

Installation of Nylon Putting NP50

1. Layout of Green and Existing Ground Preparation

Step 1: Determine the size and shape of your green as well as any chipping stations and/or sand traps.

Step 2: Measure the length and width you determined from Step 1 on the ground and using irrigation flags or stakes and landscape marking paint, outline the designed shape. Check for irrigation heads and be sure they are all capped off or relocated. Also check the electrical lines, leech fields and make sure you have proper drainage.

Step 3: Once the green is outlined you are ready to remove any existing sod. If your existing ground is not sod covered, skip to Step 4. Utilizing a bob cat or sod cutter remove the sod from the staked green area plus an additional 1' to 1 1/2' around the perimeter. Set the depth of the sod cutter to between 2 and 3 inches.

Step 4: You now have the green area laid out and have removed any sod from the area plus an additional 1' outside. Rough grade the area using a landscape rake, then using a water hose and nozzle, lightly wet the area and then compact using either a 2 ton double drum roller or 19" plate compactor depending on the size of the green and equipment availability. Make 2 or more passes over the area to ensure sufficient compaction.

Step 5: Spray the entire area with a strong weed killer and/or install weed barrier.

2. Base Installation

Step 1: Remove the irrigation flags used in the layout of the green as you will be utilizing them again in this procedure.

Step 2: Base installation will involve two different types of base material. The first layer of base will be between 2 and 4 inches thick (northern installations should be 6" - 8" and consist of 1" - 2" fines aggregate material. The second layer should not exceed 3 inches thick and will consist of screenings or other fine material, depending on what is available in your area. The base material is measured by the cubic yard and the following calculation is utilized to determine the quantity of material.

a) Calculation of a 5" compacted base; Sq Ft of the Green x 34 / 2000 = Tonage. Round the final measurement up to calculate for any waste

Step 3: Using a shovel and rake, place base material evenly over the green area. As you install the first layer of aggregate material, build up the base by doing this in layers check the elevations with your level until you have achieved the desired pitch and the beginning of the undulations.

Step 4: When you have finished the first layer of base and are satisfied with the undulations you should have between 4 and 5 inches of material installed.(northern installations 6" - 8". You are now ready to compact this layer. Using the water hose and nozzle thoroughly wet the entire area but do not overly saturate it. Then begin compaction with the 2-ton double drum roller or 19" plate compactor. You should make even passes over the area and repeat at least 2 times to ensure sufficient compaction.

Step 5: As you install the second layer of base you will incorporate the green undulations into this installation by adding thicker layers of base in certain areas to create breaks. To aid in this, install irrigation flags or stakes on each side of the green down the entire length. The flag/stake spacing should be about 3 to 5 feet apart and directly across the green from each other. You will also need a laser or site level and tripod set up at one end of the green or a 8-10 foot long 2" x 4" with a level attached.

A normal slope between sections of the green is about 1‰ and a more challenging break would be a 2 inch fall (example 6 inches down to 2 inches over a 36' length)

Step 6: After compacting the first layer of base recheck your undulations with the level and then rough the entire area with a landscape rake.

Step 7: Begin installing the screenings/fine material about 1‰ deep at a time . Remember to maintain the contours you created with the first layer and evenly install the second layer at a uniform thickness. You should only need about 2 inches of material with a maximum of 3 inches.

Step 8: Using the back of the landscape rake, large squeegee, or push broom gently smooth the surface of the base and wet thoroughly but not overly saturated. Compact with either the 2 ton double drum roller (if the green is over 1000sq ft) or 19" plate compactor (if it is under 1000sq ft) with even passes over the base. Compact the entire green at least twice.

3. Hole Installation

Step 1: Roll a basketball or rubber ball on the green to determine the effects of the undulations you have installed. This will help in determining where to install the cups depending on the desired breaks you wish to create. Experiment by placing the cups on the base and rolling the ball to each location until you have the desired locations.(Have the owner involved in this procedure.)

