

# Window & Door Sizes

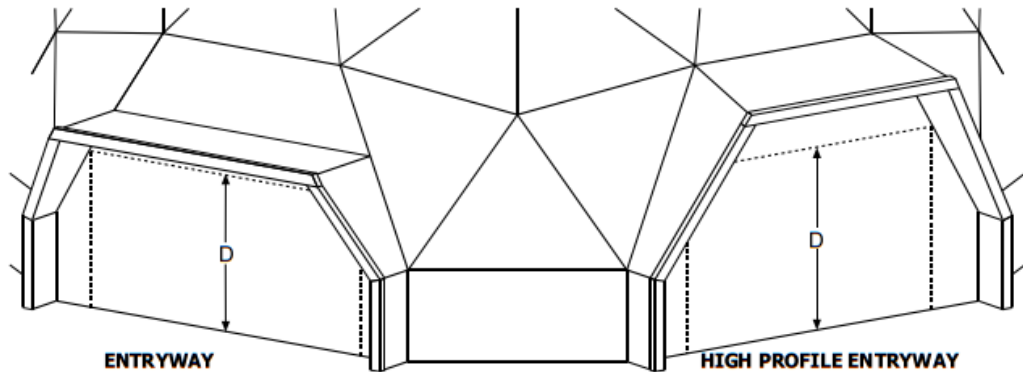
Please use this chart for size estimating only. During Plans Design Ai will email elevation views showing possible rough opening door & window sizes.

# 1<sup>st</sup> FLOOR WINDOW & DOOR SIZES

American Ingenuity's (Ai's) Entryways and Dormers provide openings in the dome for your locally purchased conventional doors and windows. The walls within these openings are built on-site to accommodate your choice of door & window sizes.

## ENTRYWAYS- Maximum Size Rough Opening for Doors and/or Windows.

D	22'	27'	30'	34 & 36'	40'	45'	48'
Standard 80"	Not Available	Not Available	99" x 82"	119" x 82"	147" x 82"	171" x 82"	186" x 82"
High Profile 96"	Not Available	Not Available	86" x 96"	106" x 96"	135" x 96"	159" x 96"	173" x 96"
Garage 84"	9' x 7'	16' x 7'	12' x 7'	14' x 7'	16' x 7'	Not Available	Not Available



## RECOMMENDED WINDOW SIZES

These tables contain Rough Opening SIZES which is the minimum size of the wood frame opening. Size 3/4 x 4/6 expresses 3'-4" x 4'-6" which converts into 40" x 54". The horizontal dimension is always listed first x vertical dimension.

**H**= Horizontal sliding or Horizontal rolling windows  
**V**= Vertical sliding, either double hung or single hung  
**C**= Casement, swinging type window  
 Sizes listed in **BOLD** are best suitable for egress in bedrooms. Confirm Egress rating with supplier.

### 1<sup>st</sup> FLOOR WINDOW DORMER – Replacing H Panel

22'	27'	30'	34 & 36'	40'	45'	48'
2/8 x 3/6 C						
2/8 x 3/2 V	4/4 x 3/0 V	2/0 x 3/2 VC	2/8 x 3/6 C	4/0 x 3/2 H	5/0 x 3/6 H	5/0 x 3/6 H
3/0 x 3/2 H	4/8 x 3/2 H	2/8 x 3/6 C	3/0 x 3/6 C	RO- 3/6x2/5 C	5/0 x 3/0 H	6/0 x 3/0 H
3/8 x 3/0 H	5/0 x 3/6 H		3/0 x 3/0 VH	RO-2/5x3/6 C		

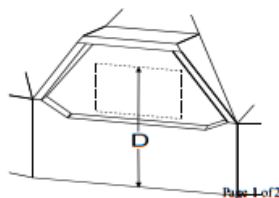
### 1<sup>st</sup> FLOOR WINDOW DORMER – Replacing P Panel

22'	27'	30'	34 & 36'	40'	45'	48'
NA	4/0 x 3/0 H	NA	NA	RO-2/5x3/6 C	3/0 x 3/6 C	4/4 x 3/2 V
	4/0 x 3/0 H			RO-3/6x2/5 C	3/8 x 3/2 HV	4/8 x 3/2 H
	3/0 x 3/6 C			3/0 x 3/0 HV	4/0 x 3/0 H	3/0 x 3/6 C

