

# Recommended Artificial Grass Guidelines

## The Value You Gain From Ordinances & Guidelines

Today, as property owners, 55 million homeowners invest in residential developments that are guided and governed by the rules and regulations of city, county community, co-op or homeowner associations.

These governing bodies help to insure, for the good of the whole community, that the development and overall look and feel of the property matures gracefully and grows in value, with time, protecting your investment.

They are also chartered with the responsibility of providing oversight regarding land and property development to insure that county, state and federal law, codes, covenants and restrictions are met.

One of the key elements a community, co-op or homeowner association is tasked with is to develop design guidelines that help property owners improve their properties while maintaining the consistency of the whole community. California communities also bear the burden of managing water resources and storm-water run-off.

Artificial grass and synthetic turf materials, professionally designed and installed are a viable option to consider. To help familiarize you with standard industry practices, we have published this guideline.

## Natural verses Artificial Lawn Costs

All common costs should be considered when comparing bid amounts for installing a natural lawn to installing synthetic grasses. If you are comparing, insist on balance ... include professional services verses owner built efforts; time and effort are worth something! Value it!

- Excavation and site prep (dump/haul fees)
- Access to the area (time wasters like stairs)
- Compare natural lawn's need for soil amendments, preparation and additional materials to a synthetic lawn's base work.
- Natural lawns require additional trenching, pipes/fittings, electric, plumbing and timer costs. Of course, this would be optional for synthetic lawns.
- Compare warranties, get them in writing. What natural grass can last as long as the shortest of warranties on synthetic turf?
- Include long-term maintenance, repair & replacement of irrigation and lawn areas.

Mac & PC Friendly PDF Buyer & Grooming  
Guidance at [www.asgi.us](http://www.asgi.us)



We've saved water, reduced our use of chemicals for pest and weed control and we've gotten back enough time in our weekends to enjoy our gardening and time together!

## Artificial Grass for Landscape & Leisure Sports

Artificial grass and synthetic turf, long valued for their use for sports fields, have found their place among the masses. New fiber styles and natural colors, look and feel, provide property owners with one more option to use in landscape design and construction.

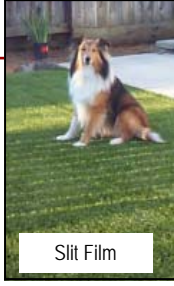
Artificial grass solutions can help reduce irrigation water use, pesticides and fertilizers. Properly installed, artificial grass surfaces can improve drainage, enhance the form and function of any area; virtually eliminate erosion, enhance storm-water management solutions, and decrease dust, weeds and other pests.

Artificial grass projects are customized to suit your needs.



**Please Note:** New projects and renovations generally require the property owner/member to submit an architectural application for review, including surface material samples, for an approval in accordance with the CC&R's of the association's general design guidelines.

## Popular Products, Styles and Their Uses



Slit Film



Monofilament



### General Properties of Artificial Grass Materials:

- **Common Yarn Fibers**
  - Polyethylene (PE)
  - Polypropylene (PP)
  - Nylon (PA)
- **Surface Specifications (Ranges)**
  - Face Weight:: 24 to 90 (+) ounces
  - Denier: 4600 to 11,000
  - Stitch Gauge: 3/8 to 1/2 inch
- **Common Yarn Styles**
  - Slit Film - Fibrillated Tape
  - Monofilament
  - Mono-Tape
  - Texturized
  - Knit de Knit
- **Common Fiber Uses**
  - PE - Lawns, Chipping, TEE
  - PP - Greens, Bocce, Cart Path
  - PA - Greens, Bocce, Cart Path

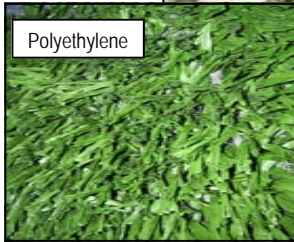
**Polyethylene (PE)**, is a synthetic yarn fiber made from olefins and was developed to be used for artificial grass surfaces.

Soft and resilient, PE fibers are commonly used for lawn, landscape, chipping and tee lines projects. Most materials are tufted into porous backings.

They dry very fast, are resistant to stains, mold, mildew, UV and high traffic, if properly installed, groomed and maintained.

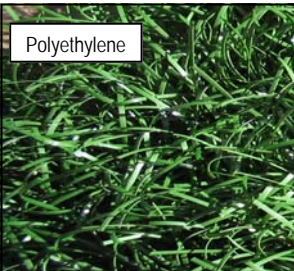
Many PE landscape, chipping and tee grass materials are now available in either slit film or monofilament fibers; from 1 to over 2 inches in height.

