



Synthetic Turf Installation and Maintenance Manual



A World Recycling Surfacing Group Company



Instructions for the Installation and Maintenance of



Synthetic Turf

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Introduction

When it is installed correctly, PolyTurf® will provide many years of trouble free, useful and attractive service. Just like laying a carpet, preparing the underlay is as important as laying the turf. Lumps and bumps, and particularly sharp objects under the turf can damage it and will be felt through the turf when you walk on it, so make sure the underlay is cleared of any debris before you lay down the turf.

Installation is not difficult, but it is important to perform each step in the process properly. Turf rolls are heavy, so make sure you have help and be careful when moving them into position. Adhesives used for taping seams or for gluing down no-fill turf may affect some people who have allergies, so always wear gloves and eye protection, avoid breathing fumes or getting the glue on your skin.

Ideal conditions for performing the installation are warm sunny days with reasonably dry earth to make raking and smoothing easy. Weeds rarely penetrate the turf, but an optional weed blanket, which also contains anti-bacterial qualities, is recommended for all lawns. Occasionally, airborne seeds may take root if conditions are ideal, particularly in sand-filled installations, but they are easily pulled out because the roots will be unlikely to penetrate the turf base layer.

If you have any difficulties or problems, please call the office for help.

The number is **(949) 551-4696**.



Description of the Products

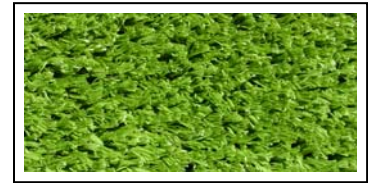
A variety of PolyTurf® products are available to suit your needs and budget. Here is a brief description of them. For more information, please call the office or visit our website at www.polyturf.com.

Turf Products.

Golf Green: This is a non-directional turf with a ¾" pile height. It is a Polypropylene turf, 42oz/sq yd. Using a sand infill will make it firmer and ensure good ball tracking.



Multi-Purpose: A great, all purpose inexpensive grass for general use. It is directional with a ¾" pile height, Polypropylene and 24oz/sq.yd. A sand infill is recommended to provide a firmer feel and to reduce flattening of the strands.



Royal Sport XTP: The best choice for sports fields. Directional, 2 1/4" pile height, 72 oz/sq.yd. synthetic turf. It includes triple backing with an integrated weed blanket. 2 lbs sand 1 lb. rubber shoe soles lbs/sq.ft. of rubber granulate infill is recommended for impact protection and to reduce flattening.



Active Play: Perfect for play and recreational areas. Directional, 1" pile height, 62 oz/sq.yd. synthetic turf. It includes an integrated weed blanket with an anti-bacterial layer. No-infill is required.



Baja Lawn: Great looking general landscaping lawn. , 1-1/2" pile height, 89 oz/sq.yd. Polyethylene synthetic turf..



Street Scapes: Thick, lush lawn that does not require infill. Perfect for any application but particularly sloping areas or around pools. Non-directional, 1 1/2" pile height, 96 oz/sq.yd. Polyethylene synthetic turf. with thatch. It includes an integrated weed blanket with an anti-bacterial layer. (Multiple colors and thatch zone)



Luxury Lawn No-Fill: Simply the best choice for a beautiful plush lawn. No infill needed. Perfect for any application but particularly sloping areas, rooftops or around pools. Straight 2" pile height, 108 oz oz/sq.yd. Polyethylene synthetic turf. It includes an integrated weed blanket with an anti-bacterial layer. (Multiple colors and thatch zone)



Tools and Equipment Required

The tools and equipment listed here are those required for a small installation such as a lawn or putting green.



Wheelbarrow: For moving sand, gravel, etc. around

Shovel(s): For loading and unloading sand and gravel, rubber etc.

Rake(s): For spreading and leveling the substrate and the underlay.

Stiff Nylon yard brush(s): for working in and spreading the in-fill (rubber or sand)

Compactor: For compacting the substrate and underlay.

Heavy hammer(s): For driving galvanized nails to hold turf in place.

Power Brush: (optional) for fluffing the pile prior to infilling.

Pair of Pliers: For removing sprinkler heads.

