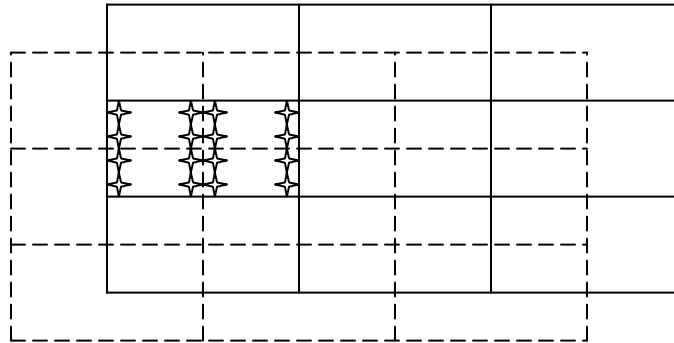
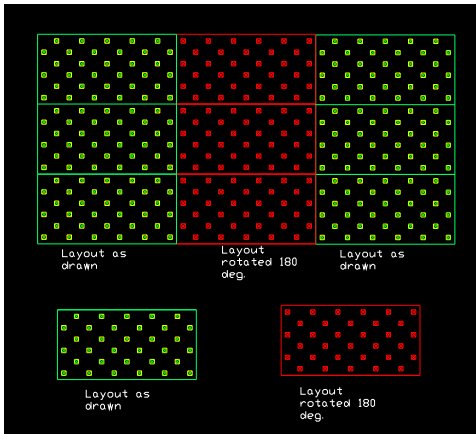


How to build a Denver Dojo Floating Floor ©:

What you will need:

1. 3x3x4 inch 2.2 pound per cubic foot (pcf) ethafoam blocks. These are the springs for your spring floor available from [Wisconsin Foam Packaging](#), [Tim Lang](#) , contact Tim@wifoam.com for current quote. You can call Tim Lang at: Tim Lang, Account Manager, Wisconsin Foam Products, Inc., Cell Phone (608) 444-2362, Home Office Fax (920) 766-6409.
2. 4'x4', 7/16" OSB sheathing, the sheathing supplies spring or bounce to the floor system in conjunction with the spacing of the foam blocks. Fewer blocks more spring in the OSB sheathing. Included are 33 and 27 block layout drawings! We have a 33 spring block floor installed on 7/16 OSB and the floor is plenty stiff since we screwed the two layers of OSB together... I would not hesitate to put fewer blocks (the 27 block layout) in order to obtain a slightly softer judo floor. Before we screwed the two layers of OSB together "when the sheathing was floating" the floor was softer and we liked it better!
3. Cost should be around \$0.20 to \$0.35 each spring block plus shipping. Shipping may be up to \$150 to \$200 for lot. We use 33 blocks per 4x8x7/16" OSB sheet. Using a different block layout with fewer blocks will result in a springier flooring system! 33 and 27 block layouts are included with this email! Make sure to get an additional 10 to 20 extra blocks which will be used for access and egress areas. This will stiffen the edge when added to the layout along an edge area.
4. 2 layers of 7/16 inch thick 4X8 foot OSB (Oriented Strand Board – similar to plywood sheathing) sheathing. This is available from lumber yard, Home Depot, Lowes, etc. Cost is between \$6 and \$13 per sheet depending on market price. Screw together with 1-5/8 inch coarse thread drywall screws #6 or #8 screws (16 per each top sheet see sketches)
5. Adhesive to attach the foam blocks to the bottom layer of OSB sheathing. We use contact cement. (Same stuff they glue Formica countertop to the particle board counters...) Apply thickly to the OSB sheathing in the area of each foam block and apply to one side of each foam block. Let dry to touch and stick the block onto the OSB in the correct locations. 33 blocks per sheet see drawing of placement... Make a template out of butcher paper and cut out the block locations in the template so you can mark each block location... Need 4" or 5" brushes to apply. Adhesive cost is like \$20 per gallon and use the cheapest brushes available at \$2 or \$3 each. One gallon should do 10 to 15 sheets? (est)
6. 2X4 8 to 10 foot long around the edges to retain the mats and keep them from separating during use. Screw the 2X4's down on top of the sheathing with 3" #8 or #6 screws.

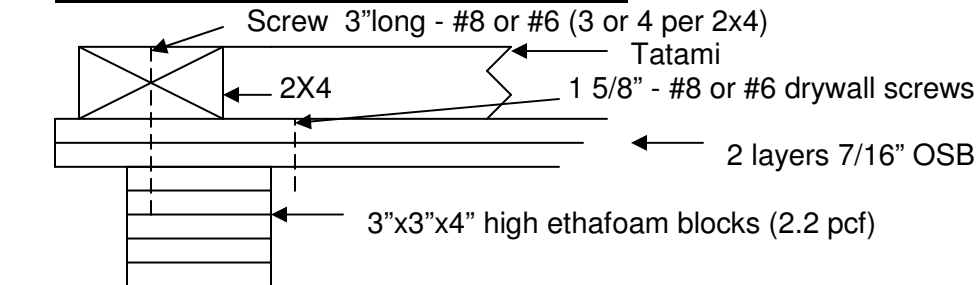
Typical layouts showing the rotated orientation and the screw locations.



