plastic itself is a high impact polypropylene co-polymer resin with excellent impact and low temperature performance. Chemically, the sheet is inert, with a NIL pH factor. At regular temperatures most oils, solvents and water have no effect, allowing the sheet to perform well under adverse environmental conditions. The extruded plastic can be modified with additives, which are melt-blended into the sheet to provide ultra violet protection, anti-stat, flame retardant, custom colors, corrosive inhibitors, static-dissipative, etc.

The Polypropylene is quite safe and exhibits excellent flammability characteristics. The natural polymer is chemically inert and is generally considered non-toxic and safe for use in contact with food. The base resin meets FDA requirements as listed in Food Additive Regulation Title 21, Section 177.1520(c), Item 1.1, covering food contact uses.

While Coroplast will burn, it does not have a flash point or an uncontrollable flame spread rate like some acrylics or styrene. It responds very much like paper. Should a fire start it is easily extinguished by any type of extinguisher. Burning Coroplast generates combustion products with very low toxicity. This is common to polyolefin polymers.

Until the sheet reaches a temperature of approximately 600 degrees F, it will not release flammable - low molecular weight hydrocarbons. In a fire situation the amount of smoke and the toxicity of the smoke is perhaps more serious than the burn rate. Smoke evolution is dependent on the available oxygen present, but polypropylene copolymer normally generates little smoke. This is not true for many other thermoplastics. The compounds of combustion of polyolefin plastics are not highly toxic except for carbon monoxide which will be formed when any organic matter - e.g. paper, wood or gasoline burns. In fact, the carbon monoxide given off by burning Coroplast is less than for cardboard or hardboard. [See MPT: Plastic vs. Fiberboard – Materials Trade-offs] (Created 1/18/2005)
**FIRE RETARDANT CHARACTERISTICS**

The fire-retardant characteristics of your Pod depend upon the materials the Pod is manufactured from. The majority of our outdoor Pods are constructed from Polypropylene copolymers. In a fire situation the amount of smoke and the toxicity of the smoke is perhaps more serious than the burn rate. Smoke evolution is dependent on the available oxygen present, but polypropylene copolymer normally generates little smoke. This is not true for many other thermoplastics. The compounds of combustion of polyolefin plastics are not highly toxic except for carbon monoxide which will be formed when any organic matter - e.g. paper, wood or gasoline burns. In fact, the carbon monoxide given off by burning Coroplast is less than for cardboard or hardboard. It is possible to purchase your Pod with an additional fire-retardant additive.

From the perspective of flame spread, Folded Homes Pods should be considered as Class C structures. Flame-spread is a measure of how quickly fire develops on an assembly's surface material once that material is exposed to flame. A Class A Interior Wall and Ceiling Finish has a flame-spread rating of 25 or less. Flame-spread for Class B material ranges from 26 to 75 while Class C varies from 76 to 200. (See [http://www.usg.com/Design_Solutions/2_2_11_surfaceburning.asp](http://www.usg.com/Design_Solutions/2_2_11_surfaceburning.asp) and [http://www.geplastics.com/resins/devprod/flammabilityt.html](http://www.geplastics.com/resins/devprod/flammabilityt.html))

**Health and Safety Aspect of Coroplast Polypropylene**

*(Coroplast Technical Bulletin - CSS-033-93)*

**General Toxicity**

The name Coroplast applies to a wide range of extruded corrugated plastic sheet products based on polypropylene copolymers. The natural polymer is chemically inert and is generally considered non-toxic and safe for use in contact with food. The base resin meets FDA requirements as listed in Food Additive Regulation Title 21, Section 177.1520(c), Item 1.1, covering food contact uses.

Pigmented or otherwise modified sheets are not considered to constitute any extra health hazard under normal handling and conversion. All additives are melt-blended into the polymer and encapsulated. Colors are available which will meet food contact approvals.

**Effect of Heat/ Combustion**

Coroplast is made from a combustible thermoplastic material, polypropylene. While discretion would suggest that observation of precautions consistent with regulatory codes and standards should be followed when working with Coroplast, it is equally important to note that compared to other plastics on the market Coroplast is very low on a relative hazard scale.

Two areas of flammability hazard must be addressed: rate of combustion and toxicity of combustion products.

**Rate of Combustion**

There are many flammability tests in use for different applications in the various parts of North America. A test valid in one area is not acceptable in another. We will try to offer information which will allow the relative hazard of Coroplast to be evaluated. If a flame retardant sheet is needed, ask about our Firewall FRB Brand Product.

In the United States the most generally accepted Surface Flame Spread Test is the ASTM E-84 Tunnel test. This test involves suspending a test specimen in the ceiling of the tunnel and igniting one end in the presence of a forced air stream.

This test is not applicable to thermoplastic material because they will melt out and fall to the floor, prejudicing the result. By this test Coroplast received an unrealistic low 25 (Red Oak is 100).
In Canada, this test has been modified to take thermoplastics into account and samples are tested in the same tunnel but on the floor (ULC-S102.2-78). By this test the 4mm natural sheet exhibited a more realistic Surface Flame Spread of 178 with Smoke Developed of 200 and Fuel Contributed of 100.

One of the factors not visible in the test figure is the length of time to get the fire going. Until the sheet reaches a temperature of approximately 600 degrees F, it will not release flammable - low molecular weight hydrocarbons.

Should a fire occur, any available fire extinguisher may be used. In a limited fire situation dry chemical powder extinguishers have proven very successful. In a larger scale fire, water sprays/ sprinkler systems are very successful because they quickly cool and damp down the fire.

**Toxicity of Combustion**

In a fire situation the amount of smoke and the toxicity of the smoke is perhaps more serious than the burn rate. Smoke evolution is dependent on the available oxygen present, but polypropylene copolymer normally generates little smoke. This is not true for many other thermoplastics. The compounds of combustion of polyolefin plastics are not highly toxic except for carbon monoxide which will be formed when any organic matter - e.g. paper, wood or gasoline burns. In fact, the carbon monoxide given off by burning Coroplast is less than for cardboard or hardboard.

% Carbon Monoxide (CO) W/W evolved from Coroplast, cardboard and hardboard.

<table>
<thead>
<tr>
<th>Temp. Celsius</th>
<th>% Oxygen v/v</th>
<th>Percentage of Carbon Monoxide &amp; CO W/W Evolved from</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Coroplast</td>
</tr>
<tr>
<td>500</td>
<td>21</td>
<td>6.2</td>
</tr>
<tr>
<td>350</td>
<td>12</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4.8</td>
</tr>
<tr>
<td>250</td>
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<td>11.7</td>
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<td></td>
<td>12</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4.7</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**Summary**

While Coroplast will burn, it does not have a flash point or an uncontrollable flame spread rate like some acrylics or styrene. It responds very much like paper. Should a fire start it is easily extinguished by any type of extinguisher. Burning Coroplast generates combustion products with very low toxicity. This is common to polyolefin polymers.

