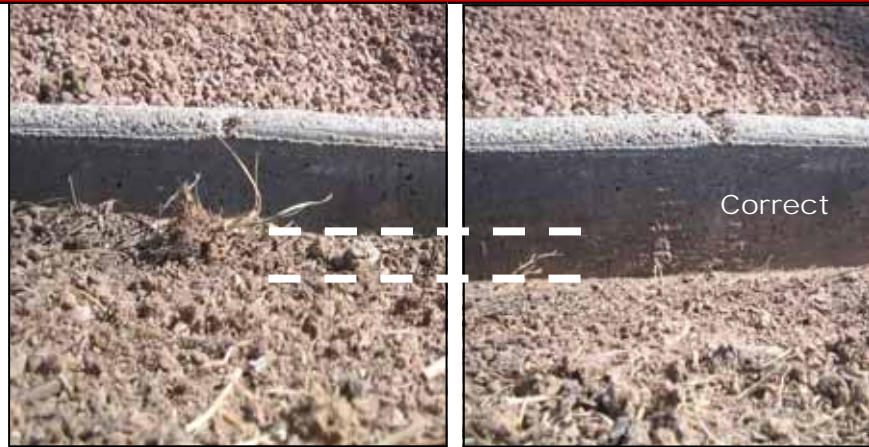


Finish Prepping Hard Edges

- Insure that all hard edges are cleaned to the proper depth (approximately 3 - 4 inches below grade). Root systems, especially those of aggressive plants, weeds and grasses like mint, bermuda grass or clover, should be removed.

The area may need to be treated to deter these root systems from sprouting in the future.

Use a pointed nose trowel or other hand tool and dig deeply against the hard edge— you should strive to achieve at least a 90 degree or greater angle where the native soil and hardscape meets.



Hard edges should be cleared of all debris. Aggressive weeds and grasses may need additional treatment prior to laying base materials.

Fabrics:

1st Layer OVER Native Soils

- Use of porous soil stabilizing, filter fabrics are recommended for all soil conditions. Fabrics are used to keep native soils from mixing, over time, with new base materials. The use of fabrics will also help to stabilize the installation, increase it's weigh-bearing capability and decrease the chance for rodent and burrowing insect infestations. Any type of long-wearing, porous (non-organic) fabric materials are appropriate, though construction grade materials are recommended. Use stainless staples or coated, galvanized nails to secure the fabrics to the ground.
- Fabrics should be installed over the entire area, extending past the outer perimeter by 4 to 6 inches. This extra fabric will be used later to fold over base at hard edges and protect edges from root, rodent and insect infestations. Fabric pieces should overlap no less than 6 inches, with the optimal overlap being 12 inches for heavy weight load bearing areas. Insure there are NO wrinkles and that the fabrics overlap to allow water to drain over the materials, down slope, as if they were roofing tiles.

Secure Fabrics at Edges & Seams



This front lawn project slopes away from the home and foundation. Water will shed appropriately, down slope, as it has for years.

A downspout, at the far left of the home does, however, drain out on the surface and additional, underground drain pipes are not the answer.

Special Note About Fabrics

- Porous fabric materials are available in many styles and you can use different grades (styles) depending upon the project specifications.
- Various drainage and edge treatments benefit from the use of more than one type or layer of fabrics. Basic installations generally require one layer of fabric, installed directly OVER native soils (as above).
- Fabrics should provide horizontal stability and should be rated to perform for over 15 years (some may be as high as 40+).
- If your installation will bear heavy loads (parking boat, RV or vehicles), always use materials approved for use on local roadways or railroad construction. The additional horizontal strength of the products help to insure that, even under extreme weather conditions, your drive or parking area can distribute the weight load of your vehicle over the entire surface.



To enhance erosion control and properly engineer the site for optimal drainage, fabrics are installed much like any roofing material, overlapping layers.

Starting from the bottom of the slope, fabrics should overlap each other and outer hard edges by a minimum of 6 inches. "Staple" edges tightly against hardscape and across the width of fabrics; smooth wrinkles.

Your local Corp of Engineers or building exchange can provide local standards.

Base Materials Selection

A standard practice for installation over well-draining soil requires a minimum of 2 inches* of compactable base materials. Most installations will benefit from a minimum of 3 inches of compactable base materials.



On sloping areas, start importing base materials at the bottom of the slope and work your way up the slope, feathering products as you go.