Carpet Knives: Slotted and loop pile for cutting turf.

Carpet Shears: For trimming fine edges.

Carpet Kicker: For tightening turf and removing wrinkles.

Leaf Blower: For cleaning up surrounding area.

Shop Vac: For clean up.

Tape Measure: For measuring.

Seed Spreader: (optional) for spreading sand infill



Materials Required

The materials required to install a PolyTurf® lawn are few and simple. Always use the recommended materials to ensure a satisfactory installation.

Crushed Miscellaneous Base: To provide a firm but porous underlay. This product compacts well (95% compacting) and has a good feel under the turf....or

Class 2 Base: (permeable $\frac{3}{4}$ ") A coarser underlay which provides better drainage where this may be required. Not recommended under the "No-Fill" lawns which have excellent surface drainage anyway.

Silica Sand: Used as an infill material to minimize flattening and hold the turf down on the underlay.....or

Crumb Rubber Granules: 14-20 mesh SBR Rubber granules used to provide a resilient infill for softer impact and improved traction as well as to reduce flattening.

Seam Tape: A wide tape used to join the seams on larger areas, or where a repair is necessary.

Seam Glue: The adhesive recommended for use with the seam tape. 3M 1059 Rubber and Gasket Adhesive or similar is suitable.

Nails 1: Used to pin down the turf on sloping areas. Typically a 6" to 10" galvanized (60D) common nail is used. Not recommended for use on sports fields or for areas with a high level of activity. (In case nails work loose and become a potential hazard).

Nails 2: Smaller nails used to hold down the outer edges of the turf around the perimeter. The turf is nailed down to a perimeter edging board. Typically galvanized roofing nails can be used.

Edging Board: 2x4's or 2x6's laid around the perimeter of the installation flush with the underlay to nail the outer edges of the turf to prevent creep or curling. Use plastic lumber when available or redwood for rot resistance.

Rubber Underlay: (optional) Continuous Roll or sectional rubber matting laid on top of the substrate or underlay to provide a cushioning effect where "No-Fill" turf is used. The thickness can be varied to provide the required "Fall Height" protection.

Underlay Adhesive: The adhesive recommended for gluing the "No-Fill" turf onto the Rubber Underlay.

Sprinkler System Caps: To cap the sprinkler system when the heads are removed and the system shut off.



Site Preparation

The preparation of the surface will vary depending upon use and drainage requirements.

Generally, “Filled” lawns will require better sub-strate drainage than will “No-fill” lawns because of the tendency of the fill to retain water, and because “Filled” turf is generally used on level areas rather than naturally draining slopes. When using infill on sloping areas, there is a tendency for the infill material to be washed downhill over time, where it will need to be collected and re-distributed.

Typically, the following procedure is employed.

Removal of existing surface: The existing grass or loose topsoil is to be removed and disposed of, down to undisturbed earth. Where the topsoil is reasonably compacted it can be left. The reason is, that the sub-strate needs to be firm so that it doesn't move around under the turf, creating humps and valleys, or collecting drainage water.

Sub-strate: The existing sub-strate of soil, sand, gravel etc., is to be raked and leveled to the required contours, and any protruding large rocks, roots or litter removed. Use a compactor to pack the surface firmly enough – ideally to 95% compaction - so that it will not move around under the turf under normal use.

Perimeter Edging Board: Lay 2x4's or 2x6's around the perimeter of the area to nail the outer edges of the turf to. Preferably use recycled plastic lumber substitute because it won't rot and nails will hold well in it. Cut it into small sections to go around curved edges, filling in the gaps with the underlay material. Lay it so that the top surface is level with the adjacent areas or curbs. Where the perimeter of the turf area abuts flower beds and is curved, “Bend-a-Board” can be used to define the area, and the edging board laid close to it.