FOUR-SEASON PERFORMANCE

Our outdoor Pods are designed to be four-season shelters, providing protection from the elements rain or shine, wind or snow. How long your Pod will last is directly related to the materials it is manufactured from and the severity of the weather conditions it will be exposed to. There are three primary factors that affect the materials that your Pod is manufactured from; freezing water, abrasion and the sun’s UV radiation.

Freezing Water: Your Pod is typically manufactured from 3mm extruded plastic. This material is fluted meaning that it has an inner and outer surface separated by I-Beam cross bars. If your Pod is improperly sealed or is subject to standing water, it is possible for water to leach up into the flutes of the Pod’s plastic walls. If that water then freezes, it is possible that the expansive force from the ice can crack the surface of your Pod. If you install your Pod in an environment subject to freezing, make sure that water cannot soak up into the walls and Base-ring.

Abrasion: In windswept sandy environments your Pod can be attacked by abrasion and should be protected from blown sand to maximize longevity.

UV Radiation: Ultraviolet (UV) radiation is one of the key forces that slowly degrade external structures, effecting materials like synthetic and natural cloth, plastic, and wood. The Pod’s exterior is subject to UV degradation. Because weather conditions and how hot and how long the sun shines determines how much oxidation and UV radiation your Pod will be exposed to some Pods will be exposed to higher quantities than others and will degrade faster. One of our plastics suppliers explained that they receive no complaints about UV degradation from customers in Canada and Northern Europe for periods approaching 5 years but customers in Texas complain the same plastic degrades after a year. Our Pods are treated with UV-protective additives and we believe that they will perform satisfactorily for the warranty period specified. [See MPT: UV Degradation & Extending the Life of Your Pod, MPT: Longevity, PC: Wind, PC: Waterproofing, MPT: Snow Loads & Pod Crush Testing, AMT: Sealing the Pod to Prevent Leakage, AMT: Ground Surface Requirements & Pod Platforms, MPT: Long Term Testing, and SDM: Pod Warranty.] (Updated 3/23/2006)

LONG TERM TESTING

Our materials suppliers believe that their products will perform satisfactorily for the longevity requirements of our products. A group of 47 IcoPods were used in two consecutive winters high in the Pakistani Himalayas (http://www.foldedhomes.com/Testimonials/1testim_Jan08.html) while an IcoPod celebrated its fifth anniversary (http://www.foldedhomes.com/Testimonials/2testim_Feb09.html) February 2009 in Michigan. [See MPT: Longevity.] (Updated 3/11/2009)

LONGEVITY

All of our outdoor Pods are four-season. Their useful lifetime is limited primarily by the effect of long-term UV-degradation of the plastic wall material. You can substantially enhance your Pod’s longevity by treating the exterior surface with a material that eliminates the possibility of UV degradation. [See AMT: Permanent Pod Surface Films & Extending the Pod’s Life] The Short-life Pod is not a four-season structure and will not perform well in persistent or heavy rains or high-humidity. [See MPT: UV Degradation & Extending the Life of Your Pod, PC: Waterproofing, MPT: Four-Season Performance, and SDM: Pod Warranty.] (Updated 11/16/2005)

MATERIALS SAFETY

The Pods are manufactured from safe, environmentally-friendly (i.e. recyclable) materials. [See MPT: Environmentally Appropriate Materials, and MPT: Wall & Window Material]
Ensuring materials safety has been a paramount concern when selecting the materials used to manufacture the Pods.

The walls and windows or our outdoor Pods are entirely manufactured from corrugated plastic. This plastic is comprised of polypropylene copolymers. The natural polymer is chemically inert and is generally considered non-toxic and safe for use in contact with food. The base resin meets FDA requirements as listed in Food Additive Regulation Title 21, Section 177.1520(c). As a combustible thermoplastic material, polypropylene is very low on a relative hazard scale. While this polypropylene will burn, it does not have a flash point or an uncontrollable flame spread rate like some acrylics or styrene. It responds very much like paper. Should a fire start any type of extinguisher easily extinguishes it. Burning our Polypropylene copolymer generates combustion products with very low toxicity and normally generates little smoke. This is common to polyolefin polymers. This is not true for many other thermoplastics. The compounds of combustion of polyolefin plastics are not highly toxic except for carbon monoxide, which will be formed when any organic matter - e.g. paper, wood or gasoline burns. In fact, the carbon monoxide given off by burning Coroplast is less than for cardboard or hardboard. Mid and long-life Pods typically have a metallic or polymer outer skin whose disposal and fire mitigation characteristics vary.

Your Pod will not "outgas" or produce noxious fumes.

[See AMT: Disposal. (Updated 10/26/2004)]

PASSIVE VENTILATION

The pressure difference across an opening is the driving force of ventilation. This pressure difference is produced by the action of wind, temperature difference, or by the operation of mechanical ventilation systems.

Passive ventilation is ventilation provided without a mechanical means of forcing air movement. A key advantage of passive ventilation is that it is not dependent on an outside power source. A disadvantage of passive ventilation can occur in climatic areas that are subject to a combination of high heat and humidity. The lack of a positive airflow can create conditions favoring the growth of mildew. [See PC: Humidity]

A standard for human habitation is to provide one square foot of ventilation area for every one thousand cubic feet of interior shelter space. Therefore, an IcoPod should be provided with about 0.85 square feet of ventilation (less than a single 2.7 square foot triangular window), while a DecaPod should have approximately 4 square feet of ventilation (less than 2 triangular windows.) Passive ventilation can offer appropriate greenhouse temperature control if the openings in the greenhouse are large enough to cause sufficient air exchange with the outdoors. Florida greenhouses use the general rule-of-thumb that passive ventilation totaling 40% of the floor area must be open to keep greenhouse temperatures within 10 degrees above the outside temperature. Therefore an IcoPod serving as a greenhouse should have about 10.8 square feet of passive ventilation, while a DecaPod serving as a green-house should have about 47.2 square feet of passive ventilation. This means that assuming that the entire area of a window is available to provide passive ventilation, an Ico-GrowPod should have at least 4 windows dedicated to passive ventilation, while a Deca-GrowPod should have at least 18 windows dedicated to passive ventilation. [See PC: Windows (Opening)]

Passive ventilation works, but it is generally a manual system. Thus a greenhouse with only passive ventilation requires that the greenhouse operator is present during every day, and typically every hour, that plants are growing in the greenhouse. (www.uky.edu/Agriculture/HLA/anderson/fl_prog/ghvent_p.htm) [See PC: Volume (Cubic Feet Enclosed), and PC: Ventilation & Exchange of Temperature In Hot and Humid Regions.] (Updated 10/26/2005)
PLASTIC ODORS – THERE AREN’T ANY

The Pods are manufactured from extruded plastic sheets of high impact polypropylene co-polymer resin with excellent impact and high and low temperature performance. Chemically, the plastic is inert. [See AMT: Extruded Plastic – What’s That?] The prototype plastic Pod assembled in the hot California sun in September 2004 has exhibited no noticeable plastic smell since being erected. (Created 3/24/2005)

PLASTIC VS. FIBERBOARD – MATERIAL TRADE-OFFS

All of our outdoor Pods are constructed from extruded plastic. Some of our indoor Pods may be constructed from a mix of fiberboard and plastic.