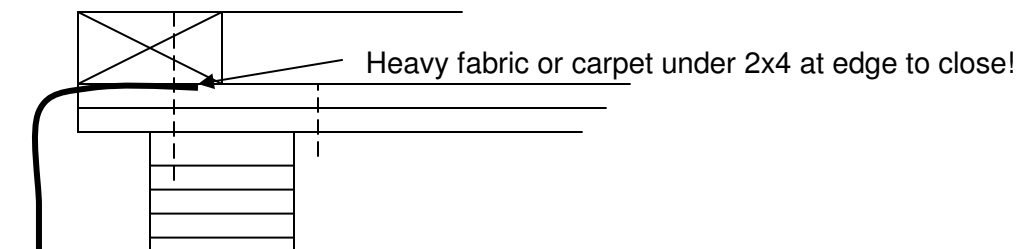
This is a sketch of the spring block Placement on the 4x8 sheets of OSB. And the orientation of adjacent sheets Note that by rotating adjacent rows of sheeting, the blocks line up on both diagonals! Additional blocks are around the perimeter to stiffen the edges where you will access and egress the mats!

First layer of 4x8 OSB is shown In dash line... The top layer is shown in solid line. You will cut sheets to fit around the perimeter when needed. ✦ Denotes screw locations. You will need 2 pounds per 1000 SF Cost is about \$4 per pound.

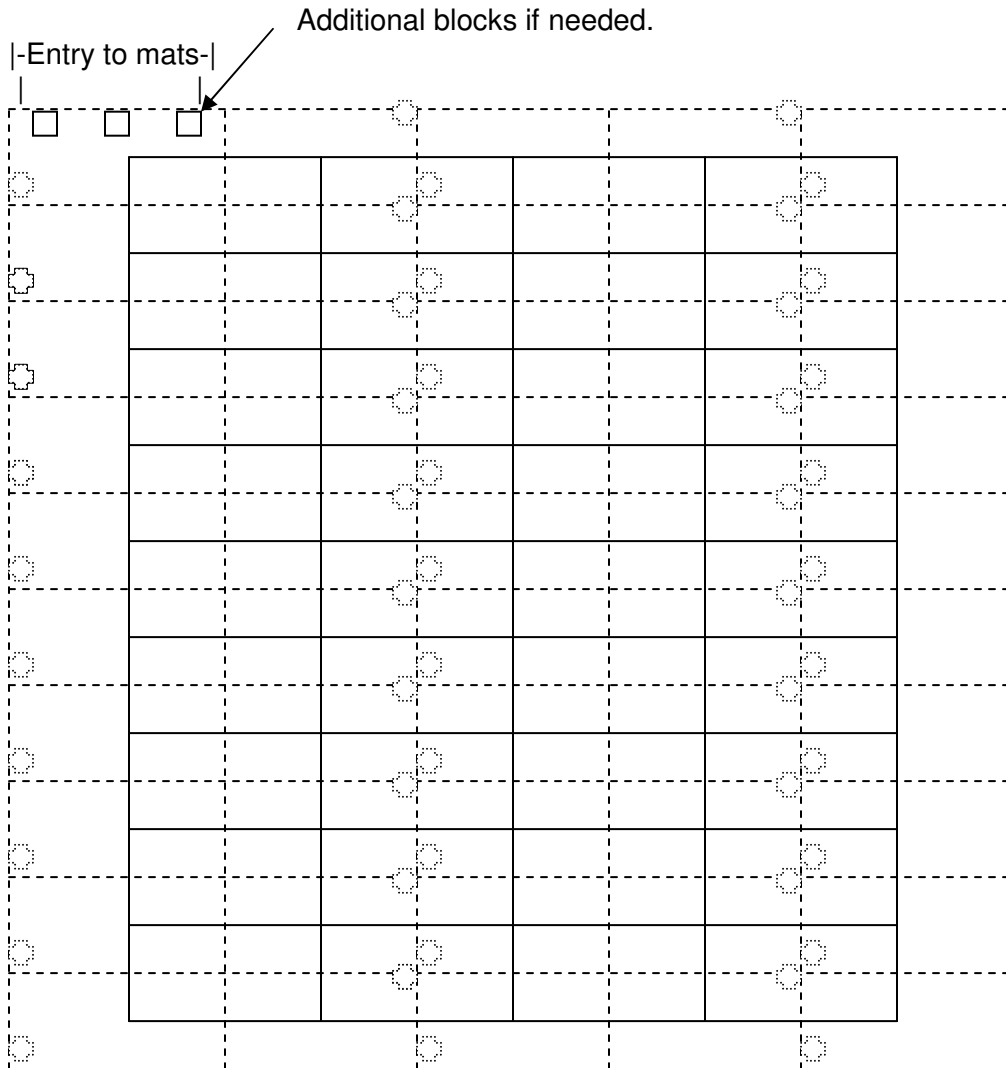
Typical cross section of floor system.