Sub-Base: 95% Compacted CMB (Crushed Misc. Base) or DG and a **weed blanket.**



Depending upon the composition and condition of the sub-strate, some underlay material may be required. For example, if the sub-strate is clay or extremely hard, packed soil, it will not drain on a level surface. A layer of Decomposed Granite or Class 2 Base (gravel) will need to be laid down and compacted to provide drainage. The amount (depth) of underlay, and the material used will depend on local conditions. Typically 3” of Class 2 Base will suffice. Around the perimeter, the substrate should be dug out to a depth of about 12” and for 12” in and then backfilled with the underlay material to provide a drainage sump. Use the underlay material to bring the level of the surface up to the level of edging boards, adjacent surfaces and curbs as required. (See diagram in Turf Installation section) Make Sure to compact to 95%.

Sprinkler System: Turn the system off at the source and remove the sprinkler heads. Cap the pipes

NOTE:

If you have any doubts or questions concerning the appropriate materials or amounts to be used, please call the PolyTurf office at (949) 551-1606 for

Turf Installation

There are two basic systems for PolyTurf® synthetic turf. There is the “Infill” system which requires, or is improved by, an infill material such as silica sand or crumb rubber granules to provide a cushion, help prevent the strands from flattening, and to hold the turf down. This infill material is spread after the turf is installed. Then there is the “No Fill” system which does not require an infill material because the strands are made of a non-directional material which stands up straighter and resists flattening.

The infill system is suitable for use on reasonably flat areas and for sports surfaces where impact absorption is desirable, but “No Fill” is preferable on sloping surfaces or where the installation is for purely visual effect only and does not have any traffic on it.

On a sloping surface, infill material may be washed down over time and will then need to be collected and redistributed. Neither is it suitable around pools where the material may get scattered into the pool area, or the pool itself.

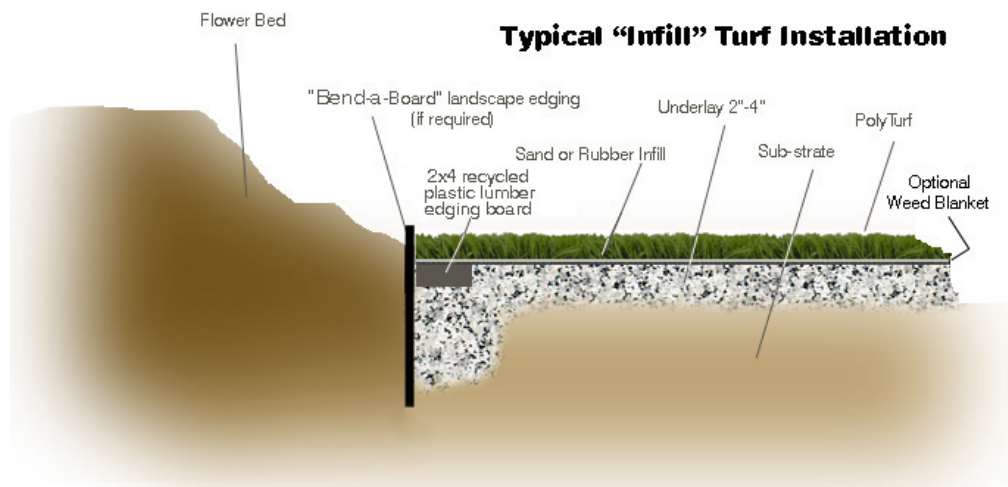
Infill Style

With the underlay prepared, the edging board in place and the entire area compacted and tamped smooth and firm, work out your lawn layout.

Keep the layout as simple as possible, with as few seams as possible. Measure the width of the roll of turf. Check your roll and see if it comes with a border of fabric along one or both edges extending a couple of inches beyond the last row of turf. This border will have to be trimmed off with a carpet knife between the last row of turf tufts and the next one in. When you know the width of a roll decide which way you will run it out on your lawn area.

Turf that is directional is best viewed against the grain, that is, with the grass bending towards you. The turf lays down across the roll, along the line of the stitching, so, if you wanted the best view to be from your living room windows, you would lay the turf out by rolling from left to right or right to left across the front of your windows.

With non-directional turf it doesn't matter which way you lay it.