Which is best for your application?

The answer is that the materials used need to best suit the application. Plastic has the benefit of being completely impervious to water damage, so it is a good material for use in wet environments and long-term applications. And in applications like greenhouses or sauna covers, where the humidity is very high, or where translucence of the entire wall is important, plastic provides the superior characteristic. It also tends to be more resistant to puncture damage than fiberboard. But while plastic is impervious to water damage, it eventually suffers from ultra-violet (UV) degradation, so it needs to be painted or otherwise coated to protect it for multiyear applications. [See MPT: UV Degradation & Extending the Life of Your Pod, PC: Humidity and MPT: Four-Season Performance.]

Fiberboard can be very cost effective, especially if your Pod is being used in a protected environment where water damage is not an issue. [See MPT: Longevity and AMT: Permanent Pod Surface Materials & Extending the Pod’s Life.]

Finally, plastic and fiberboard also have different tactile characteristics. Fiberboard is a “warmer” material than plastic. (Updated 10/26/2004)

POD ENGINEERING – HOW THE PODS ARE DESIGNED

The Pod’s double-walled design is an improvement to R. Buckminster Fuller’s original paperboard dome concept. [See FH: Pod Genesis.]

Pod™ shelters are designed around our patented method of folding structural panels that allows for a large structure to be constructed primarily from a single flat die-cut part. The majority of each Pod™ is formed from repeated use of this single identical part. Three of these parts combine to form a large three-dimensional triangle. Fifteen of these triangles are assembled to create an IcoPod™ and 40 of these triangles are assembled into a DecaPod™. A relatively small set of other die cut parts are used to construct the remaining small percentage of the structure (base ring, door frame, windowpane, etc.) [See PC: Why Assembly Is Easy.]

The fundamental simplicity of a design principle premised on repeated use of a single identical part generates a triple benefit: it makes the development of derivative products
unusually simple both to design and mass-produce, and it keeps the cost of production comparatively low. [See PC: Structural Rigidity.] (Updated 1/25/2005)

POD TESTS PERFORMED

The Pods have been developed over four years. Each year, a group of volunteers tested the latest version of the Pods in the Nevada desert. In August/September 2003 15 IcoPods, 6 DecaPods and a ShadePod were assembled and used for periods of up to 11 days. The Pods performed well. We noticed however that if the Pods are not assembled attentively, particularly as regards proper application of seam tape that covers joints, the tape could pull off. [See AMT: Tape Application Tips & Problems with Pod Tape Not Sticking.] Pods have been tested in rainy conditions as well. Our April 2004 Preproduction run to beta testers and early adopters resulted in the migration to all-plastic Pods for outdoor use. We have several Pods currently undergoing long-term testing. [See MPT: UV Degradation & Extending the Life of Your Pod] Purchasers who intend to use their pods in extreme conditions are encouraged to discuss their specific needs. (Updated 11/16/2005)

SNOW LOADS & POD CRUSH TESTING

We have performed crush tests on our IcoPods. An IcoPod covers 108 square feet. The roof is generally spherical and was successfully loaded with 950 pounds without significant distortion. In the Pakistani Himalayas, all 47 IcoPods assembled withstood two consecutive winters of deep snow without collapse. DecaPods assembled in heavy snow environments MUST be assembled with a central supporting column and with all tabs glued across the surface of the DecaPod. (Updated 3/11/2009)
UV DEGRADATION & EXTENDING THE LIFE OF YOUR POD

Ultraviolet (UV) radiation is electromagnetic radiation of a wavelength shorter than that of the visible region, but longer than that of soft X-rays. The Sun emits ultraviolet radiation in the UVA, UVB, and UVC bands, but because of absorption in the atmosphere’s ozone layer, 99% of the ultraviolet radiation that reaches the Earth’s surface is UVA.

Exposure to sunlight and some artificial lights have adverse effects on the useful life of plastic products. UV radiation breaks down the chemical bonds in a polymer. This process is called photodegradation and ultimately causes cracking, chalking, color changes and the loss of physical properties leading to loss of strength, stiffness of flexibility.

The two blue images below, photographed under a microscope, show this degradation going from un-degraded on the left to degraded on the right.

Pod’s plastic from that UV-degradation. The more sunlight at a higher altitude, the more UV it will be exposed to.

Pods are manufactured from polypropylene plastic. An unpainted, translucent Pod that has not be enhanced with UV-inhibitors will degrade the fastest. The images below show the effects of UV degradation on an IcoPod manufactured from translucent plastic with no UV-inhibitors added and continuously exposed to the sun for just over 13 months. The plastic became brittle and could be easily crushed with thumb pressure. The failure mechanism took just over

13 months to exhibit itself, but once it did, the failure was generalized and completely destroyed the structural rigidity of the Pod’s plastic wall. Once
the Pod’s structural integrity is weakened by the UV degradation, the Pod could experience collapse under heavy rain, hail or snow loads. At the time of the roof collapse shown in the photos above, the plastic in the north-east walls of this Pod which were less exposed to the sun appeared as strong and flexible as at assembly.

Note that the UV-resistant tape used to assemble the Pods showed no signs of UV degradation and continued to provide a tight seal between the various Pod panels.

Using UV-protective additives and selecting high performance pigments can improve weatherability. Folded Homes sells Pods manufactured from plastics containing UV-inhibiting additives. Also, Pods that are manufactured from opaque plastics experience slower UV degradation than all-translucent Pods.

The effects of UV-degradation on plastic make it essential that you carefully consider how your Pod is going to be used. If it is only going to be used for a period of time less than the Pod warranty period, then you probably don’t need to worry about the effects of UV degradation. If however, you want your Pod to perform well beyond the warranty period, then you need to take steps that reduce or eliminate dilapidation due to UV-degradation. The best ways to do this are

• Select a Pod manufactured from plastics enhanced with UV-protective additives
• Paint your Pod with a light colored or reflective paint that will block the penetration of the sun’s UV rays.