Step 2: After locations are determined use a cup cutter and cut through your base 10" to insert a sleeve.

Step 3: Once the sleeves are inserted (check for levelness) into the holes the turf can be laid directly over the finished sub base.

4. Turf Installation

The turf comes in 12 foot widths. Any green that is wider than 12 feet will have to be constructed of two or more 12 foot pieces of turf seamed together.

Step 1: Before installing your turf, unroll it and lay it out flat on top of the base to let it relax from being rolled up. To unroll the turf, place the roll or rolls on one side of the green and gently roll turf out over the base. If you have more than one piece of turf ^ be sure you roll it out with the grain going in the same direction. Do not drag the turf across the surface of the base. If possible you should leave it flat overnight at a minimum. Be sure the grain of the turf leans uphill. If you do not have 2 pieces of turf to seam together move on to Final Shaping.

5. Seaming

Step 1: Now that you have both pieces rolled out onto base, you will need to overlap the two edges that will be seamed together. Make sure the overlap is at least 3 inches. Now you will have part of one piece on top of the other and they will be referred to as top piece and bottom piece for this procedure.

Step 2: Using a flat screwdriver separate the face yarn on the top piece of turf along a line 1" in from the factory edge. Be sure to go in the direction of the grain. (To determine the grain of the turf run your hand along the turf in a direction perpendicular to the 12 foot edge, pressing down firmly. When you are against the grain the fibers of the turf will resist and when you are with the grain the fibers will lie down and feel smooth.) Perform the process of separating the face yarn two times.

- Step 3: Using a cushion back cutter with a new blade edge ever cut, or a loop pile cutter along the line created in previous step, cut the top piece of turf at an angle of 5 - 10 degrees away from the turf. Make sure the pressure is only enough to cut just the top piece and not through to the bottom piece ^ use cardboard if necessary
- Step 4: Using the flat screwdriver separate the face yarn on the bottom piece by running it along the cut edge of the top piece. Using a cushion back cutter along the line created by the screwdriver, cut the bottom piece of turf at an angle of 5 -10 degrees away from the turf.
- Step 5: Now that both pieces of turf have been cut, lay them next to each other and make sure that the seam is tight with good pressure applied.
- Step 6: At either end of the seam continue in the direction of the seam off the end of the turf and draw a small line in the base. These lines will be used to set the hot seam tape in the proper alignment after the turf edges are rolled back.
- Step 7: Seam together using a seaming iron and hot seam tape. When the iron is hot enough the tape will start to smoke and iron will slide along the tape with minimal pressure. Once you have slid the iron ahead make sure the turf behind the iron has adequate pressure to seam together. Once the turf is seamed together use a seam roller on a 45 degree angle and pull the fibers together. While moving ahead it is recommended you use the tray of your tool box to lay on the seam for weight. Continue the process to the end of the seam doing a 8" - 10" section at a time.

6. Shaping

- Step 1: With the turf laid out on the base draw a chalk line in the outline of the final desired shape of your green.
- Step 2: With a cushion cutter carefully cut out the turf along the chalk line. Be sure to have replacement blades available for the knife

7. Installing the Fringe

- Step 1: Once the green is shaped you figure out the best corner to start cutting the fringe to the putting surface with as little waste as possible. You want to maximize the first cut of the fringe to have one end and one side to be your 18" or what ever size you may be using.
- Step 2: Take the putting surface and pull it back and lay out the fringe underneath the putting surface. Once you have figured out the minimal amount of waste then you lay the putting surface back over the fringe.
- Step 3: Use your cushion back cutter and cut the fringe to the putting surface. Take the cutter and angle it towards the putting surface approximately 45 degrees. This allows for more fibers of the fringe to hang over the side of the putting surface.
- Step 4: Take the putting surface and pull it back and take the fringe out that was underneath the putting surface. Take the fringe and with out changing the direction of the grain take it to the opposite corner of the putting green. Now pull the putting surface back and lay the fringe underneath it like Step 2. Roll the fringe out and lay the putting surface over top of it. Cut accordingly.
- Step 5: Take the piece that has been cut underneath the putting surface and put it under one of the last two corners left. Repeat Step 2. Take the piece left over and do the last corner. The whole time you are moving the turf you can try not to change the angle of the grain because the color may look different.