Possible way to close edge of floor system.



Here is a cost example for a floor 40"x40"



Don't forget the perimeter sheets (not shown for clarity) and remember don't line up edges in the top and bottom OSB layers! Some cutting will need to be done on the top layer sheeting – try to mark and cut accurately, this will help in placing and lining things up when assembling the floor system!

○ - Is an orientation mark on the side of the bottom layer that will be UP in the flooring system. Place this mark on every bottom layer OSB sheet (the ones with the foam blocks glued on them) Do this on the side opposite the blocks during marking with the template. This will aid you in orienting the bottom layer OSB sheets during assembly!

Cost:

1. 4'X8' OSB Sheeting: 100 sheets 7/16 OSB at \$6 each is \$600 check shipping and tax \$?
2. Ethafoam Springs: 3 inch cube 2.2 pcf ethafoam, use 33 per sheet OSB (50 x 33 = 1650 plus 100 extra = 1750) @ \$0.35 /ea. = \$612.50 plus \$150 shipping = \$762.50
3. Adhesive: 3 to 5 gallons est. \$75 plus brushes call it \$85
4. Screws: 3 pounds should do it. 3# at \$4.50 per pound - \$13.50
5. Paper for template, \$10
6. 2x4 if you go around entire perimeter, will be 160 feet approx \$50 for nice clean 2x4, if you do 2 ends only \$25 or so...
7. Tatami are the biggest expense. Will range from \$85 to \$110 per 1meter by 2 meter tatami. And be sure to check freight costs! The above 40'x40' will take 72 tatami or approx. \$7200 plus shipping
8. Labor – Estimate : (Labor estimate for a team that takes instruction well!)
 - a. Design - 16 hrs
 - b. Purchasing – 8 hrs
 - c. Receiving – 4 hrs
 - d. Template – 2 hrs
 - e. Cleaning – 4 to 8 hrs
 - f. Marking / gluing 50 sheets OSB 3 people 3 hrs – 15 hrs
 - g. Gluing 1650 blocks 2 people 3 hrs - 6 hrs
 - h. Assy and stacking 50 sheets w/ blocks – 5 people 2 hrs = 10 hrs
 - i. Layout down and assembly – 3 people 10 hours – 30 hrs
 - j. Trim 4 sides sand and screw down 2 people 2 hours – 4 hours
 - k. Set mats 4 people 1 hour – 4 hours

Total Labor = 16+8+4+2+4 +15+6+10+30+4+4 = 103 hours

Cost Summary:

1	\$ 600.00	OSB	
2	\$ 762.50	Ethafoam springs	
3	\$ 85.00	Adhesive	
4	\$ 13.50	Screws	
5	\$ 10.00	Paper	
6	\$ 50.00	2x4	
	<hr/>		
	\$1521.00	Sub total	\$0.95 / SF
7	\$7200.00	Tatami	\$4.49 / SF
	<hr/>		
	\$8721.00	TOTAL	\$5.44 / SF plus labor!

Where to begin:

Estimate and Order your materials:

1. Foam will take some time so call or email Tim at WIFOAM with plenty of lead time, usually 2 to 3 weeks plus shipping time...
2. OSB can be delivered from Lumber yard – Home Depot or Lowes.
3. Adhesive, screws, 2x4's can be picked up from Home Depot, Lowes or lumber yard.!
4. Tatami, can be ordered or if there is a major judo tournament in your area, often they sell mats after the event at a discount and most of shipping has been paid. Just pick them up after the event. Cost is closer to \$85 this way!

