WOOD'S SHOP
CREATIVE BUILDERS

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Materials List Etc. for 10' x 10' Straight Azumaya

Buy the nicest grade of exterior-use lumber that you can afford and you'll have fewer problems with wood movement (warping, cracking Etc.). I like clear western red cedar. When you order, or hand select your Post and Beam stock, do get the grade FOHC (Free of Heart Center) if at all possible. You don't want that bulls eye anywhere in the timber because that's the most unstable part of the tree and will always warp twist and check.
Also, if your stock isn't kiln dried or well-seasoned, let your stock acclimate (stack it on stickers out of the direct sun and run a fan on it 24/7) for at least 10 days (good drying conditions) before you start cutting it, especially with the Rafter stock, and laminated Ridge's stock. This let's the wood start to shrink/move, and stabilize its moisture content, and any warps, crowns etc. will be seen easier before you start cutting. I always lightly sand and pre stain/seal (especially the end grain) all of my major components before installing. I like oil-based Penofin http://www.penofin.com/products_bl.shtml

These Plans are based on using Surfaced 4 Sides (S4S) stock, where the thickness is 1.5" for 2x stock and 5.5" for the 6x stock. The heights are 2x4 3 1/2", 2x6 5 1/2", 2x8 7 3/8", 2x10 9 3/8 etc. If your stock varies from these dimensions, do account for it when laying out.

Posts 4- 6x8 x12' (in ground) or 4- 8' on footings
Beams 4- 4x10 x10'
Common Rafters 2x6-
  Long Commons 8- 8'4"
  Short Commons 8- 5'4"
  Jacks 8- 3'6" 8- 1'6"
Hips 2x8 4- 7'
Rafter Ties 4- 2x6 x 6'6"

Blocking 2x6 24' 2x8 60' 2x4 4-12',
Webs 2- 2x10 x 6'
Laminated Ridge 2- 2x6 x12' and 2- 2x10 x 12' (try to color match both boards per side)

Gable ties 2- 2x6" x 7'
Collar Ties 4- 2x4x 6'6"

Roof Sheathing 2x6 T & G with 5" exposure)
4- 16'
12- 14'
8- 12'
12- 10'
8- 8'
6- 6'

You could also use 5/4 skip sheathing instead of solid sheathing, a full 7/8" thick so your roofing nails don't poke thru, like they did with this
16' x 20' Straight Roof http://woodsshop.com/Azumaya/16x20/16x20.htm and this
12'x12' Curved Roof http://woodsshop.com/Azumaya/12x12Curved-Cash/12x12Curved.htm
It greatly extends shingle life, and looks good from underneath.

There is exactly 260 square feet of roof area, and 28' of hip cap.
Buy some extra for waste!

Another very nice Hip Cap option would be to make them out of copper, nice and thin, that would easily slip up under the roofing above, and look pretty nice too. Order some Copper Foil .010" Thick x 12" Wide x 15' Feet Long from Storm Copper http://store.electrical-insulators-and-copper-ground-bars.com/copper-foil--010--thickness---30-guage-copper-foil--010-thickness---30-gauge-x-width-12-50-.html**. This is still a nice gauge of soft copper that bends well, it's not what I'd call a "foil ". Have a local Sheet Metal shop cut two 7' 2" lengths, then use their Slitter to cut the two pieces into two 5" (width up to you) wide pieces lengthwise. Have them bend/crease each piece in the middle along it's length at 46.2 degrees. Cut with scissors, and fasten with small ring shank copper nails.**

The Ridge is 14" tall. I figured using 1.5" thick roof sheathing (2x6 T&G?), and 7/8" overall roofing thickness (cedar shingles?). If you use thicker (taller) roofing, for instance roof tiles, you need to add to the ridge's overall height, at least in the middle, by reducing the depth of the curve or increasing the ridge's height. Copper flashing is let-in to a kerf (at 33.69°) in the ridge above roofing. A copper formed cap covering the ridge as I show in Copper-Ridge.jpg would be wise to do also. Order your Copper Foil .010" Thick x 12.5" Wide x 15 Feet Long from Storm Copper. Have a local Sheet Metal shop cut it to 11' 8" long, then they'll use their Slitter to cut the 12.5' wide roll into 3 pieces lengthwise, one 4" wide piece for the Ridge cap, and two 2.5" wide pieces for the Ridge flashing pieces .