### 1<sup>st</sup> FLOOR DOOR DORMER – Replacing H or P Panel

	22'	27'	30'	34 & 36'	40'	45'	48'
<b>H Panel :</b>	3/0" x 6/4	4/0" x 6/8 F	Custom	2/6" x 6/8	3/0 x 6/8	5/0" x 6/8 F	5/0" x 6/8F
<b>P Panel :</b>	2/0" x 6/8	3/0" x 6/8	NA	NA	2/8 x 6/8	3/0" x 6/8	3/0" x 6/8

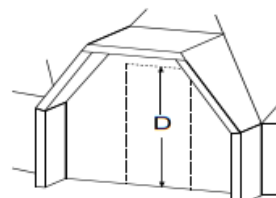
1<sup>st</sup> FLOOR WINDOW DORMER



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1<sup>st</sup> FLOOR DOOR DORMER



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## 2<sup>nd</sup> FLOOR WINDOW & DOOR SIZES

### 2<sup>nd</sup> FLOOR WINDOW DORMER - Rough Opening Window Sizes -

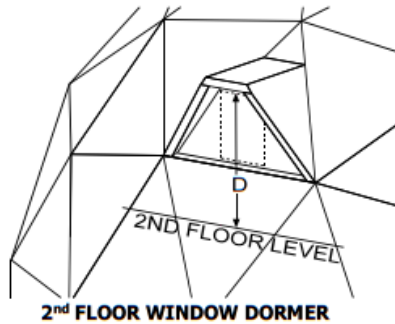
22'	27'	30'	34' & 36'	40'	45'	48'
NA	RO 32"x42" C RO 29"x42" C RO 30"x44" C	NA	RO-29"x42" C	RO-2/8x3/6 C	3/0x 3/6C 3/4 x 3//0 V	3/8 x 3/0 H 4/0 x 3/0 H
					3/8 x 2/8 H	3/0 x 3/6C

On 27', 34' & 36' domes order casement window with fire egress hardware. Due to 27' 2<sup>nd</sup> floor window dormer size, only certain window vendors can be used. In 34' dome to have 2<sup>nd</sup> floor fire egress window install 2<sup>nd</sup> floor door dormer above first floor standard entryway & install a window instead of a door. Window height is based on 7/6" ceilings on the first floor & 2x10 second floor framing. Increase height 2" for 2x8 framing.

**2<sup>nd</sup> FLOOR DOOR DORMER** – Maximum Door Sizes First floor ceiling height for 27' dome w' standard 4' riser is 7/6". If purchase custom 5' riser & taller entryway base panels, height is 8/6".

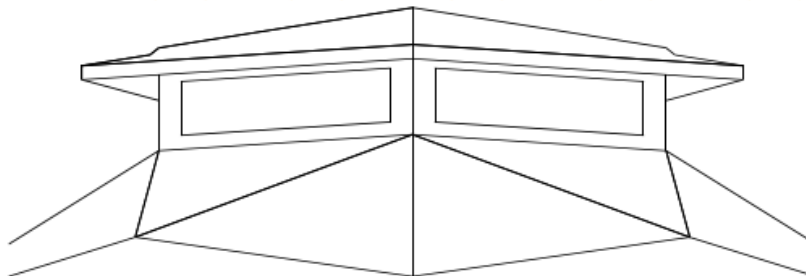
First floor ceiling height for 34' & 36' domes is 7'-6". If install taller entryway base panels & custom 2' risers above standard 4' risers, first floor ceiling height is 9'6".

22'	27'	30' - NA	36'	40'	45'	48'
NA	NA	34' - 2/0x 6/0	2/0 X 6/4	2/6" x 6/8	2/6" x 6/8	3/0" x 6/8



### CUPOLA - Recommended Window Sizes - Horizontal Roller or Slider Type

22'	27'	30'	34 & 36'	40'	45'	48'
NA	5/6 x 2/0 H 2 -2/8 x 2/0 H	5/0 x 2/0 H 4/8 x 2/0 H	5/6 x 2/0 H 2 -2/8 x 2/0 H	7/0 x 2/0 H 2 -3/4 x 2/0 H	8/0 x 2/0 H 2 -3/8 x 2/0 H	8/0 x 2/0 H 2 -4/0 x 2/0 H



**SKYLIGHTS** – American Ingenuity no longer manufactures skylight panels. The most efficient way to add interior light is to install first floor entryways (standard entryways or High Profile) and max out second floor window dormers. On the second floor of the 27', 34', 36', 40', 45' & 48' domes there are five specific locations where dormers can be installed. (To install a second floor door dormer, a first floor standard entryway must be installed below it.)

Since our domes are constantly being improved, specifications are subject to change without notice.

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From Better Homes and Gardens – what to consider when replacing windows & buying windows.