Add materials from the back to the front, slowly; feather the materials evenly over the site using a large asphalt or landscape rake. Do not walk into the un-compacted base materials until you are walking **behind** compaction equipment.

- Appropriate materials include compactable crushed aggregates such as:
 - **Road base** - 3/8 to 3/4 inch gravel with quarry fines (use a minimum of 3 inches for proper compaction).
 - **Decomposed granite** (DG=1/4 inch + fines) a minimum depth of 2 inches, 3 inches are recommended for proper compaction. Elevations (lifts) of 4 or more inches of DG over clay soils in damp climates is not advised due to water retention of native soils; areas can be prone to sinking & saturation.
 - Some forms of course fines and other compactable gravel and quarry fine combinations may also be appropriate; check with local suppliers for alternatives.
- NOTE: Poorly draining soils may require additional excavation and use of both drain rock and compactable base materials installed in layers to achieve acceptable percolation. (see example illustration, Page 5-14)
- Over clay soil - excavate to allow for at least 4 inches of base (in some cases, 6 to 8 inches of newly imported base layers may be needed).
 - Use a highly porous fabric over native soils which have been graded to optimize watershed away from foundations and concrete pads, pools, etc. (Check local CC&R for restrictions or specifications for your area).
 - Add drain rock on top of porous fabrics to fill any swale or culvert to level. (minimum of two inches is recommended). Compact the materials using a landscape roller or hand-tamper.
 - Dress area with another layer of highly porous fabric. This step is critical to insure that the upper layers of crushed aggregate materials do not contaminate the drain rock layers, below, with fines (silt), over time.
 - Add compactable aggregate materials (minimum of 2 inches) and compact area to desired final grade and shape.

Course Road Base (3/4 inch gravel) with Quarry Fines



Decomposed Granite Or Crushed Granite (1/4 inch gravel) w/ Quarry Fines

Drain Rock 1/2 to 1.5 inch (clean)



Tips on Importing Base Materials Onto Site

- After your fabrics are installed, begin to drop wheel barrow loads of materials at the farthest point of the installation. Drop loads from the back towards the front of the installation so you won't have to travel over the base materials after they are floated.
- Loads should be overlapped and then feathered into each other as soon as the materials are dropped to help maintain even material depths. For best results, do not stand or travel over base materials until they are compacted!
- Use a wide (40 inch) landscape or asphalt material rake to spread and feather the base materials into each other at the desired depth. Use the flat side of the rake, not the tines, so that you do not separate the aggregates while spreading. Base material loads need to be dumped close to each other and you will want to check the depth of the materials regularly.
- Materials compact at different rates due to the material's size, fines, moisture content, and conditions. After primary compaction, always check your hard edges to make sure you have enough, and yet not too much, base material in place. Most 2 inch, infilled, synthetic grass systems look best when the base materials (at hard edges) are compacted to within 1 to 3/4 inches of the finished height of the hard edge. Any lower than this and the finished grade of the lawn will appear sunken and somewhat unnatural, as if it has "collapsed" or dropped, (see example illustration top of Page 2-14).

Compacting Base Materials

- Use of either manual compaction or more aggressive compaction equipment is determined by site conditions, size of area and desired compaction. Water-filled landscape rollers (static rollers) are best when compacting finer materials, especially while trying to achieve rolling shapes; gas-powered vibrating plate compactors are best when used on 3 or more inches of materials and flatter areas. Prior to compacting, you may need to lightly dampen the surfaces with a water mist.
- Compaction should occur at no greater than 4 inch intervals (lifts) or at each separate layer of materials imported into the site to create elevation. If the base materials are too shallow (2 inch or less for some materials) you may see the base “crack” under compaction. Add additional base and feather materials, compact the area, again.
- Compact materials to approximately 95 percent standard Proctor density (generally, you will not see footprints or other indentations on the surfaces when properly compacted). For typical walkways, patios and lawn areas a depth of 3 to 6 inches of compacted material is suitable. For driveways and heavy loads, an 8 to 12 inch depth of base, over soil stabilizing materials is optimal. It is critical to smooth the base surface to insure there are no dents or ruts in the surface. Rough surfaces under the turf will look unsightly and may create problems with seaming, infill or drainage.
 - Do not focus compaction in one area. **Always compact the entire surface, one pass at a time, until desired results are achieved.**
 - After two or three passes with your compactor - you may want to relieve ruts and bumps by raking or brushing the surfaces with a stiff broom and re-compacting.
- Compact edges last, after larger equipment has set the compaction through the main area. Always compact the edges by hand tamping using either a mallet and solid piece of wood and/or a hand tamper. Remove any extra base materials to achieve a clean outer perimeter edge. If needed, dampen the base materials with a light sprinkling of water and then compact.
- Clean up the compacted base edges with a trowel before turf installation, for best results. At all hard edges, base materials should be set to a 90 degree angle. Clear away any extra base and spread it into the main areas or remove altogether - gently compact the area, again.