WALL & WINDOW MATERIALS

Outdoor Pods: The walls and windows of our outdoor Pods are typically manufactured from translucent, UV-resistant, extruded plastic [See MPT: Extruded Plastic – What’s That, and MPT: UV Degradation & Extending the Life of Your Pod] or foam core panels.

Indoor Pods: The die-cut wall panels or our indoor Pods are formed from corrugated fiberboard. The windows are typically manufactured from extruded plastic. [See MPT: Longevity, PC: Waterproofing, MPT: Materials Safety, and MPT: Plastic vs. Fiberboard – Materials Trade-offs] (Updated 11/16/2005)
PURCHASE INFORMATION (PI)

AFFORDABILITY

Pod pricing is very competitive when compared on a per square foot basis with comparable domes, yurts, tents and other semi-permanent shelters designed or configured for four-season conditions. We encourage you to comparison shop to convince yourself. Though the Pods are generally cheaper than these other solutions, we believe that Pod features are frequently superior to these other solutions as well. Nonetheless, the Pods remain out of reach for people that are truly challenged financially. Folded Homes is committed to selling our Pods as inexpensively as possible. Two major factors effecting cost of manufacture are 1) the number of Pods produced in a given production run, and 2) manufacturing location. As long as Folded Homes remains a small company, we will not have the capacity to produce large numbers of Pods in each production run. This means that unfortunately some of the ‘start-up’ costs of production have to be amortized over a relatively small number of Pods. This increases their unit cost. We attempt to partially obviate this challenge by collecting sufficient orders to keep Pod costs reasonable. Off-shore manufacturing offers other opportunities to reduce costs. Folded Homes has to weigh the pros and cons of transferring production offshore to take advantage of cheap labor environments. If Folded Homes ever does so, it will carefully assess the ethics associated with each manufacturing alternative. Currently manufacture is performed in the United State.
In cases of real humanitarian need such as the December 2004 Indian Ocean Tsunami Folded Homes has offered our Pods at or near cost of manufacture or has worked with partners to defray the costs of Pods delivered to those in need. [See PI:CONSUMER Pricing, PI:Financing, PI:WHOLESALE PRICING & VOLUME DISCOUNTING, SDM: INTERNATIONAL MANUFACTURE] (Created 2/08/2005)

CONSUMER PRICING

Please visit our website for latest pricing of our Pods. (Updated 10/26/2004)

CUSTOM ORDER QUOTES

Folded Homes can generally turn a custom order quote in 48 hours. We have a sophisticated spreadsheet that automatically calculates all costs depending upon requirements specification. (Created 2/24/2004)

DOWNLOADING PDF-FORMAT FILES


FINANCING

Unfortunately, Folded Homes is unable to offer in-house financing of its Pods at this time. (Created 11/16/2003)

INFORMATION SOURCES

Our websites are the primary sources for information about our Pods. If you are particularly interested in learning about the Pods, go here (http://www.foldedhomes.com/shelters_signature.html). For information about Folded Homes, press reports about the Pods, humanitarian and relief applications, or other company related
IcoPod and DecaPod FAQs

Information please go [here](http://www.foldedhomes.com/FAQs/faq_fh.html). Galleries of photographs and a great deal of information about the Pods are available [here](http://www.foldedhomes.com/pods.html). You can download and print out up-to-date product specification sheets, Pod overview documents, our extensive FAQ database, and lots more. Downloadable files are available in the universally recognized PDF format. [See PI: Downloading PDF-format Files.] Delivering information over the web both helps to keep our Pod prices as low as possible, and saves trees. Here are some links to quickly navigate to useful sections of our websites.

There is a large Frequently Asked Questions section (Look for the large question mark icons.) divided into seven sections;

- Shelter Characteristics (SC),
- Assembly (A),
- Maintenance (M),
- Performance, Materials & Testing (PMT),
- Purchase & Delivery (PD),
- Folded Homes (FH), and
- Production, Sales & Distribution (PSD).

Here are some links you can jump to.

- Pod Installation Tour: [http://www.foldedhomes.com/PDF_docs/PodGallery.pdf](http://www.foldedhomes.com/PDF_docs/PodGallery.pdf)
- Pod Platform Design Document: [http://www.foldedhomes.com/PDF_docs/Pod_Platform_%20and_Anchoring.pdf](http://www.foldedhomes.com/PDF_docs/Pod_Platform_%20and_Anchoring.pdf)
- Folded Homes Newsletters: [http://www.foldedhomes.com/newsroom.html](http://www.foldedhomes.com/newsroom.html)

(Updated 3/11/2009)

**PLAN AVAILABILITY**

Sample plans for constructing Folded Homes decks are available. [See AMT: Pod Platforms.] Layout diagrams useful for planning interior layout configurations are available. [See PC: Layout Measurements – DecaPod Base-Ring & Cut-Away View, PC: Layout Measurements – IcoPod Base-Ring, and PC: Door Port Dimensions.] We cannot provide engineering plans of each Pod Part. (Created 11/26/2003)

**POD RENTAL NOT AVAILABLE**

Folded Homes does not offer our Pods for rent. The primary reason for this is that our Pods are intended as semi-permanent structures and are not suitable for frequent disassembly and reassembly. [See AMT: Disassembly & How Many Times a Pod Can be Reused.] (Created 10/16/2003)
SHADEPOD AVAILABILITY

The Folded Homes ShadePod is not currently available. Although we have successfully built several prototypes, the aluminum legs for the structure require special manufacturing. Unless we receive a significant volume order, we cannot currently offer ShadePods for sale. (Created 10/13/2003)

SAMPLE AVAILABILITY

Because of cost considerations, Folded Homes cannot provide free samples of our IcoPods or DecaPods. However, we will be developing scale models of our Pods which are far easier to transport and display in a limited area. (Created 9/23/2003)

SHIPPING & PACKAGING

For ease of handling, small (non-bulk) orders of IcoPods and DecaPods are packaged in a set of boxes that may be strapped to a large pallet for shipment by the trucking company. All of the boxes weigh less than 100 pounds (45.35 kg) and the largest of these boxes is approximately 103”x34”x9”. So, when you receive your Pod, you can easily unpack the pallet and two people can carry each box for additional transport in a pickup truck or van.

**Boxed**, an IcoPod takes up 55 cubic feet (1.55 cubic meters) and is delivered in 4 boxes. A DecaPod takes up 115 cubic feet (3.55 cubic meters) and is delivered in 9 boxes.

**Boxed and Palleted** A 4’x8’ pallet takes up approximately 9 cubic feet. Therefore a boxed and palleted IcoPod takes up 64 cubic feet (1.81 cubic meters) and weighs approximately 300 lbs (136kg), while a boxed and palleted DecaPod takes up 124 cubic feet (3.51 cubic meters) and weighs 760 pounds (345 kg).