Plan to do your building in stages:

1. Make a drawing of your Floating Floor Mat Area
 - a. Make sure to consider how you are going to retain the tatami on top of the floating floor platform. Remember that 2x4 lumber is really 1.25"x 3.25" actual cross section dimensions!
 - b. Also take into account that you will be placing the retaining boards slightly smaller than the nominal mat layout dimensions to account for the 3/8" for every 10 foot of mat. (3/8 inch every 10 feet)
2. Make a template for gluing.
 - a. Use the dimensioned drawing I provide and make a full scale template that is 4'X8" and has cut outs for the block locations. Use durable paper for the template. When marking the locations on the OSB sheeting, use a thick line marker and just mark a couple corners so the glue and blocks are easy to locate.
 - b. Cut a corner of the template so you can mark orientation of the block layout. This will be the "O" corner of the 4x8 template.
 - c. You will transfer this mark to the OSB sheets when gluing the foam on and then mark it on the side of the sheet opposite the blocks so when we are laying the lower layer down for the floor we know the orientation of the blocks!
3. You will need to attach the foam blocks to half of the OSB sheeting. This can be done with a team of helpers - **Remember you will be attaching foam to only half of the OSB sheeting.**
 - a. Use two or three helpers to place the template over a sheet of OSB and mark the foam block locations or just go ahead and apply the contact cement. (Depends on how messy it will get the template!) Note that the contact cement is very smelly and this operation should be done in a well ventilated area, especially if have young helpers). Mark and apply the adhesive to the shiny or smoother surface of the OSB. This side will go DOWN on the bottom layer.
 - b. A second couple of helpers can lay blocks out and apply adhesive to one surface of the foam blocks. (Lots of blocks on which to apply glue! Approx. one per square foot!)
 - c. After the adhesive is dry to touch on both the foam and the OSB. Press the blocks in place. If you get them within two or three inches of the exact locations it will be fine!
 - d. After the blocks are attached a couple of helpers can stack the sheets with the foam blocks attached in an out of the way place.
4. You will need to cut any top layer OSB sheeting that needs to be cut.
 - a. Do a layout or sketch of each layer of the floor sheeting (lower layer with foam blocks and upper layer which will be screwed down to the lower layer.
 - b. Note you will probably have to cut some of the 4'x8' sheets in half either into 2'x8' or 4'x4' sheets, maybe even 2'x4' sheets in the corners. The key is that you don't line up

the edges of OSB in both the lower and top layers. Make a list each size you need and how many of each. Make your cuts pretty accurate, shoot for +/- 1/8 inch or so. This will help all the edges line up cleanly during assembly.

5. Clear the area, clean and layout where the floor is going to be laid.
 - a. Clear everything out of the area where the floating floor is going.
 - b. Sweep and mop clean if necessary the area.
 - c. Use a marker and tape measurer to layout the exact location of the spring floor corners. Make sure you have clearance to walls, doors, etc.

6. Place the lower layer.
 - a. Starting in a corner, two people will take the sheeting with foam blocks attached and turn them so the foam blocks are laying on the room floor surface. (foam down) and just place the sheets so they butt up to each other.
 - b. When a row of lower sheeting is down, the second row will go down with the foam block orientation rotated 180 degrees from the first row. The third row is rotated back to the orientation of the first row or 180 degrees from the second row! We made a mark on the lower layer OSB sheeting, so that when gluing blocks down we had a guide to help with this orientating of foam block pattern from row to row of sheeting.

7. Place the upper layer of OSB as you go.
 - a. Lay down a couple rows of lower sheets and then place the OSB upper layer so that no joints overlap. Place the upper layer rough side down! Align edges and screw the upper sheet down to the lower sheet. Use 1 5/8" coarse thread drywall screws. Approx 16 screws per 4x8 OSB top sheet. We used a marker and marked on the upper sheet edges the joint locations we were covering up in the lower sheeting. Then the person screwing the sheeting down had an indicator of where to place the screws. Place a screw into each corner of the 4x8 OSB. Each screw is roughly 3 inches in from adjacent edges. Also place a screw 3 inches from each edge in the lower sheeting, this works out to another two screws in each edge of the upper sheet and 4 more in the middle of the top sheet down into the corners of 4 lower sheets. 16 screws per upper sheet.
 - b. Continue placing rows of lower and upper sheeting until done. You probably want to screw the top sheet to the bottom sheet as you go!

8. Where needed screw down 2x4 or 2x2 boards to retain the tatami on a side or end of mat surface. Use 8 or 10 foot long 2x4 boards. See the typical cross section sketch above.
 - a. You can measure or lay out the tatami to see how far apart the retaining bars (2x4 or 2x2) will be screwed down.
 - b. Sand the retaining boards of people will be stepping on or standing on them. Choose nice clean straight lumber when purchasing these boards.
 - c. Use 3 inch long #8 or #6 screws to hold down the 2x4. 3 or 4 screws should hold an 8 foot 2x4.
 - d. Before screwing down both sides of the retaining 2x4. Consider that the tatami need to be compressed a little so you don't get the mats separating and catching toes during workouts! We think that about 3/8 inch compression every 10 feet is a good number to use.

9. Clean the wood surface. Sweeping or vacuum.

10. Place the tatami, same way you always do, and kick the tatami into close contact with each other or placing that last tatami will be a chore. Remember you put 3/8 inch per 10 foot compression into the system.

11. Happy and Safe Judo!