Hand tamp hard edges using a spare piece of 2 x 4 wood and rubber mallet. This helps to set final level and insure a clean edge.



Clean up the area and remove any unwanted base materials from under fabrics and around the immediate installation site.

Wash off all surfaces so that dusts from base and soils will not contaminate the grass surfaces during the remaining installation steps.

Smaller areas, gentle slopes and final grades that are crowned or rolling may be completed with a final layer of decomposed granite or 1/4 crushed aggregate with fines to adjust the height, if needed.

This softer, smoother base material will help fill in ruts and other anomalies in the surface. Compact area using a water-filled landscape roller.

Vibrating plate compactors are great for compacting road base in depths of 3 to 4 inch or more. They tend to be too aggressive and heavy for the final compaction of finer base materials.



Prepping Turf Materials for Lay-down

Each grass product requires a different amount of "fluffing" which is called de-fibrillating. For smaller installations, it's best to de-fibrillate prior to seaming and infilling the surfaces while the turf is still in larger pieces. This action helps the grass blades stand upright and for many yarn styles, it adds volume and texture. It is often easiest to de-fibrillate grass materials on flat, hard surfaces before they are laid and seamed. Upright blades accept the infill more evenly and make raking in the remainder of materials easier.

To manually bloom synthetic grass, you can use a "shag" carpet rake, with a head much like a comb. The deep pile carpet rakes dig deep into the fibers and pick them up from under the weight of the infill. Stiff, synthetic bristle brooms can also be used; however they are less effective and may make the infill process take longer.

Use of wire or metal brush tools are discouraged as they break down the blades, making them weaker, frayed and prone to failure. You may find that use of wire or metal brushes for installation or grooming may void your warranty!

Power equipment, such as hand-held or walk-behind power brushes, (concrete or asphalt cleaners, shown to the right), are great for lifting the rolled turf blades up from their compressed, laid-down position.



CAUTION! Only Use Synthetic Bristle Brushes - Never USE Metal or Wire Brushes!

Prepping Turf Edges For Lay-down & Seaming

Landscape projects that use more than one piece of turf are seamed together. ASGI recommends cutting off the 3 to 4 inch piece of backing material at the outer edges (left and right sides) of the new synthetic grass, to get it out of the way before you lay down your turf. This material is called **salvage** and would be used only if the turf pieces were to be seamed together by sewing.

Before cutting, check the backing of the synthetic grass and determine if the first lines of stitches are well coated with urethane.

If you see that the stitches, along any part of the first lines are NOT coated, cut these lines of stitches off as well. Uncoated stitches can be easily pulled out of the turf and make your seam visible and weak (prone to turf bind failure).

NOTE: Some synthetic grasses are now available with two pile heights and textures of yarn. They may require several rows of blades to be cut off before you can set the seam properly. If two rows of like fibers are close together at a seam line, the seam will show dramatically. Experiment with a couple test pieces before committing to a seaming strategy for your project plan.

You can lay out the turf materials on their facing side and cut off the salvage with a sharp sheet rock blade & knife set. The materials you have cut off can be set aside as waste for disposal later.

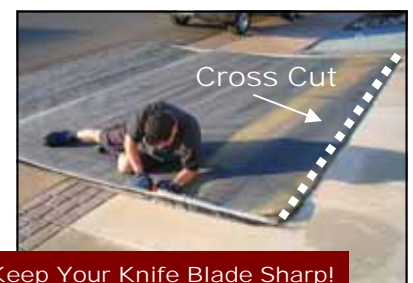
It is also a good time to check the CROSS cuts of the synthetic grass materials to insure that they are straight and plum to the outer edges. Cross cuts that are uneven can make butt-fit seams difficult to achieve. Re-cut any obvious edges that are not trimmed cleanly before seaming.