SHIPPING ESTIMATES – NORTH AMERICA

These estimates were accurate as of 2003.

Pods are shipped out of Renton, Washington. Pods are shipped by truck for best rate. Shipping time varies from 2 to 7 days in the continental US. Shipment to a commercial address or a local freight warehouse is generally cheaper than shipping to a residential address, which typically incurs additional “access” and “unload” charges. In the estimates below, there is a flat fee charge of $55 for residential delivery included although the residential delivery fuel surcharge is not included.

Here are several examples of shipping costs assuming that the Pods are shipped in a set of boxes loaded on a single 3.5’ x 8.5’ x 4” wooden pallet weighing 50 pounds (22.7 kg).
Because your Pod is shipped in a set of boxes, your Pod can be easily unloaded from its pallet without a forklift. [See PI: Shipping & Packaging, PI: Shipping Estimates - Worldwide] (Updated 3/11/2009)

**SHIPPING ESTIMATES – WORLDWIDE**

These estimates were accurate as of 2003.

Pods are shipped out of Renton, Washington. Here are several examples of shipping costs to worldwide destinations.

<table>
<thead>
<tr>
<th>Destination</th>
<th>Pod Type</th>
<th>By Boat</th>
<th>By Air</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Palletized</td>
<td>Unpalletized</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>IcoPod</td>
<td>$341.00</td>
<td>$341.00</td>
</tr>
<tr>
<td></td>
<td>DecaPod</td>
<td>$320.00</td>
<td>$320.00</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>IcoPod</td>
<td>$461.96</td>
<td>$398.44</td>
</tr>
<tr>
<td></td>
<td>DecaPod</td>
<td>$463.45</td>
<td>$388.21</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>IcoPod</td>
<td>$285.00</td>
<td>$285.00</td>
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<tr>
<td></td>
<td>DecaPod</td>
<td>$402.03</td>
<td>$340.65</td>
</tr>
<tr>
<td>Dallas, TX</td>
<td>IcoPod</td>
<td>$348.00</td>
<td>$348.00</td>
</tr>
<tr>
<td></td>
<td>DecaPod</td>
<td>$598.52</td>
<td>$494.21</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>IcoPod</td>
<td>$305.00</td>
<td>$305.00</td>
</tr>
<tr>
<td></td>
<td>DecaPod</td>
<td>$437.13</td>
<td>$367.83</td>
</tr>
<tr>
<td>Brooklyn, NY</td>
<td>IcoPod</td>
<td>$325.83</td>
<td>$225.82</td>
</tr>
<tr>
<td></td>
<td>DecaPod</td>
<td>$584.52</td>
<td>$461.28</td>
</tr>
</tbody>
</table>

Palletized shipments are slightly heavier and take up more space, leading to the higher cost estimates. However, a palletized shipment has a better chance of surviving damage in transit.

Standard clauses related to international shipping follow. All rates are subject to any applicable origin and/or destination charges unless specifically stated otherwise. All destination charges, duties, taxes, terminal handling, etc are the responsibility of the customer. All approximate transit times and sailing frequency details are subject to change without notice and should be confirmed at time of booking. All transportation services provided are subject to the terms and conditions of the carrier’s bill of lading and any applicable tariff(s). All charges are due in full before ship date.

VOLUME ORDER LEAD TIME
Folded Homes has established manufacturing partnerships in place today. We are capable of delivering volume orders with approximately 8-10 weeks notice (dependent upon supplier production cycles, the time required to order and process the constituent materials and then complete corrugation, manufacture and shipping.) We have already completed several production runs of both our indoor and outdoor Pods including a large order for 40 IcoPods and DecaPods that shipped in two 40’ shipping containers. (Updated 10/26/2004)

WHOLESALE PRICING & VOLUME DISCOUNTING
Folded Homes offers wholesale pricing to our distributors as well as volume discounting. Please enquire stating required order volume. [See SDM:Dealer Price Structure and SDM:Distribution Models] (Updated 11/6/2003)

WHERE CAN I SEE A POD
Visit our website for the location (http://www.foldedhomes.com/location_map.html) of a Pod closest to you. A gallery of photos of the Pods can be seen here (http://www.foldedhomes.com/pods.html). (Updated 3/11/2009)

WHICH MODEL SHOULD I CHOOSE?
When you select your Pod, you need to choose the model most appropriate to your needs and application. The following checklist will help you make your choice.

Required Size: Pods come in two sizes; the 108 square-foot IcoPod and the 472 square foot DecaPod. [See PC:Size, layout & Lofts]

Indoor or Outdoor?: Our indoor Pods are not four-season shelters and are only intended for use in dry environments. Our outdoor are four-season shelters designed for year-round use. [See MPT:Four-Season Performance, MPT:Longevity]

Standard or Fire-Retardant?: Our four-season Pods are available in standard and enhanced fire-retardant versions. Consider both your anticipate use of the Pod and it’s exposure to internal and external fire hazards. [See MPT:Fire Retardant Characteristics.]

Should I Coat My Pod?: If you need your Pod to last longer than its warranted life expectancy, consider investing in an appropriate surfacing material. [See AMT:Permanent Pod Surface Films & Extending the Pod’s Life] (Updated 10/26/2004)
CONTACTING FOLDED HOMES

Folded Homes Inc. is registered in the state of Oregon. If you need to contact Folded Homes, there are phone, fax and several email addresses listed on the contact page (http://www.foldedhomes.com/contact.php), which is accessed from the "envelope" icon in the upper right hand corner of the Folded Homes homepage (http://www.foldedhomes.com/index.html). If you have a problem that requires the attention of the President and CEO of Folded Homes, don't hesitate to contact me directly at markus@foldedhomes.com. I can also be reached by phone at 570-240-7121. (Updated 3/11/2009)

FOLDED HOMES’S TEAM

Folded Homes® is led by a team of business veterans with substantial senior management, financial, manufacturing, and start-up experience. Markus Robinson, the company’s CEO/COO has 30+ years of industry experience. Folded Homes is his 4th start-up. Biographies of the Folded Homes founders can be viewed at the Founders Circle (http://www.foldedhomes.com/about_team.html). Folded Homes’s managers and key advisors share over 100 years of business experience. The company is also supported by a strong team of advisors. (Updated 3/11/2009)
HOW LONG HAS FOLDED HOMES BEEN MAKING PODS?

Sanford Ponder began design work on the Pods in May 2001. [See FH: Sanford’s Inspiration for the Pods.]