You'll preassemble the two Gable End Assemblies, (2 Long Commons, the 2x10 Web, 2x6 Gable tie, 2x4 Collar and Rafter ties) and install as a unit. Position the top of Collar tie 6 7/8" below above top of Rafter, and you'll set the Ridge on the Collar tie during assembly.

Scroll down to see us assembling a Truss
http://woodsshop.com/Gazebo_Kits/How_Build_Gazebo/How_To_Build_Gazebo.htm

***Ridge must end up 3" thick for the Long Commons to fit correctly. We use Titebond III, for laminating the Ridge.**

See GableDetails.jpg- If using cedar hip caps, the thinner top portion of the top hip cap piece, needs to die under that one course of shingles above. This takes careful shaving and shaping to fit properly, See the 13th and 14th pics on this page
http://woodsshop.com/Gazebo_Kits/Gazebo_Kit_Photos.htm and
See Pics 31 and 32 on this page- http://woodsshop.com/RaysAzumaya.htm
*** Ray's Azumaya Page packed full of good building Info, especially at bottom of Page!**
He also built the 10x10 Straight :-)

Copper flashing is let-in to a kerf (at 39°) the Ridge above roofing. A copper formed cap covering the ridge as I show in Copper-Ridge.jpg would be wise to do also. Order your Copper Foil .010" Thick x 12.5" Wide x 10 Feet Long from Storm Copper. Have a local Sheet Metal shop use their Slitter to cut the 12.5' wide roll into 3 pieces lengthwise, one 4" wide piece for the Ridge cap, and two 2 1/2" wide pieces for the Ridge flashing pieces. See us forming the copper cap at bottom of this page
http://woodsshop.com/Gazebo_Kits/12x12Curved/Build.htm

See us building the 10'x10' Straight Azumaya for other tips such as cutting the curve into the Ridge.
http://woodsshop.com/Gazebo_Kits/How_Build_Gazebo/How_To_Build_Gazebo.htm

This is how we cut Curved Knee Braces.
http://woodsshop.com/PROJECTS/Mill/Construction%20Mill/CutKneeBraces.htm

We like to use TimberLok lags for a lot of fastening. Very strong, with the same rating as 3/8" lags! http://www.fastenmaster.com/details/product/timberlok-heavy-duty-wood-screw.html **Get a long 3/16" wood bit for the pilot holes**
http://www.irwin.com/tools/browse/drill-bits/metal-twist-drill-bits/aircraft-length-drill-bits ,
and use a ½" bit, ½" deep to countersink the heads.

When drilling the pilot holes thru the Rafters (Rafter to Beam connection), drill from the seat cut up instead of from the top edge of Rafter down, to insure the hole comes out where you want it! See pic http://woodsshop.com/Gazebo_Kits/How_Build_Gazebo/16.htm

http://www.mcfeelys.com/search/promax **Order their #10 x 2 3/8" to 3 7/8" ProMax for Rafter and other connections. Pilot hole all screws.**

We don't supply any Engineering Data for our Azumayas, usually not a problem with our smaller structures, but with our larger Azumayas you may or may not

need to have a local Architect or Engineer review and stamp the Plans. I've included three To- Scale drawings in case your Building Dept. asks for some.
See line 3 of our License Agreement.

You'll need to check with your local Building Dept to see what they require as far as additional beam and rafter sizing, and additional fasteners and connectors, especially the Post to Beam, and Rafter to Beams connections for high snow loads, wind or seismic areas.

I've included a Plumb Cut Template.pdf which you get printed on 1' wide paper. This will let you really zero in your critical Plumb Cut angles. See us using it 5th and 6th pics
http://woodsshop.com/Gazebo_Kits/How_Build_Gazebo/How_To_Build_Gazebo.htm

PRINTING-
For the Plans Pages, use 8.5" x 11" paper and set your printer to Landscape Mode. The full sized RafterTemplates.pdf you get printed 1' wide paper at your local Printers.

Remember, I give very good support by Email, or phone if you call me, and I really enjoy seeing my structures get built so please send me some photos for my website when you're finished! Thanks again for the order!

Joseph D. Wood