Salvage

Cut OFF salvage along with any weak, uncoated lines of stitches.

Cut close to the stitch line, however, leave no less than 1/8th inch backing or you will weaken the 1st line of stitches!



Always Keep Your Knife Blade Sharp!

Laying Down Turf

Lay the largest piece of grass first. Make adjustments to its location and angle to optimize the use of materials. Set the direction of the grass' grain* to optimize the color of the synthetic grass. Lay down the next piece of grass, against the first so that your largest pieces are in place. Shift turf pieces to optimize the coverage and insure that the grain of the turf is correctly set; **IN THE SAME DIRECTION.**

The direction of the turf material's grain may affect the color tone and saturation from the viewer's point of orientation. The optimum way to set down the turf to get the most out of the color differences are as follows:

1. To heighten and show the deepest color to the road on a front lawn - point the grain towards the road or the driveway.
2. To heighten and show the deepest color to the viewer in a backyard or courtyard setting, point the grain towards the area's entrances and seating areas.

At times, grass materials are too wide or large to fit in place and lay flat. The grasses become bulky and hard to work with. Simply fold the unwanted materials away from the obstruction. In the photo above, you can see how the turf has been folded in several layers to help it lie flat while seaming or fitting is being done. Don't hesitate to cut off surplus materials to get them out of your way, leaving enough spare materials to trim off for a tight fit later.



Seaming Recommendations ...

Make sure that you cut your turf cleanly and straight to help materials fit together easily, with little need for adjustments. Use a straight edge and T or 90 degree angle to insure that your cuts are plum when cutting across the stitch lines. **KEEP YOUR KNIFE BLADE SHARP AT ALL TIMES!**

Set materials to be seamed equal distance apart to the gauge of the stitch rows.

ALWAYS place the two largest pieces of turf and complete this **INLINE** seam, first. The placement of turf and this seam will set the tone for the remaining seams and position of turf. Complete the next inline seam with the next largest piece of turf until all large, inline seams are complete.

ALWAYS complete inline seams before completing any butt-fit (cross) seams.

This will ensure that your turf will lay flat, your pieces will align and the seams will be true.

Done well, seams, after securing, will disappear when the blades are brushed up and surfaces infilled with top dressing (infill) materials.

If you can see a "seam line" prior to infilling, you should consider resetting it properly.

Always use seaming materials! They help keep out weeds at the seam lines and add additional horizontal stability to the seam, itself. Most contact adhesives used for acrylics and polymers work well with synthetic turf. Some fabric backed turf materials recommend Velcro® strips.

Adhesives can create challenges in cold or wet climates; as an alternative, use "tacks". A coated 3.5 inch nail, set every 4 to 6 inches on both sides of the seam line will hold it in place for the average lawn or landscape project. Jute staples are not recommended for seaming tacks because they can pucker turf materials on the seam line, creating buckles and dents in the surfaces.

On slopes of greater than 5-10 degrees, use longer tacks, 6 to 8 inch sinkers, across the uphill edge. Add a quilted pattern of tacks throughout the entire face of the installation. The tacks across the top and quilted through the face of the surfaces keep the synthetic grass in place.



There are two general types of seams

Inline Seam (above) - using the edges of the turf, the materials are seamed together, parallel, side to side.

Butt-fit or Cross Seam (below) - using the ends of the turf, rows of stitches are matched up and seamed, perpendicular, top to bottom.



Trimming the Turf to Fit

Straight, hard edges

- Once all your seams are secure - then you can confidently begin to trim the grasses on the outer edges to fit the final design.
- NEVER cut the grasses before completing all large seams - if you have cut the outer edge and then you need to move the grass piece to correct a poorly placed seam, the grass may no longer fit to your edges and will need additional attention to correct.
- A china marker or silver felt pen can be a helpful tool to mark the backing where cuts will be. We recommend that you cut the grass on the hard edges, from the back. Curl the edges of the turf over to expose the backing and then mark the cut. Using a sharp blade, cut slowly along your mark, checking that your cut is true every few inches.

You can always cut off extra turf prior to trimming to fit edges. Simply cut on top of the turf, leaving yourself a few inches to trim off to fit.