1st Generation Pods

Ponder’s design was first tested in the summer of 2001 through the construction of four prototype structures during a week-long art festival in Black Rock Desert, Nevada. Not only did the prototypes prove to be effective shelters in relatively extreme conditions (high winds, 100ºF temperatures, rain), but also a number of individuals expressed interest in making a purchase once the product was commercially available.

2nd Generation Pods

The second-generation Pods were tested in September 2002, again in the Black Rock desert, where 18 Pods were constructed and inhabited by 55 people for 12 days. The experience and feedback were overwhelmingly positive, resulting in major media exposure, and more than a thousand emails inquiring about availability and distribution rights. With these successes, the period of Alpha testing of the Pods was completed, and the process of developing consumer-ready Pods begun.

3rd Generation Pods – Ready for Consumer Testing

In 2003, focusing on the IcoPods and DecaPods, Ponder and his team moved from prototyping to the development of marketable Pods. Numerous design improvements that enhanced the durability, aesthetics, and livability of the units were introduced. In particular, the volume of the pods was increased roughly 24% making them much more roomy. 22 Pods were assembled.

The interior of the IcoPod was now 12 feet across by 12 feet high and the DecaPod is 26 feet across and 16 feet high. Pod engineering was refined to make the parts go together more smoothly and elegantly. The Pod Door port was completely redesigned, providing it with a rigid double-panel door and lens-covered recesses for LED lighting.
IcoPod and DecaPod FAQs

2004 Consumer Testing, Migration to All-Plastic Pods, GreenPod Greenhouses

Spring 2004 – 40-Pod ‘Peace Camp’ at the Forum Barcelona Int. Exhibition

In 2004 design and product validation shifted to consumer testing. 64 Pods were purchased by Beta testers and Early Adopters. Pods were erected in the United States, Canada, Spain, Switzerland and Italy. For five months a 40-Pod village was erected and occupied at the Forum Barcelona International exhibition. [See PC: Camp Pods & Pod Villages] The Pod’s assembly manual was significantly enhanced allowing customers to assemble the Pods without assistance from Folded Homes. Unfortunately despite our best efforts to develop a fully waterproof fiberboard sandwich of materials for the Pod walls this material proved unsatisfactory. As a result, all of our exterior-grade Pods are now completely manufactured from extruded plastic. In September Folded Homes prototyped it’s first translucent GreenPod Greenhouse. These materials advances allow us to offer our first warranties and make Folded Homes’s family of Pods consumer ready. [See MPT: Extruded Plastic – What’s That?] (Created 1/22/2005)

HOW MANY PODS HAS FOLDED HOMES PRODUCED?

Prior to 2006, more than 160 Pods were manufactured and assembled in the United States, Canada, Italy, Spain, Switzerland and Pakistan. [See FH: How Long Has Folded Homes Produced Pods?] (Updated 11/16/2005)

POD GENESIS

In the 1940s, R. Buckminster Fuller applied his design and engineering expertise to invent a geodesic structure that could serve as an inexpensive alternative to traditional homes. Using a series of triangular networks, Fuller’s design creates a self-supporting structure with no internal reinforcement. Proponents of the Fuller geodesic model believe that it is still the most efficient and cost-effective construction technique available.

Page 66 of 76
In 1959 R. B. Fuller was granted a patent for a “paperboard dome”. The patented Pod™ design, is inventor Sanford Ponder’s improvement to Mr. Fuller’s original paperboard dome concept. It replaces Fuller’s single-walled folded dome with a much more rigid double-walled structure. The Pod™ is constructed by folding many identical sheets of precision die-cut material together to form an icosahedron-shaped structure. By using a simple icosahedron (a shape being comprised of all equilateral triangles) as the basic structural shape, the Folded Homes Pod™ is much simpler to produce and assemble than a traditional rounded dome shelters. [See PC: Structural Rigidity, MPT: Pod Engineering – How the Pods are Designed, FH: Sanford’s Inspiration for the Pod] (Updated 11/23/2003)

SANFORD’S INSPIRATION FOR THE POD

In 2001, while viewing a program about the homeless living in cardboard boxes, Sanford Ponder had an epiphany. In what he called "a moment of indignation" he reflected, "If we must live in a world in which people are forced to live in cardboard boxes, then someone should at least invent a better box." Sanford set out to do just that. Inspired by the pioneering work of R. Buckminster Fuller, Sanford developed the basic and completely unique design for the Pod shelters whose first model is shown here. He spent the next two years perfecting the design for practical use. Today, the Pod is a “better box”, though real-world experiences has resulted in its manufacture from materials which last far longer than cardboard.

[See FH: Pod Genesis.]
(Updated 10/26/2004)
SALES, DISTRIBUTION & MANUFACTURE (SDM)

ALTERNATIVES TO FOREST-PRODUCT FIBER

Although today our outdoor Pods are completely manufactured from plastic, we continue to evaluate the use of non-forest materials such as a robust sugar-cane waste-based construction material produced in China. We are actively pursuing renewable plant fiber waste streams as a more sustainable material for Pod product manufacturing. Such alternative fiber sources would have a significant impact on the feasibility of establishing manufacturing facilities in regions with reduced forest resources. [See MPT: Environmentally Appropriate Materials.] (Updated 10/26/2004)

CONTAINER PACKING

If your order is a bulk order being shipped unboxed on pallets, and two pallets are stacked one on top of the other, then each pallet can hold a stack of 325 panels about 41” tall (and about 45” tall if the thickness of the pallet is included.)

The following table shows the approximate number of IcoPods and DecaPods that can be shipped in various shipping container sizes.

<table>
<thead>
<tr>
<th>Container</th>
<th>IcoPods</th>
<th>DecaPods</th>
</tr>
</thead>
<tbody>
<tr>
<td>10’ - 10’x8.5’x8’</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>20’ - 20’x8.5’x8’</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>40’ - 40’x8.5’x8’</td>
<td>48</td>
<td>16</td>
</tr>
</tbody>
</table>

(Updated 7/01/2004)

DEALER PRICE STRUCTURE

Substantial discounts for bulk orders are available (Created 9/23/2003)

DISTRIBUTION MODELS

There are several possible distribution models we are currently considering depending upon regional exclusivity, annual sales volume guarantees, established distribution performance, etc. What sort of distribution model would most interest you? (Created 9/23/2003)

INTERNATIONAL MANUFACTURE

Both to reduce shipping costs internationally, and to contribute to the strengthening of emerging economies we anticipate issuing manufacturing licenses for the Pods in countries around the world. [See SDM: Manufacturing Process, SDM: Manufacturing Requirements, PC: Weight, PI: Shipping & Packaging, and SDM: Container Packing.] (Updated 11/14/2003)

INTERNATIONAL DISTRIBUTION

We are interested in developing distribution channels internationally and have received multiple requests for distribution rights from North America, Europe, Asia, Africa, Australia, Latin America and the Middle East. (Created 9/23/2003)
MANUFACTURING PROCESS

Standard 4-season all-plastic Pods are manufactured at facilities capable of producing and stamping flat-panel plastic blanks. (See SDM: Manufacturing Requirements). One or more of the Pod parts are stamped out of each flat-panel blank. Typically the Pod parts are stamped from 3mm extruded-plastic flat-panel blanks although these blanks may be manufactured from a variety of materials including fiberboard with various laminates and and foamcore plastics.