- Step 6: Once you have cut the four corners you will have to use the piece left over to fill in the areas along the sides.
- Step 7: Once you have all of your pieces cut you need to create cross seams to connect the pieces to each other. Take the back side of the pieces and draw a straight line with a straight edge and cut with a carpet knife. Next cut the piece beside it to match the straight line you just cut by marking and straight cutting it the same way.
- Step 8: After the turf is all cut and fitted to the putting surface you need to put the seaming tape under the putting surface and fringe. Make sure you are adhering at least two (2") of each material together. You will have to cut small sections of seaming tape around the curves. Make sure that they are all overlapped in the same direction. Always figure out an exit for the iron. Once you start the iron around make sure you have somewhere to take the iron out.
- Step 9: Seam the turf together just as you would the putting surface. Make sure there is an ample amount of pressure once it is laid and there are no gaps.

8. Border Installation (PVC Channel and Cap)

- Step 1: Measure around the perimeter of your green to determine how many linear feet of border will be required.
- Step 2: Using a flat shovel dig a 6 inch deep trench by pulling back the dirt from around your finished green. When digging the trench you must stay as close to the green as possible without disturbing the base material or you will cause the green to cave in.
- Step 3: The channels are available in 12 foot lengths. Place a piece of the channel into the trench. Install the channel so that the top of it is level with the surface of the turf. Holding the channel with one hand, backfill with dirt tightly behind it. But each piece of channel snugly against the previous piece. If you have to cut a piece to make it fit use a hand saw. Make sure the channel is taped with a masking tape so you do not have dirt fall into the top.
- Step 4: After the channel has been installed, place sod to finish the other side of the channel. The cap will cover both the green and the sod. You can cut the putting green to the channel.
- Step 5: The cap is available in 108 foot lengths so have it pre-cut when you order to your required linear footage. To install the cap, place it on top of the channel, fit it into the groove and tap into place with a rubber mallet.
- Step 6: When you return to you starting point of installation you will need to cut the end of the cap to fit with the beginning. Overlap the channel and mark your cut line and then using a sharp utility knife, slowly cut the cap. Tap the end down into place.

9. Top Dressing

Top dressing material is a ceramic top dressing sold in 50 pound bags. It should be spread evenly on the turf with a drop spreader at a rate of 2 pounds per square foot. Top dressing and turf must be dry.

- Step 1. Use a drop spreader to evenly distribute the ceramic throughout the putting surface.
- Step 2. Once you have spread approximately half of the allotted ceramic take a 18" plate compactor and run over the entire green. This allows the ceramic to vibrate down into the fibers. Be sure the compactor is clean.
- Step 3. Take half of what ceramic is left and spread and run plate compactor over again and once more to install the total of 2 pounds per sq ft.
- Step 4. You may also use a stiff push broom or water to insert the ceramic into the fibers.

Step 5. If you can not get all the ceramic in the first day you will have to repeat the process 2-3 weeks later.

10. Cutting the holes

Step 1: Locate the sleeves underneath the turf and then find the center of the sleeve using your thumb. Cut a small X in the center using a sharp utility knife.

Step 2: Insert the knife into the X and carefully cut until you reach the edge of the sleeve. Gently hold the turf up at the X and cut tightly around the inside edge of the sleeve. Cut one section of the X at a time.

Step 3: Once the turf is removed from over the sleeve, carefully insert the cup into the sleeve with PVC glue on the interior wall of the sleeve and the exterior of the cup.

Step 4: Be sure the cup is below the top of the putting surface and high enough to cover the backing of the turf.