Curved, hard edges

- If you are cutting around radial edges or other shapes, cut in "relief" to help you have full flexibility in handling the turf while trimming hard to reach edges.
 - Relief cuts should be done as cleanly as possible - cut slowly, and use as few cuts as possible to allow turf to lay flat.
 - We recommend using either a T or H shaped cut to provide relief around upright obstacles such as trees, bushes, and light posts.
 - It can be very frustrating to try to cut a "hole" in the middle of the turf to allow a rock or other obstacle to "poke" through for finishing. Though possible to do, cutting holes in the middle of the turf should be done slowly, starting at the center point and radiating outwards (like a pizza is cut). Take care to insure you don't over cut and have to fit in patches or do minor repairs. Cut down rows of stitches where possible and careful cut across the grain, so you don't damage too many of the blades. A straight cut that is too long can always be seamed back together.

Again, you will want to clean up the job site.

This time, focus on removing the loose turf blades and scraps of materials left over from cutting and trimming. Using a leaf blower or broom, sweep all the blades off the area and use a shop vac to remove.

Using RELIEF cuts to fit turf around curved edges can eliminate challenges of cutting mistakes and the time it takes to re-trim poorly cut edges.

To make a relief cut - start by folding the edge of the materials snugly against the hard element. Pierce the backing and cut through to the end of the material. Cut relief every 4 to 6 inches or as needed to fit turf around an edge or obstacle.



Fit materials to edge



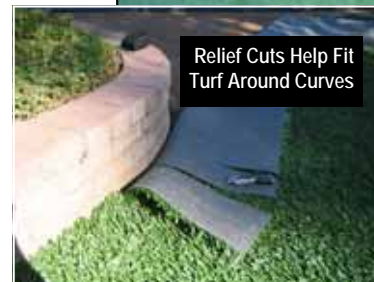
Mark cut line



Carefully, slowly cut on your marks



Check cut and fit and remove waste



Relief Cuts Help Fit Turf Around Curves



Infilling the Turf

Every turf system benefits from using infill materials. It provides ballast (weight) to hold the turf in place and covers the backing and bottom of the turf blades to provide additional UV protection, overall. Infill the area using a DROP spreader. Broadcast spreaders or attempting to infill by hand with buckets, etc, can create uneven infill across the surface. Uneven infill will make the surfaces look rough and they will feel uneven, underfoot.



- Fill the drop spreader with materials and begin infilling at a logical spot so that you can easily walk a path around the entire site without over lapping during infill. It is important to set the spreader to the heaviest application of materials, and walk slowly and evenly.

Each drop spreader has marks indicating the width of the drop pattern. Pay close attention to applying the infill without overlapping!



- Once you have applied a coating or two of infill - use the rake to work the infill into the blades, using short, quick strokes. Long strokes seem to do little to work the infill down to the backing and generally send more infill flying into space, wasting materials and increasing clean-up.

Once the first layers of infill are raked in, you can continue to infill, using the amount of infill appropriate for your grass system, site conditions and use. Every few trips across the surface will require raking the infill down. Additional raking may be required to even out the infill materials.



See Page 14-14 for general comments about infill materials and specifications for turf by blade height and use. Typically, to insure proper weight on top of the turf to provide adequate resiliency and turf blade UV screening, you will fill the blades 2/3rds to 3/4 of the total blade length for lawn and landscape applications. (Approximately 4 to 5 pounds of 12-20 mesh infill materials for a turf with a 2 inch pile height)

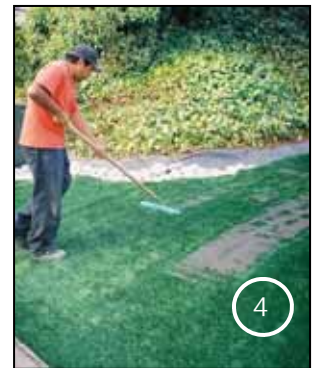
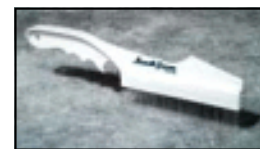
Newer turf products that are double-tufted with two heights of blades may require less infill to achieve the same look and feel. All grass materials benefit from some amount of infill - double-tufted blade styles benefit from the weight distributed across the surfaces to help provide ballast which will help shape and hold the grass to the ground.



- Hand fill the edges of the synthetic grasses. Attention to detail around the edges make a huge difference to the finished look and appearance.