- 1) If you have room close by, roll the turf out to the length of your first strip. If you can work off your new lawn surface it will avoid disturbing your newly leveled and tamped surface.
- 2) Using the carpet knife, cut off the length of your first strip.
- 3) If the turf has a fabric border still attached, trim it off between the first and second row of stitching. Work from the back so you can see what you're doing.
- 4) Roll it up again and carry the roll onto the new lawn surface. Place the roll at the end of your first row and carefully roll it out without disturbing your underlay.
- 5) Move it into position, pull it tight, and trim around any shrubs, trees, paths etc with the carpet knife or shears. Don't trim it too close at this point, you need to leave some material to trim off if necessary when the turf is nailed down and stretched.
- 6) Allow it to relax for an hour or more in the warm sun before carrying on. In the meantime you can measure and cut your next strip of turf, trim the border and fit it around any obstacles.
- 7) Starting in a corner, nail the edge of the turf to the edging board with the galvanized roofing nails. Work across the end first, pulling the turf tight as you go. Leave about 18" at the end un-nailed.
- 8) With the end secure, pull the turf tight lengthways, using the carpet kicker to help pull it out, then nail it down along the edging board lengthways.
- 9) Nail across the other end, pulling it tight and again leave about 18" free at the end.
- 10) Place the second row of turf beside the first one, positioning it so the edges just touch with no overlap.
- 11) Pull one end tight across the roll and nail the centre part to the edging board, leaving 18" at each end.
- 12) Pull the strip tight, again using the carpet kicker if necessary and nail the other end the same way, making sure the long edges are still just touching.



13) Repeat this procedure until your lawn is complete.

14) Return to the first strip and fold the long edge back about 18" (which is why you didn't nail the end!) Then fold the second, adjacent strip back 18" also.

15) Lay a strip of carpet tape - typically about 12" wide - the length of the strips and centered between them. Nail the ends down to the underlay so it doesn't move around as you apply the adhesive.

16) Apply the adhesive to the strip according to the instructions on the container.

17) With someone at each end, holding the strip tight, lay the first strip down onto the carpet tape. Press it down. Lay the second strip down the same way.

18) Nail the ends down, 12" to 18" apart.

19) Repeat this process for the entire area.

20) Now take the power carpet brush and brush the entire area to raise the strands, and fluff them up.

21) Starting in one corner, distribute the infill material with a shovel onto the turf. Place it to approximately the required depth as you go so you don't flatten the turf again as you walk on it.

22) Have one person spread and distribute the infill while a second person uses the stiff yard brush to work it down into the turf. The brushing action will keep the tufts upright as the infill settles to the bottom. Keep adding material until you are satisfied with the amount in place, then move on.



- 23) When the entire area is filled and brushed in, you're done, and you have a beautiful, long lasting lawn that you can enjoy without having to water, weed or cut.
- 24) Save any pieces left over in case you have to repair a damaged area in the future.

