B3ii - Warming Hut Specs

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/23/16

YURT COMMERCIAL SPECIFICATIONS

28 W. South 4th St. Montrose, CO 81401 800-288-3190 www.coloradoyurt.com info@coloradoyurt.com

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Doors and Doorjambs

Solid, clear, vertical grain Douglas fir door and jambs. Standard equipment includes an aluminum threshold. Door is 36” wide and 6’-8” tall. All doors meet ADA specifications for accessibility.

Cable

3/16” diameter galvanized aircraft cable, break strength 4200 lbs, encased in a vinyl covering. A continuous loop, precut to the exact yurt circumference is provided. Cable ends are attached with a 2-ton alloy eye-hook and aluminum ferrules.

Lattice Wall

Clear, vertical grain Douglas fir, 1/2” x 1.5”, fastened at one-foot intervals with aluminum pull rivets and stainless steel back-up washers. Fully expanded wall heights are 7’-2”.

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SPECIFICATION:	PHOTO
Roof Fabric • **Standard:** ProStructure 18.5oz. per square yard PVC coated high tenacity polyester with clear acrylic top-coat. UV and mildew resistant, flame retardant to meet California State Fire Marshall CPAI-84 and NFPA-701. Cold crack rating: -45 degrees F. Available in tan, gray or white. • **Upgrade:** Duro-Last, 15 year manufacturer's warranty. 40 mil (37oz. per square yard) proprietary polymer. Available in tan, gray or white.	
Roof Construction Watertight, thermally-welded main seams. Nine rolled-rim brass grommets at the top to attach to compression ring. Bottom perimeter of roof and valance reinforced with 2" polyester webbing for dimensional stability and strength. Includes #3 rolled-rim brass grommets for lacing wall to roof, valance and inner valance; webbing reinforced door cutout in valance with standard rain diverter thermally welded to roof above each door. Top cover secures to door header and jamb with eleven #8 x 1' stainless steel self drilling, self tapping screws.	
Wall Fabric Three Standard Choices: • ProTech, a three layer vinyl laminate with excellent UV and mildew resistance. 15 ounce psy, tensile strength: 220 lbs x 220 lbs. Main seams are thermally welded. ProTech is RECOMMENDED FOR COMMERCIAL USE, because it can be solvent welded for easy on-site repairs. 20 color choices. • TuffStar, a 15 ounce cotton/polyester blend with acrylic top coat. Tensile strength: 283 lbs x 214 lbs. Sewn construction. 4 color choices • ProStar, 12.5 oz 100% polyester with resin top coat. Tensile Strength 460 lbs x 350 lbs. Sewn construction. 4 color choices	

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Wall Construction

Top and bottom reinforced with 2” polyester webbing, 3/16” polyester cord loops, sewn one-foot on center through the top webbing, corresponding to grommets in the roof, lace wall to roof for and integrated yurt covering. Rolled rim grommets, fifteen inches on center through the bottom webbing accept #14 x 1-1/4” stainless washer head sheet metal screws. Each yurt wall includes a minimum of three windows. Additional windows available.

Window Construction

Sewn-in 20 x 30 weave fiberglass netting is either 44” x 44” or 50” x 30”. 20-mil clear vinyl (UV resistant, flame retardant, -15 degree F cold crack), framed in 2” polyester webbing and 2” UV resistant polyester Velcro, can be completely removed and stored. Weather/privacy flap is fully zippered (#10 YKK), rolls up and stores with 1” side-release fasteners. A nylon rod sewn into a pocket stiffens the weather flap for easy roll-up.

Dome Skylight

Five-foot diameter, 15” dome height, 1/4” pure acrylic includes a 2” diameter flange and 1/2” perimeter turn down. Dome fastens to ring with 6 stainless steel expansion springs and four detachable stainless steel safety cables.

Rafters

Select 2” x 4” or optional select 2” x 6”. All rafters are machine stress rated to a bending strength of 2100 lbs per square inch. Rafters are molded with a 1/4” round-over and notched to fit over the main cable. A brass insert is embedded in each rafter to accept a 3/8” - 16 slotted bolt which closes off the cable notch and prevents the rafter from detaching from the cable.

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Insulation (optional)

Astro-foil: a double layer of air-bubble insulation sandwiched between two layers of aluminum sheathing. R-values (based on direction of heat flow): downward, R15; horizontal, R7.31; upward, R5.4. Astro-foil has reflective and vapor barrier characteristics for increased heat retention. Insulation is upholstered with white polyester lining fabric (Tex-Tex).

Wood Finish

All wood frame components finished with Cedar Superdeck stain made by Duckback

Lattice Wall to Deck

Galvanized steel “L” bracket, 5” x 3” x 1.5” on 24” centers. Attaches to deck with two 1/4” x 1” plated lag screws; bolts to lattice wall with one 1/4” x 1.5” machine screw and nylock nut.

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CITY OF PORTLAND, MAINE
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Roof to Compression Ring

#8 x 1” stainless steel self drilling, self tapping through rolled rim brass grommets, 19.5” on center.

Roof to Door Header and Jamb

Top cover secures to door header and jamb with eleven #8 x 1” stainless steel, self drilling, self tapping screws.