- We suggest that any rocks or trim materials used to cover edges of grasses be laid in place prior to infilling edges.

- Hand-fill the edges, slowly. Use a hand tool, (a brush or comb, NOT YOUR HANDS and FINGERS), to work the infill into the grass blades.



Hand tools can be a simple hair brush with nylon or poly blades, set wide apart, or a carpet comb tool (see photo at right). The long tines of the comb or brush help the infill to drop down to the bottom of the blades, easily.

Improperly infilled edges can create unsightly shadows and make the edges look un-natural. Too much infill left at the edges or under them, make the synthetic grass materials curl up and look unfinished.



Before you infill edges around rocks, pull the blades out from under the rock and away from the rocks' edge. This will make the rocks appear deeper or embossed into the surfaces (as shown in the photo, above), giving the impression that the synthetic grass blades are growing up around the rocks and trim. Infill to finish.

A flat-head shovel or dust pan comes in handy if you need to feather in more infill materials around the site. Distribute materials and then rake area.

Finishing the Synthetic Grass Installation

- Use grooming rakes or power brushes across the surfaces to even out infill
- A shop vac or leaf blower can be used to remove over-filled areas of extra infill materials
 - Clean up any extra infill and loose blades in gardens, etc
 - All turf is manufactured in runs of thousands of square feet at a time. Tufting, blade cutting and coating processes can often cause blade anomalies. The best way to handle blades that appear too long is to cut them with sharp scissors or shears.
 - Check along all edges and seams for uneven blade length; trim, with scissors, if needed.



Typically, synthetic grass pile heights used for lawn and landscaping can range from 1.25 to 2.5 inches; most lawn styles fall in the middle and average 1.5 to 2 inches in height. Higher blade height requires more infill and can achieve greater GMAX than shorter pile synthetic grass materials. (Most landscape and lawn applications DO NOT require the same GMAX (resiliency) as a fall zone safe area or sports field!) Synthetic grass height and the type of infill used is determined by your professional installer and the goals you have defined for your project.

Most synthetic grass and artificial turf materials are shipped in rolls that are 15 feet wide and can range from 25 to 100 feet long. Many finished turf products range from a low of 35040 ounces per square foot to over 60 ounces per square foot. The number of blades per SF and the pile weight, height and backing materials all make up the weight factor. Synthetic grass materials are extremely heavy in full rolls and require a forklift and carpet pole to safely handle. Rolled pieces of 25 linear feet or less can be safely handled by two workers, wearing back braces and using gloves. OSHA standards require safety equipment for all crew members handling materials on a synthetic grass job site.

Key Tools and Equipment List—many of these items can be rented!

Safety

- Rubberized and leather gloves in appropriate sizes – one each per worker
- Back Braces – one per worker
- Knee Guards – one set per worker
- Safety glasses – one per worker
- First-aid Kit – band aids, eye wash, tourniquet, sterile bandages and tape, pain reliever, etc
- Crazy Glue® or other (for small cuts)
- Safety cones for use on street for materials and equipment

Measuring

- 100 ft Flexible Tape Measures (2 or more)
- Snap line for marking long cuts of turf
- Hard-Edge Level – 2 to 4 foot (can also be used as straight edge for cutting small pieces of turf)
- Square or T-Square for squaring edges of turf

Site Preparation

- Construction-grade wheel barrows (2)
- Flat head shovels (2)
- Spades – Rounded head (2)
- Large Picks (2)
- Small Picks (1)
- Leaf rake (1 or 2)

Base Preparation

- Asphalt or landscape rake (40 inch) (1 or 2)

- Pointed Mason Trowels (small – 2) – used to clear and clean edges of concrete, etc
- Hand Tamers (8 or 10 inch – 2)
- Water filled roller (1 or 2)
- 2" x 1" x 2" Piece of Wood (2 or more) for hand tamping edges & small areas

Turf Cutting

- Commercial Quality Knives and Blades (one knife for each worker) Make sure you select a blade and knife set that is easily changeable and stock up on blades, keeping them dry in a water proof container (such as a Tupperware® type).