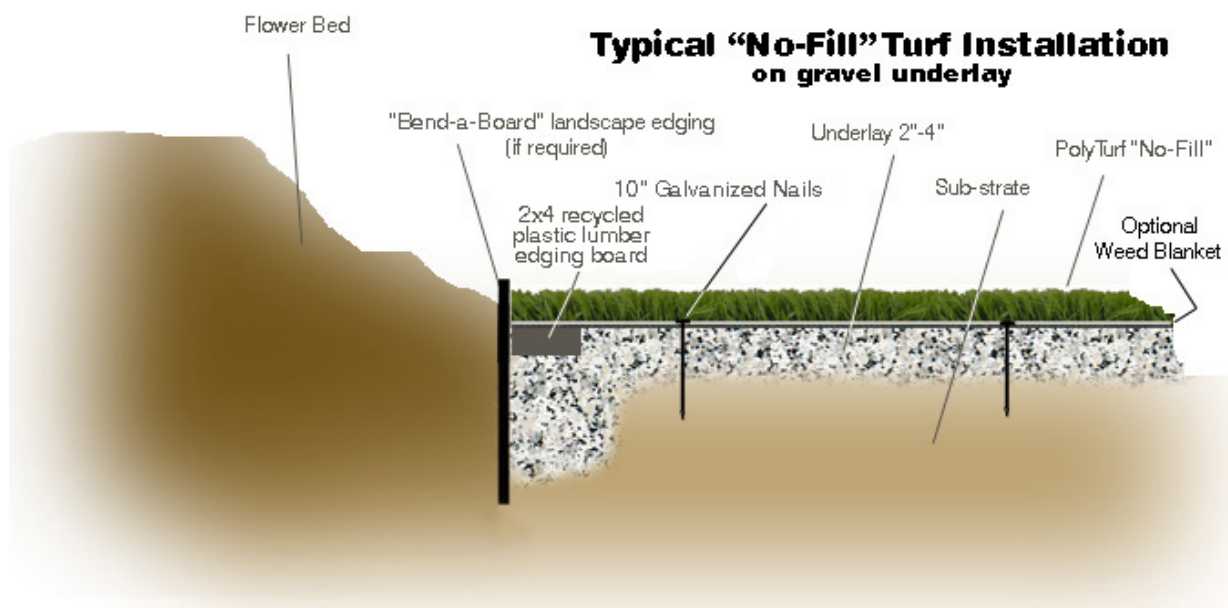
No Infill Style

No Infill turf is an excellent choice where:

- a) The area is steeply sloped, because infill material can be washed down by rain and traffic.
- b) The use is primarily visual with little or no traffic on it.
- c) Around pools where infill scattering would be undesirable.
- d) On rooftops or balconies
- e) Areas where small children will play.

On a CMB (Crushed Misc. Base) 95% compacted substrate

No Infill turf can be used over a compacted surface. It is too light to stay in place by itself, so it needs to be nailed down using long, galvanized nails. On an infill lawn, the infill and perimeter nailing holds it in place.



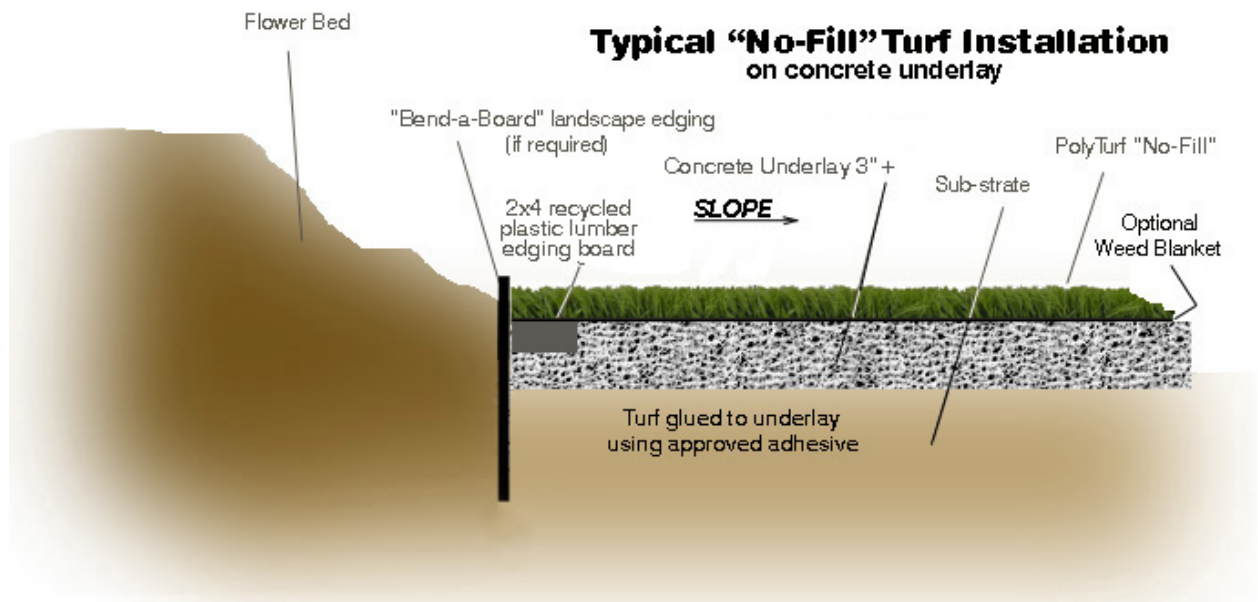
Installation is similar to the previously described "Infill" method, except of course, that no infill material is added. Nails are used about 12" to 15" apart, placed as much as possible between tufts so that they are invisible.