Fabric Wall to Door Jamb

3/8” diameter rope bead sewn into wall, slides into an aluminum track. Flange of the aluminum track screws to the door jamb with #8 x 1” sheet metal screws, 24” on center.

Lattice Wall to Door

5/16” x 5” plated carriage bolt with wing nut and protective nylon acorn nut sandwich lattice wall between door jamb (2” x 6”) and back-up board (1” x 4”)

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Other Options

Snow and Wind Load Elements

CORR Brackets: Compression Ring to Rafter attaching bracket. U-shaped beam pocket screws to compression ring with two #10 x 2.5” plated hex head sheet metal screws.

2” x 6” Snow Load Rafters: See Framework above.

2” x 4” Columnar Support (studs): Wind load studs under every rafter. Attach each side of rafter with 3.25” x 11” truss plates and #8 x 1” sheet metal screws; and to yurt deck with 1.5” x 1.5” x 3” angle brackets and 1/4” x 1” lag screws.

Other options

Door Awning: Pro Tech fabric awning zips to roof and projects above door on 1” galvanized pipe frame.

Window Awning: Converts window flap to fully adjustable, full awning with 1” steel tubing support and projection arms.

Dome Skylight Opener: Single spindle skylight opener operates from floor level with winding brace. Spindle attaches to dome and compression ring with “Z” bracket and watertight bolts.

Screen Door: Full 36” wide, heavy duty screen door. 2” x 6” clear, vertical grain Douglas fir with 20 x 30 fiberglass screen, steel strap hinges and single lever handle, spring loaded closure.

Operable Windows:

- Sierra Pacific 30” x 42” thermal pane casement window; clear vertical grain Douglas fir with tan aluminum cladding. Window is pre-installed in a CVG Douglas fir, floor-to-ceiling framework with oil finish. Cedar exterior trim, furniture-quality joinery. Meets International Building Code (IBC) requirements for egrees.
- Curved Wood Frame Windows – Vinyl clad slider window, set in a curved wood frame to conform to the wall of the yurt. Horizontal slider windows, aluminum structure with vinyl cladding; 48” x 40”. Pre-installed in CVG Douglas fir, floor-to-ceiling framework with oil finish. Cedar exterior trip, furniture-quality joinery.

Contact:
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Snow and Wind

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Colorado Yurt Snow and Wind Packages

Different climates demand different engineering requirements. High elevation, high snowfall or high wind areas call for a different approach than tropical climates where high rainfall and hot temperatures determine the design elements of a yurt. In some cases a simple yurt structure with no engineering elements may be appropriate. Our experienced staff can help you decide which options are necessary in your situation.

CORR Brackets (Compression Ring to Rafter Brackets) – strengthen the connection between the rafters and the compression ring and reduce the potential for rafter-twist. CORR Brackets are an exclusive Colorado Yurt option.

Deep Powder Package – upgrade to 2"x6" rafters (from the standard 2"x4") to increase snow loading. Includes CORR Brackets.

Big Wind Package – a 2"x4" perimeter stud under each standard 2"x4'" yurt rafter. Yurts with this option are rated to 90 mph, exposure C. Exposure C includes flat open areas such as grasslands, coastal areas and above tree line which have virtually no wind breaks.

Full Snow and Wind Package – combines 2"x6" rafters and 2"x4" perimeter studs for the highest level of load capability. Includes CORR Brackets.

Winter Stout Alpine Yurt Package – includes 2"x6" rafters, 2"x4" perimeter studs, CORR Brackets, an Alloy Compression Ring, a Center Support System and two levels of Rafter Blocking. Click here for more information.

Snow Load Ratings

If snow load is a serious consideration in your area, we have several levels of upgrades to choose from. The snow load data below is for our CORR Bracket Upgrade, Deep Powder Package or Full Snow and Wind Upgrade. These are suitable for most situations. Ski Resorts and other yurts at high elevation, especially if there will be times when the yurt is unheated, should consider the Winter Stout Alpine Yurt which can handle as much as 169 pounds per square foot (psf) of unbalanced snow load on a 30' yurt. To find out what the

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requirements for snow load are in your area try entering your zip code here. If data f your area is not available on this site, try doing an internet search that includes the s words "your county your state building codes snow load."

YURT DIAMETER	16′	20′	24′	27′	30′
Yurt with CORR Brackets and 2"x4" Rafters	88 psf	49 psf	33 psf	19 psf	15 psf
Deep Powder Package with CORR Brackets and 2"x6" Rafters	92 psf	70 psf	54 psf	44 psf	36 psf
Full Snow and Wind Package with CORR Brackets, 2"x6" Rafters and 2"x4" Studs at every rafter end	121 psf	98 psf	79 psf	59 psf	50 psf

*Engineering data is for reference only. Based on the assumption that the snow is loaded evenly across the roof. Combined and eccentric loads are not considered in this chart, but are taken into account on our Winter Stout Alpine Yurt data. Structural analysis is in accordance with the 1997 Edition of the Uniform Building Code and the 2003 International Building Code. Please call 800.288.3190 for more information.