

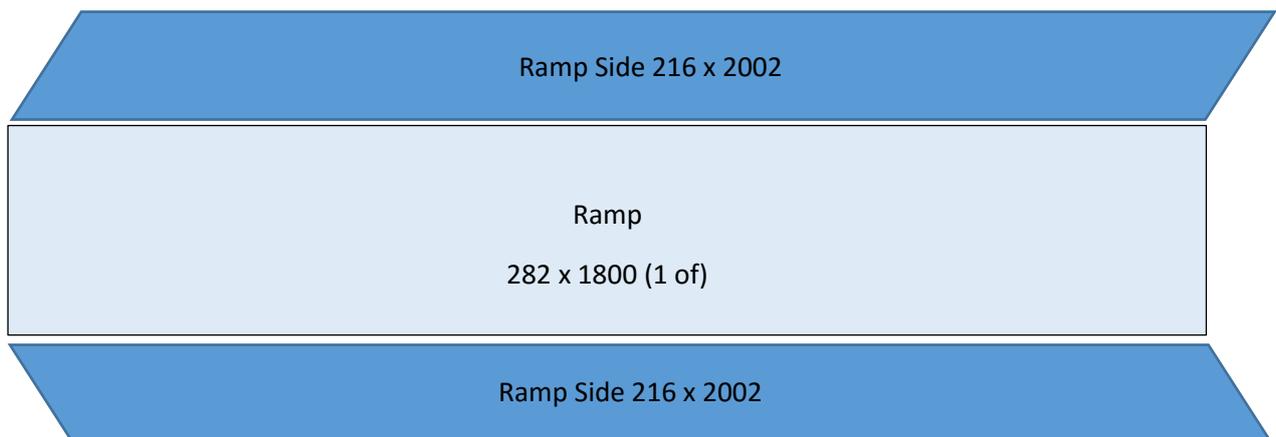
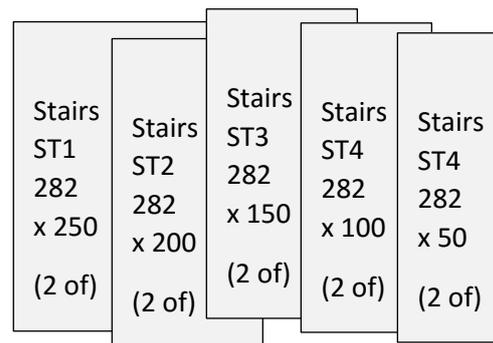
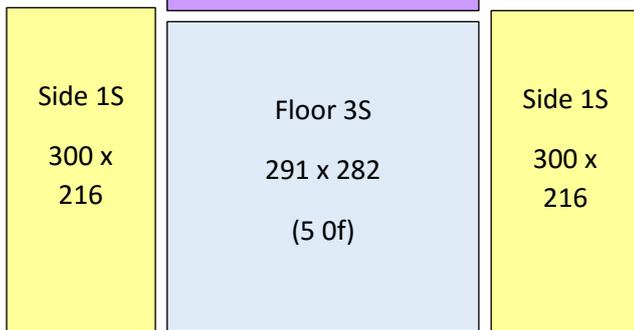
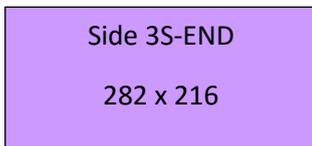
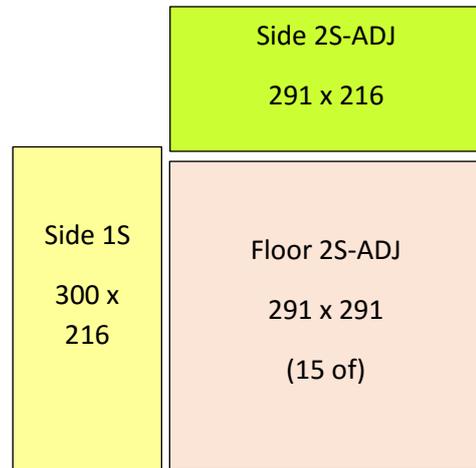
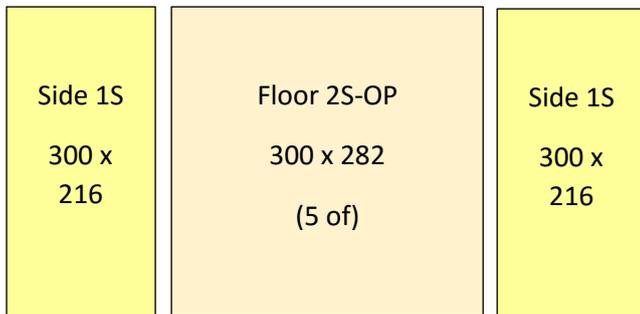
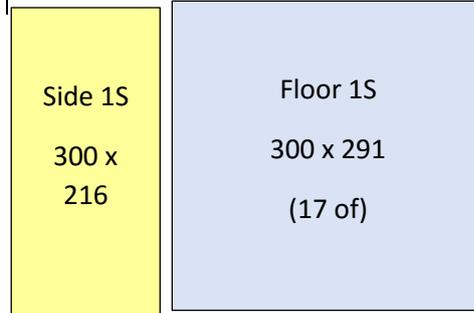
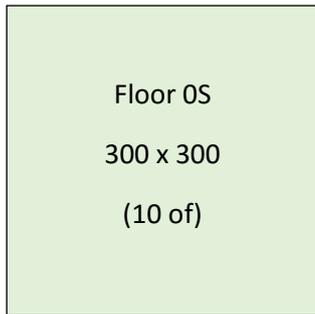
# Maze Modules:

## FLOOR

- Floor- Zero Sides 300 x 300
- Floor- One Side 300 x 291
- Floor- 2 Sided Opposite 300 x 282
- Floor- 2 Sided Adjacent 291 x 291
- Floor- 3 Sided 291 x 282

## SIDES

- Side- One Side 300 x 216
- Side- 2 Sided Adjacent 291 x 216
- Side- 3 sided End 282 x 216
- Ramp- Floor 300 x 1800
- Ramp- Sides 216 x 2002



## Cutting List:

To build the RoboCup Rescue Maze course you best of getting a Kitchen Maker or the like to cut your boards out for you. They have computerised saws that are more accurate than you can be with a hand saw or table saw so it is worth the small extra fee.

The base can be made from White Stripples Finish HMR Particle Board. I get all sides Edged with White Vinyl (PVC) Edging that is 1mm thick. You could take the time to work out what sides don't need edging but it's really not worth it.

The sizes below are for a Kitchen Boards Cutter and they are the cut size of the boards. This means that the finished size will be what we want AFTER the edges have been placed onto the boards.

BASES – Cut Size:-

Finish size:-

10 of - 298mm x 298mm x 16mm (Edge 2L, 2S) (300 x 300)

15 of - 289mm x 289mm x 16mm (Edge 2L, 2S) (291 x 291)

17 of - 298mm x 289mm x 16mm (Edge 2L, 2S) (300 x 291)

5 of - 298mm x 280mm x 16mm (Edge 2L, 2S) (300 x 282)

5 of - 289mm x 280mm x 16mm (Edge 2L, 2S) (291 x 282)

Stairs:

2 of - 248mm x 280mm x 16mm (Edge 2L, 2S) (250 x 282)

2 of - 198mm x 280mm x 16mm (Edge 2L, 2S) (200 x 282)

2 of - 148mm x 280mm x 16mm (Edge 2L, 2S) (150 x 282)

2 of - 98mm x 280mm x 16mm (Edge 2L, 2S) (100 x 282)

2 of - 48mm x 280mm x 16mm (Edge 2L, 2S) (50 x 282)

Ramp:

1 of - 1800mm x 282mm x 16mm (no Edge) (1800 x 282)

The sides of the Maze can be constructed out of 9mm Ply. I prefer Marine Ply as it is more stable and straighter. Structural ply is about half the price of Marine Ply, however, it is not as straight and will move over time. Marine Ply is worth the expense in my opinion.

The Ply sides need no edging or finishing.

Sides:-

52 - 300mm x 216mm x 9mm (no Edge)

15 - 291mm x 216mm x 9mm (no Edge)

5 - 282mm x 216mm x 9mm (no Edge)

2 - 2002 x 216mm x 9mm (no Edge)

Construction: -

When you get all your boards from the cutter, sort them into piles and then mate them with their sides.

If you have a Brad Gun either air or electric the job will be quick and easy, otherwise Glue and Hand Nail the sides to the bases.

Set up a jig so that you have a flat surface with a back board for the base to rest into. Then when you are nailing the base will not move and the side will not slide out of position as it will be supported by the jig base.

Use course 80 grit abrasive paper to scuff up the edge that you are gluing the side to. Apply a thin bead of PVA glue to the edge and then place them together on your jig. Nail each end about 25mm in from the end and then add 2 or three between on each join.

Wipe down the excess glue with a damp cloth as well as the jig.

The Ramp needs some extra cutting which you could also get the kitchen cutter to do. The ends of the Ramp Base need a 25° Bevel on each end in the same direction.



You will then need to cut a similar angle on the sides so that they will match the angle on the base.



Cut one end of both sides and then dry fit to the base and mark of the position of the other cut so that the side will be a perfect match of the base. Do this for both sides and then cut.

Glue and nail the sides to the bases.

To complete the modules, you can drill a 5mm hole 25mm down and 15mm in from each corner. Using re-usable cable ties you can now join the outer Maze modules together which will keep your course together throughout the round. Alternatively, you could use Velcro, however it does not stick well to the Ply. A Ratchet Tie Down may also work.