NOTE:

Whenever nails are used to hold down turf, they should be checked from time to time to make sure they are not working out as a result of traffic, earth movement or other causes. Protruding nails can be a potential hazard to people and animals, so drive them back in if they stick their heads up!

On concrete substrate

“No Fill” turf may be applied directly onto a concrete surface. This is not a desirable method where people will be walking or playing on it, however it is excellent when the requirement is for a purely visual installation. The concrete should have some slope to it, in which case the area will be self draining and quick drying since the turf will not retain moisture for long.



Installation is similar to the “Infill” method with a couple of exceptions.

- a) No infill is used at all.
- b) The material is glued to the concrete so no seam taping is necessary.

The procedure is modified as follows:

- 1) Stretch the first row as described, but just nail it down the long edge.
- 2) Mark along the outer edge of the row with chalk or spray paint and then fold the entire row back out of the way.
- 3) Spread the recommended adhesive onto the concrete as per the instructions on the container.
- 4) Holding the outer corners at each end, pull it tight and lay it down onto the wet adhesive.
- 5) It may be helpful to have someone in the center to lay the center down first while the ends are held clear, then work towards the ends, smoothing the turf as you go.
- 6) If the row is too long to do this easily, it may be preferable to roll it up and lift it clear rather than folding it, then it can be unrolled and stretched as you go rather than lifted as just described.

- 7) For the second, and subsequent rows, place the row so the edges are just touching, then fold back the adjacent edge about half way.
- 8) Apply the adhesive and then replace the folded back portion, working from the centre and smoothing it as you go.
- 9) Fold back the remainder, apply the adhesive, then replace the folded back portion.
- 10) Always work from the center to avoid wrinkles that will be hard to work out.

On rubber matting substrate

“No Fill” is ideal for use in play areas like playgrounds or around pools. There is no infill to get in children’s’ clothes or ears, or to contaminate the pool. An important aspect of play areas is that the surface be resilient, so that if children fall, they won’t injure themselves. The degree of resilience is called “Fall Height” and government regulations are quite specific about desirable fall heights in public play areas.

To provide adequate resilience, rubber matting can be installed under the turf. Matting can be:

- a) Sectional mats which are laid down end to end and side to side
- b) Continuous roll, just like the turf
- c) Poured in place using a mixture of recycled rubber buffings and/or crumb and urethane binder.

Thicknesses vary from 1/4” to 3/4” for mats and roll, and as thick as you like for Pour-in-Place.

Installation is similar to the concrete method with the additional requirement of laying the rubber underlay.

Laying rubber mats, whether continuous or sectional is straight-forward. If they are laid on a CMB or earth sub-strate they need to be nailed down with a weed blanket underneath as we described in the “**No Fill” turf on CMB substrate**” method. If on concrete, glue them down as described in the “**No Fill” turf on concrete substrate**” method.

Then proceed to glue the turf down onto the rubber underlay as previously described.

If you choose to lay down a thicker, Poured-in-Place underlay, please call the office at (949) 551-4696 and discuss the method with our installation specialists.

The procedure requires careful control regarding mixtures, temperatures, safety considerations and methodology and is treated as a separate project.

Some DO's and DON'Ts

DO: Measure twice, cut once!

DO: Ask our installation experts if you aren't sure about something.

DON'T: Use non-approved materials and adhesives.

DON'T: Try to move heavy rolls of turf yourself – get help.

DON'T: Throw cut-offs and scraps away. you might need them for repairs.

Putting Greens

Putting Greens are laid in the same manner as lawns with extra care being taken when preparing the sub-base to ensure that the green is level and only has raises and slopes where the owner wants them. Typically the sub-base is leveled and compacted first, then patches of crumb rubber are laid on top and raked to provide the required slope or hump.



Lay down the sub-base and compact it to 95%



Use masking tape to outline the area of the green.



Dig out the hole for the cup.



Place the cup in the hole and secure with cement.



Level with sub-base.