Plastic Pod parts are manufactured using a rotary or platen die cutting machine. In cases where production run volumes are low, lower-count parts such as doorframes may be cut on a computer-controlled cutting table.

Once approved drawings and dies have been created, production runs can take as little as a few days. For custom component redesign the production process from original drawings can take as little as two weeks. The production steps are as follows:

- Materials are ordered from suppliers (blank material, specialized films, tape, manuals, etc.)
  - For indoor fiberboard Pods, specialized films may be laminated to the rolls of material that will be used to manufacture the corrugated fiberboard outer.
  - For outdoor Pods, extruded plastic blanks are manufactured.
- Design drawings delivered to the blank factory;
- Drawings are imported to factory CAD system;
- Samples are prepared on the computer-controlled cutting table;
- Samples are approved;
- Die maker modifies parts drawings for “manufacturability”;
- Modified samples are prepared on the computer controlled cutting table;
- Modified samples are approved;
- Dies are created for each part;
- Production tests are made;
- Production test parts are approved;
- Production is run for parts order; (including corrugation, cutting, and pre-creasing)
- Product unit part counts are made;
- Product units are folded and packaged with additional materials needed for assembly (tape, manual, etc.);
- Product units are shipped.

(Updated 1/11/2005)

MANUFACTURING REQUIREMENTS

Production requires access to plastic and/or fiberboard base materials, film laminates for cosmetic applications (like ShowPods), and sources of tape required to seal the Pods.

STANDARD 4-SEASON PODS: Pods are typically “all-plastic” and manufactured from 3 mm extruded I-beam-corrugate plastic. To manufacture the window parts, a plastics facility must be able to extrude and stamp sheets with a minimum 44” width. To manufacture the walls,
doors, base-rings and other parts, the facility must be able to produce and stamp blanks as large as 60”x120”.

**INDOOR PODS:** The walls, doors, base-rings and other parts of indoor Pods may be manufactured from die-cut blanks of approximately 1/8” thick fiberboard. (This is “B-Flute” thickness in the corrugation business.)

Where special cosmetic laminates are applied to the surface of blanks for indoor Pods, the laminating facility must be able to produce minimum 60”-wide rolls of material and the corrugating facility must be able to produce 60” wide blanks and be able to manipulate 60”x120” blanks.

[See SDM: *International Manufacture.*](#) (Updated 1/11/2005)

### POD WARRANTY

Folded Homes IcoPods and DecaPods carry a limited SIX-MONTH warranty. Folded Homes warrants that 1) the Pods shall arrive complete and undamaged, 2) The Pod materials are warranted to perform within the parameters established by their primary manufacturers for a period of SIX MONTHS, 3) This warranty explicitly excludes any assumption of the Pod's suitability for any specific purpose. 4) DecaPods insulated with fiberglass batts or other insulating material and/or subject to snow loads must be assembled with a central support post, and other load-bearing accessories specified in the manual. 5) Unless leaks are a result of material failures as defined by point 2 above, leaks in the Pod do not void this warranty since they may be due to improper assembly. 6) To prevent deterioration due to UV-degradation, it is strongly recommended that your Pod be painted with an UV-opaque material as soon after assembly as practicable.

[See MPT: *Do I Need a UV-Hardened Pod?*, and MPT: *UV Degradation & Extending the Life of Your Pod*](#) (Updated 3/23/2006)
<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Who</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td>1.0</td>
<td>2003/09/24</td>
<td>MFR</td>
<td>Initial vetted set of 50 FAQs</td>
</tr>
<tr>
<td>1.1</td>
<td>2003/09/25</td>
<td>MFR</td>
<td>Revised SHIPPING ESTIMATES, modified format &amp; pagination</td>
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<tr>
<td>1.2</td>
<td>2003/10/14</td>
<td>MFR</td>
<td>Fixed Hyperlinks, Modified TOC fonts, Justified all paragraphs, added the following 8 FAQs: SHADEPOD AVAILABILITY, POD GENESIS, SHOWPODS – 3-DIMENSIONAL BILLBOARDS, PODS AS EVENT MEETING ROOMS, WHOLESALE PRICING &amp; VOLUME DISCOUNTING, TAPE APPLICATION &amp; PERFORMANCE RANGE, WALL &amp; WINDOW MATERIALS, and ESSENTIAL ASSEMBLY CONDITIONS, and updated the following 7 FAQs: ASSEMBLY TIME, LONGEVITY, WATERPROOFING, CONNECTING PODS TOGETHER TO CREATE MULTI-ROOM STRUCTURES, SIZE, LAYOUT &amp; LOFTS, DISASSEMBLY &amp; HOW MANY TIMES A POD CAN BE REUSED, and TAPE APPLICATION TIPS &amp; PROBLEMS WITH POD TAPE NOT STICKING.</td>
</tr>
<tr>
<td>1.3</td>
<td>2003/10/17</td>
<td>MFR</td>
<td>Added the following 5 FAQs: AVAILABLE ACCESSORIES, FIRE RETARDANT CHARACTERISTICS, POD RENTAL NOT AVAILABLE, RESIDUAL VALUE, and ASSEMBLY TOOLS REQUIRED. Updated the following 4 FAQs: WEIGHT, SHIPPING ESTIMATES, SHIPPING &amp; PACKAGING, and ASSEMBLY TIME &amp; REQUIRED MANPOWER</td>
</tr>
<tr>
<td>1.4</td>
<td>2003/10/21</td>
<td>MFR</td>
<td>Added 1 FAQs: PLAYPODS &amp; BIGGER OR SMALLER PODS. Updated 3 FAQs: SIZE, LAYOUT &amp; LOFTS, CONTAINER PACKING, and SHIPPING ESTIMATES</td>
</tr>
<tr>
<td>1.5</td>
<td>2003/10/22</td>
<td>MFR</td>
<td>Updated 1 FAQ: CONSUMER PRICING</td>
</tr>
<tr>
<td>1.6</td>
<td>2003/10/22</td>
<td>MFR</td>
<td>Added 1 FAQ: POD ENGINEERING – HOW THE PODS ARE DESIGNED. Updated 1 FAQ: POD GENESIS.</td>
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<tr>
<td>1.7</td>
<td>2003/10/25</td>
<td>MFR</td>
<td>Added 3 FAQs: FOLDED HOMES’S MISSION, INTERNATIONAL MANUFACTURE, MANUFACTURING REQUIREMENTS. Updated 1 FAQ: WHERE CAN I SEE A POD.</td>
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<tr>
<td>2.0</td>
<td>2003/10/28</td>
<td>MFR</td>
<td>Updated the instruction section POD FAQs &amp; How to Use Them. Also updated ALL [See …] sections at the end of FAQs to include the category abbreviation where each additional FAQ is located. Updated 1 FAQ: AMT:PERMANENT POD SURFACE FILMS &amp; EXTENDING THE POD’S LIFE.</td>
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<td>2.1</td>
<td>2003/10/30</td>
<td>MFR</td>
<td>Added 2 FAQs: AMT: POD PLATFORMS, AMT: HOLES AND WALL REPAIR. Updated 4 FAQS: AMT:PERMANENT POD SURFACE FILMS &amp; EXTENDING THE POD’S LIFE, PC:WATERPROOFING, PC: CONNECTING PODS TOGETHER TO CREATE MULTI-ROOM STRUCTURES, AMT:GROUND SURFACE</td>
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REQUIREMENTS & POD PLATFORMS (note the FAQ name change to AMT:GROUND SURFACE REQUIREMENTS)