Infilling

- Drop spreaders
We recommend (for small jobs) using a small drop spreader (holds approx. 75 lbs of infill) or for larger areas, using a commercial drop spreader (holds approx. 200 lbs) or GANDY Corp.'s walk-behind or tow behind units.
- Installation and Grooming Rakes (poly-nylon) (2 to 4)
- Grooming Hand tools (poly-nylon) (2 to 4)

Materials Handling > 1000 SF

- Fork lift with forks and 15 foot carpet pole
- Bungee cords or rope for securing loads

Hand Tools

- Small Hand Shovel (2) – used to clear and clean around pipes and tight edges
- Hammers (2)
- Pliers (various sizes and shapes)
- Wrench and socket set (for small tool repairs and use in adjusting irrigation, etc)

- Sledge Hammer (medium to large)
- Rubber Mallets (2)
- Cement Chisel for removing extra concrete, rocks or other obstructions
- Pipe cutter (for modifications to irrigation)

Power Tools

- Power brush to fibrillate (bloom) blades
- Hand saw or power saw to cut bender board, pipes, other
- Leaf blower (for clean up of organic materials and job site areas)
- SOD Cutter (optional rental)
- Vibratory Plate Compactor (optional rental)

Misc. Tools

- Several small and large tarps
- Several small containers for used blades and small buckets for hand-filling, small tools and job materials
- Gas cans for both plain gas and mixes

Site Clean Up

- Water hose (100 ft) and Nozzle with variable heads
- Brooms (one soft bristle and one hard bristle)
- Small hand broom for rocks, edges, etc
- Shop vacuum (2 gallon to larger)

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Infill Ratios for Synthetic Grass Systems

can vary due to the synthetic grass stitch gauge, pile height, type and size of infill material and the use of the project area.

Infill is measured by the average size of the grain of material as it can pass through a sifting process at the quarry or packaging plant. Defined as “mesh” - landscape materials generally range from 24 to 30 mesh and putting green materials are normally 16 to 20 mesh.

Most lawn grasses will require enough infill to cover 50 to 75% of the blade height to provide adequate blade stability and to hide the backing and blade “root” from UV.

All synthetic lawn grass benefits from infill. it helps to keep the blades vertical & covers the backing to protect from UV.

Average Infill Ratio by Fiber Height:

Landscape Applications	2 inch	3 to 4 Lbs per SF*
	2.5 inch	4 to 5 Lbs per SF
Playfields - General Use	2 inch	4 to 6 Lbs per SF
	2.5 inch	5 to 7 Lbs per SF
Putting Greens	3/8 inch	2 Lbs per SF
	1.25 inch	3 to 4 Lbs per SF
Chipping	1.5 inch	2 to 3 Lbs per SF
	2 inch	4 to 6 Lbs per SF
TEE Areas	2.5 inch	8 to 10 Lbs per SF

Infill Materials In Use Today ...

Silica sand, crumbed rubber pellets, rubber, poly-olefin and acrylic coated granules are all used as infill materials. The quality of the infill material is critical. Uncoated silica sand and recycled crumbed rubber materials can break down quickly and may need to be refreshed, annually.

There are several materials that are completely wrong to use as infill. They are inappropriate due to the risk of exposure during handling for the installer, the potential for health risks from exposure by the consumer or the materials will create challenges with surface resiliency or drainage.

Coal, copper and nickel slag - the by-product of smelting, or super-heating various materials. Slag is a crushed material and is used as an abrasive in surfacing metals. As described by name, the slag starts as either coal, copper or nickel.

The material is made up of sharp sub-angular shards of glass-like grains that can cut and cause splinters in any flesh or get into eyes or respiratory system. Fines can stick to clothing and fur potentially causing skin irritations.

Materials are sharp enough to cause damage to turf blades, especially in high traffic areas, causing blades to weaken and break off. Though many products available for public use pass minimum testing, slag materials are not considered to be environmentally sound.

Masonry and Play Sand - these products contain large quantities of dust and clay fines which can cause compaction of surfaces, reducing resiliency, increasing matting and possibly decreasing the effectiveness of percolation systems. These materials often contain a variety of sizes of various materials including silica sand grains, small pebbles and rocks, fines and other material. Small rocks and pebbles can often vary in size so that the largest could cause significant damage to professional equipment and will prove to be unruly in creating an evenly infilled surface.

Crushed graphite and other processed or recycled glass materials - These materials, like slag, can be sharp and can contain large quantities of dusts that are dangerous to handle for the installer and consumer. The sharp edges of the grains can damage turf blades, especially in high traffic areas.



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