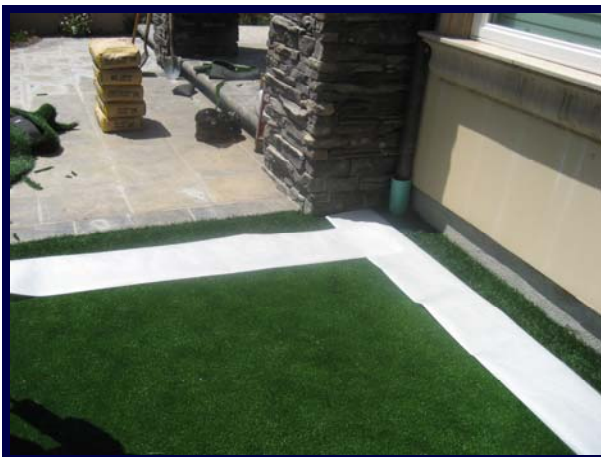
Lay down the turf, starting in one corner.



Trim to the masking tape lines and join the pieces with seam tape and PL400 Liquid Nail adhesive.



Lay the lawn turf on the border area and trim to fit. Take your time and be accurate!

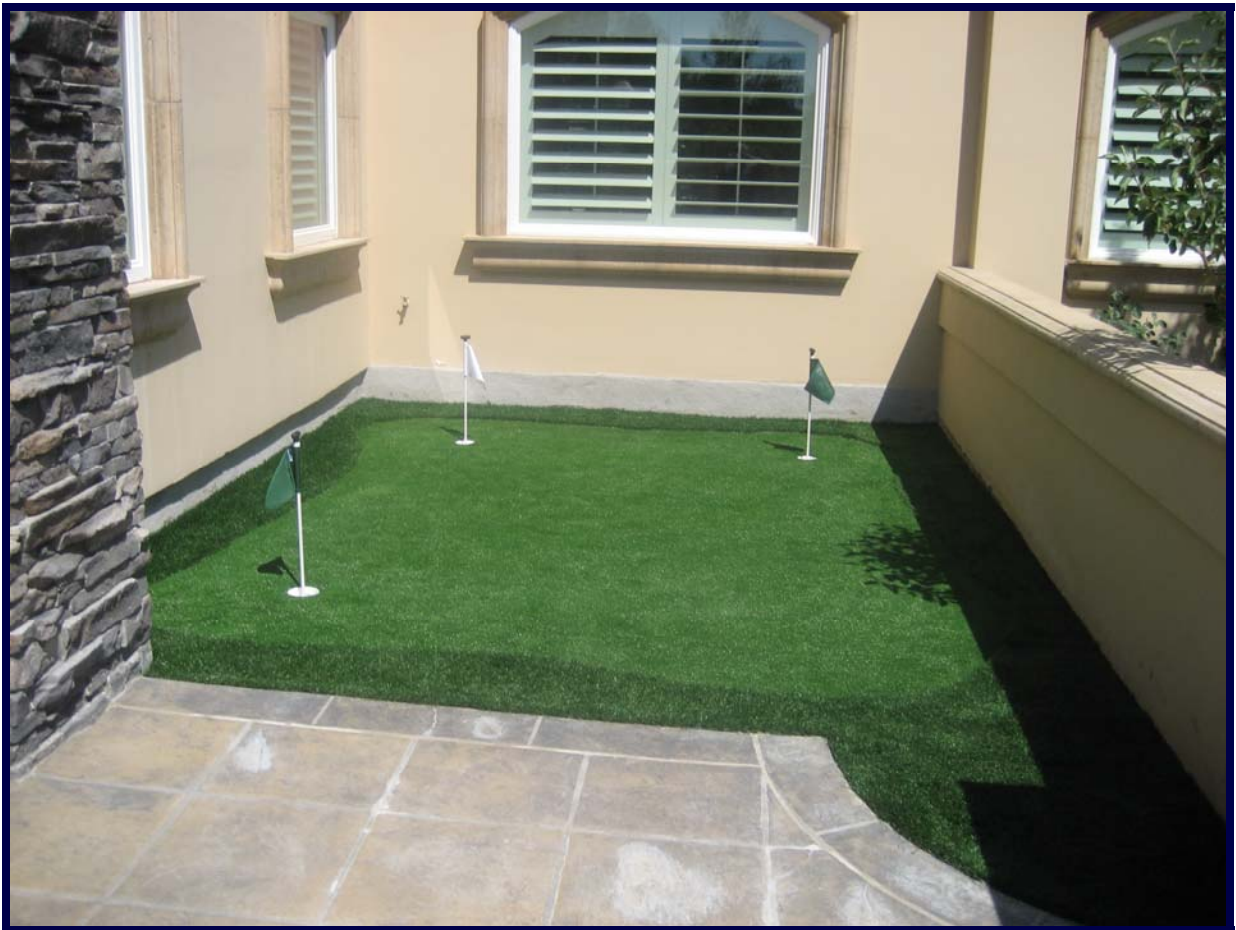


Lay down Seam tape on top of all the seams and trim to length.

Once the tape is all trimmed, lift the putting green grass up and put it back down on top of the tape. Then raise the border turf and lay it down on top of the tape. Starting in one corner, fold the putting green turf back to expose the tape and spread an even coat of the PL400 Liquid Nail adhesive onto the tape. Carefully lay the turf back down onto the tape and pat it down. Once the green is glued down, do the same with the border, making sure the edges meet without gaps or overlaps. Locate the cups and cut the turf away flush with the edge of the cups.



Secure the turf along the edges and around the cups with turf nails to prevent movement, then pour the infill sand onto the green area and spread it and rake or brush it to make sure you have an even, consistent fill.



Put the flags in the cups and your Putting Green is finished.

Maintenance

PolyTurf® lawns require very little maintenance. Occasional washing with a garden hose will freshen it up and remove any dust. Use a blower or light lawn rake to remove leaves, and pull any small weeds that may have grown from air borne seeds landing in the sand infill.

Try to remove pet poops as soon as possible.

As a general cleaner if the lawn becomes stained, use Simple Green or a similar product, and CLR for water oxidation from nearby sprinkler systems. Just apply them to the problem areas, wait a few minutes and rinse them off.

Repairs

It's always a good idea to keep the scraps left over from your original installation. They can be used to patch any areas that become damaged. While the turf is highly resistant to most normal contaminants and normal use, strong acids or other chemicals can discolor it, and sharp objects, vehicles, or vandals may damage it.