2.2 2003/10/31 MFR
Added 1 FAQ: MPT:MATERIALS SAFETY. Updated 4 FAQs: AMT:DISPOSAL, PC:VENTILATION & EXCHANGE OF TEMPERATURE IN HOT AND HUMID REGIONS, MPT:WALL & WINDOW MATERIALS, MPT:_FIRE RETARDANT CHARACTERISTICS.

2.3 2003/11/04 MFR
Added 2 FAQs: AMT:GROUND COVERS, PC:HANGING THINGS FROM THE WALLS. Updated 2 FAQs: AMT:GROUND SURFACE REQUIREMENTS, and PC: INSECTS.

3.0 2003/11/06 MFR

3.1 2003/11/14 MFR

3.2 2003/11/28 MFR
APPROPRIATE MATERIALS, **SDM: MANUFACTURING PROCESS.**

3.3 2003/12/03 MFR  
**Added 0 FAQs. Updated 2 FAQs:** IV: SANTAND’S INSPIRATION FOR THE POD, PC: LAYOUT MEASUREMENTS – ICOPOD BASE-RING & CUT-AWAY VIEW.

3.4 2004/01/12 MFR  

3.5 2004/04/01 MFR  

3.6 2004/07/01 MFR  
**Special Updates:** None. **Added 3 FAQs:** PC: SIZE – WHY ONLY 108 & 472 SQUARE FEET?, PC: VOLUME (CUBIC FEET ENCLOSED), AMT: POD CONVERSION TRIANGLES (note two required PDF links) **Updated 43 FAQs:** PC: CAMP PODS & POD VILLAGES (note FAQ name change), PC: COLOR AVAILABILITY, PC: DOOR PORT ALTERNATIVES & CAN THE DOOR BE LOCKED, PC: DARKENING A POD, PC: DOOR PORT DIMENSIONS, PC: HANDICAPPED (WHEELCHAIR) ACCESSIBILITY, PC: HUMIDITY, PC: INSECTS, PC: INSULATION, PC: LAYOUT MEASUREMENTS – DECAPOD BASE-RING & CUT-AWAY VIEW, PC: LAYOUT MEASUREMENTS – ICOPOD BASE-RING & CUT-AWAY VIEW, PC: OPENING WINDOWS, PC: PLAYPODS & BIGGER OR SMALLER PODS, PC: PODS AS EVENT MEETING ROOMS, PC: SIZE, LAYOUT & LOFTS, PC: STRUCTURAL RIGIDITY, PC: TRANSPORT REQUIREMENTS, PC: WATERPROOFING, PC: WIRING, AMT: ANCHORING PODS, AMT: ASSEMBLY TIME & REQUIRED

IcoPod and DecaPod FAQs

SDM: MANUFACTURING REQUIREMENTS FAQ dbase now totals 102 FAQs.

4.1 2004/12/01 MFR Special Updates: Reorganized Header information into POD FAQs, FAQ FORMAT, and FAQ ACCURACY. Renamed FAQ PC: Opening Windows to become PC: Windows (Opening) and moved it to be in proper alphabetical order. Added 3 FAQs: PC: VENTS, PC: WINDOWS, PC: WINDOWS (CLEAR), Updated 5 FAQs: PC: INSECTS, PC: INSULATION, PC: SIZE, LAYOUT & LOFTS, PC: VENTILATION & EXCHANGE OF TEMPERATURE IN HOT AND HUMID REGIONS, PC: WINDOWS (OPENING), FAQ dbase now totals 105 FAQs.


4.3 2005/01/22 MFR Special Updates: None Added 2 FAQs: IV: HOW LONG HAS FOLDED HOMES BEEN MAKING PODS?, IV: HOW MANY PODS HAS FOLDED HOMES PRODUCED?, Updated 2 FAQs: PC: TRANSPORT REQUIREMENTS, AMT: EASE OF TRANSPORT, FAQ dbase now totals 111 FAQs.


**IcoPod and DecaPod FAQs**

TOGETHER **AMT**: ASSEMBLY TIME & REQUIRED MANPOWER, **AMT**: DOCUMENTATION & ASSEMBLY MANUALS, **AMT**: GROUND SURFACE REQUIREMENTS, **AMT**: PERMANENT POD SURFACE FILMS & EXTENDING THE POD’S LIFE **AMT**: STORAGE LIFE & STORAGE CONDITIONS, **PC**: INSULATION, **PC**: PERMANENT DWELLING REGULATIONS, **PC**: TRANSPORT REQUIREMENTS **PC**: WINDOWS (CLEAR), **PC**: VENTILATION & EXCHANGE OF TEMPERATURE IN HOT AND HUMID REGIONS, **MPT**: FOUR-SEASON PERFORMANCE, **PC**: VENTS, **MPT**: LONGEVITY, **MPT**: PASSIVE VENTILATION, **MPT**: PLASTIC VS. FIBERBOARD – MATERIAL TRADE-OFFS, **MPT**: POD TESTS PERFORMED, **MPT**: SHIPPIING & PACKAGING **MPT**: WALL & WINDOW MATERIALS, **IV**: HOW MANY PODS HAS FOLDED HOMES PRODUCED? FAQ database now totals 124 FAQs.

5.0 2009/03/11 MFR

**Special Updates**: Global review to integrate old Icosa Village FAQs into Folded Homes consistent data base. **Added 0 FAQs**: Updated Various FAQs: Pod FAQ database now totals 124 FAQs.