In older houses, faulty windows can account for a third of the total heat loss in winter and as much as 75 percent of

interior heat gain in summer. Look for the following telltale signs that a window has lost its effectiveness:

- Stand inside your house on a windy day with a lit candle near the window's operative edge. If the flame flickers or goes out, your weather stripping might be damaged.
- During the winter, if a window develops ice buildup or a frosty glaze on the interior of the pane, the ventilation in your home may not be adequate. Another possibility is that your window may not be providing enough insulation value, a situation that can make your heating bills soar.
- Sit near your window. If you feel cold air coming in during the winter or warm air during the summer, your windows have little insulation value. This means you're paying more to heat and cool your house to compensate for the exterior air entering your home.
- Do your windows get fogged with condensation? If so, you may have a seal failure and need to replace the glazing or the entire window.

In some cases, replacing broken panes and tending to loose or missing weather stripping may buy some time. If your windows are old and ill-fitting, however, you need more than stopgaps.

### **Replacement window options:**

**Wood** is the choice of most homeowners. Wood is strong, insulates well, and has natural appeal and a warm look. It needs exterior maintenance, and interior surfaces can be painted, stained, or finished any number of ways.

**Vinyl** windows do not need to be painted or stained. They offer good insulation value and strength, making them a viable alternative to wood.

**Aluminum** windows have a stronger frame but poorer insulation than wood or vinyl. They're fine in areas with a mild climate, and are also used for commercial applications.

**Fiberglass** combines the higher strength and stability of aluminum with the insulating properties of wood and vinyl. Fewer options are available at this time, as fiberglass is just beginning to show up in the window market.

**Combination** windows are available with wood on the interior and vinyl or aluminum on the exterior, combining the look of wood with a low-maintenance exterior material. This is known as “cladding” (as in vinyl-clad or aluminum-clad).

**Features to consider when purchasing windows:**

**Energy efficiency.** Almost any good-quality window available today incorporates two pieces of glass with a sealed airspace between them as a buffer between indoors and out. Some windows are even triple-paned. You may have the option of argon gas instead of air between the glass to further the window’s insulating abilities. Most window manufacturers also offer such options as low-E glass, which reflects heat and screens out the sun’s rays.

**Design.** Windows are available in shapes ranging from quarter rounds to ovals. Consider an arrangement of smaller windows instead of one large one, or vice versa.

**Ease of installation.** The easiest type of replacement window is a frame-within-a-frame design that can be installed in an existing frame without disturbing walls or trim work. Some are sold in kit form, complete with hardware, for standard sizes. If your original windows have divided lights or panes, look for multipane replacements or snap-in grilles that match glass dividers on the old units as closely as possible. If your windowsills are rotting or damaged, however, you’ll need to replace the old frame as well.

**Ease of maintenance.** Weather-resistant materials will reduce your regular maintenance; vinyl or aluminum-clad exteriors need no painting. For ease of cleaning, choose windows that tilt in or open from the side. Many double-hung windows now

come with tilting sashes so both interior and exterior glass surfaces can be cleaned from inside the house.

**Function.** Tempered glass is required by code for certain applications, such as glass doors and some window installations with low sill height. For more extreme conditions, such as coastal environments, consider laminated impact-resistant glass designed to withstand hurricane-force winds and the impact of airborne debris.

**Hardware.** Some manufacturers offer improved hardware for crank-out windows such as casements and awnings – specifically, collapsible or low-profile handles that don't interfere with blinds or other window coverings. Others offer a variety of style options for latches and locks. To be safe, ask about these and any other convenience features before the units end up in your walls. Also, try the hardware in the showroom. Does the window lock, unlock, and open easily? This test gives you a feel for the window's usability and its overall quality as well.

**Cost guidelines:**

Broadly, vinyl and wood are the least expensive, fiberglass costs more, and clad windows are even more. That said, a general price range for an average size (30-inch by 48-inch) window is \$100 to \$200, which will be higher in urban areas.

More features like tilting versions and higher E-ratings increase the cost, although sometimes as the price and quality increase, more options are included. Differences in the up-front purchase price of a window may eventually be offset by other factors. Energy efficiency and a no-maintenance exterior will offset the up-front cost difference over time. Second, installation and labor costs could actually be higher for an "economy-grade" all-wood window, if you factor in charges for painting, and how much sooner you may have to replace it than a window made from more durable material.

One way to keep your window costs from rising is to avoid special orders. Try to work with standard sizes from a manufacturer, and select from the standard styles and features that your local retailer stocks.