Small tears can be repaired by sewing the edges together if they are noticeable. Use a UV resistant and rot proof thread.

Larger areas may require the offending piece to be cut out and a new piece inserted.

Cut out the damaged piece, straight edges are easier, but curved, random sides will be less noticeable. If you do random shaped cutouts, place the cutout piece on a piece of newsprint or other paper and trace the outline on it. Then transfer the outline to a new piece of turf (on the back), making sure the turf is aligned the same way for directional grain turf.

Note: Make sure you transfer it the right way, you don't want a mirror image after you cut it out!

If the existing turf is just laid down on the underlay, use the seam tape in short sections to join the edges of the new piece to the existing one. Place adhesive on one side of the tape and slip it under the edge of the existing turf. Do this all around the edge.

Spread adhesive on the exposed tape and carefully place the new piece into position, pressing it down firmly onto the tape.

Fill the new turf to the same density as the surrounding turf with the infill material.

If the existing turf is glued to the substrate, then the tape is not necessary, just glue the new piece in place.

Warranty

WARRANTY

PolyTurf® warrants the materials:

for a period of eight (8) years from the date of purchase (original receipt required) against defects in materials and/or workmanship, including ultra-violet degradation or excessive fading.

PolyTurf® will repair or replace, as it deems necessary, those materials which exhibit such defects resulting from errors or deficiencies in materials or workmanship at no cost to the owner.

PolyTurf® does not warrant against normal wear and tear as determined by an independent laboratory specializing in artificial turf. PolyTurf® also does not warrant against damage caused by improper use, neglect, vandalism, fire, floods, change in water table, or other acts of God.

This Warranty applies only to the materials supplied by PolyTurf®, and not to problems or difficulties, defects or damage caused by or in connection with the installation of the product(s).

By_____

Date _____