Slit film styles (made popular in sports field installations) tend to be a wider blade, resembling some natural fescue grasses or a Bermuda grass while monofilament fibers are more like a natural lawn of rye or blue-grass.



Polyethylene

Fibrillated Slit Film

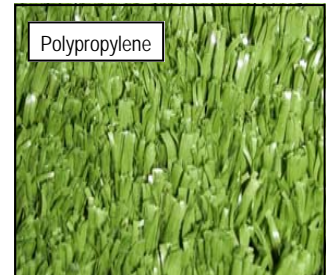


Polyethylene

Monofilament

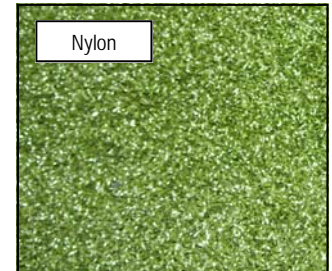
**Polypropylene (PP)** fibers were the first developed and used to simulate the performance of a bent-blade putting green surface. Many of the PP surface styles will be from 5/8 to 1.25 inches in blade height and once infilled\* and rolled will stay bent and hold speed.

**Nylon (PA)**, the first olefin fiber to be developed in the 1930s, and is most often used for putting green, chipping or field hockey surfaces. Nylon fibers are typically texturized and densely woven into non-permeable backing materials. Emerging styles include blades from 3/8 inch to over 2.5 inches and colors range from lite green to a richer, field green.



Polypropylene

Fibrillated Slit Film



Nylon

Texturized, & Fibrillated Slit Film

*Available in several styles of fiber, color and texture, artificial grass surface materials can be created to resemble fescue, rye and other common natural grass blades. Colors can range from dusty greens or multi-colored tones to new spring green or the rich, deep green of blue-grass sod.*

*\*All artificial grass surfaces benefit from the use of INFILL.*

**Infilled Monofilament Lawn Grass**  
Infilling helps protect blades from UV damage, add weight to hold the grass in place and provide a natural feel to the surfaces. Infill Materials can help blades last longer.



## Design & Engineering Permeable Surfaces For California Model Landscape Use

When you approach a synthetic grass project, it has to be with a mindset of longevity. How the job is engineered and built has a direct effect on your ability to achieve design objectives and deliver a solid, stable installation.

*Four basic installation techniques are shown, to your right.*

The ASGi Standard Installation Guideline for Landscape and Lawns will focus on how to achieve natural looking lawn installations. The tips and techniques learned here can be incorporated into any plan.

One of the first considerations is what type and amount of site preparation is required. It can be to your advantage to excavate out problem concrete, asphalt, soils or other existing materials and import appropriate base materials into the site to insure a stable outcome.

As a basic rule of thumb, the final grade of the project, use and accessibility requirements will have to be taken into consideration prior to job start.

If concrete or asphalt areas drain properly, synthetic grass and artificial turf can be place on top.

When installing over native soil conditions, fabrics are very important for the long-term stability of your projects. ALWAYS start with a durable and porous synthetic fiber (woven or non-woven) and install it over native soils and then add your imported base layers, as required by your design.

A minimum of 2 to 3 inches of compacted aggregate materials UNDER the synthetic grass surfaces are installed over soil stabilizing fabrics, on top of native soil conditions (sub-base materials). See Figure 1.

If your final grade needs to be LEVEL with existing hardscape elements such as walkways, patios or driveways, allow for adequate excavation and estimate base materials to raise the base, after compaction to approximately 1 inch below the grade of the hardscape element.

To achieve a CROWNED look against hardscape, import additional materials and shape the base, during compaction, appropriately. Your hardedge should still be set, after compaction, at approximately 1 inch below the grade of the hardedge. To provide for additional watershed, install a small channel of drain rock, prior to adding base materials, as shown. (See Figure 2) Combined with the proper use of soil stabilizing fabrics, the drain rock channel (French drain) will allow watershed to fall below the surfaces and channel out, without the risk of erosion.

When installing synthetic grasses against or in between large areas of concrete or asphalt that tends to shed water into the turf areas, allow for additional excavation, several layers of mixed base materials and the possibility of additional drain pipes, catch basins, connectors and drain rock as show to the right. See Figures 3 & 4.

Synthetic grass areas can accommodate any conditions as long as the site is engineered to perform, under the requirements of local weather, weight load, traffic and use.

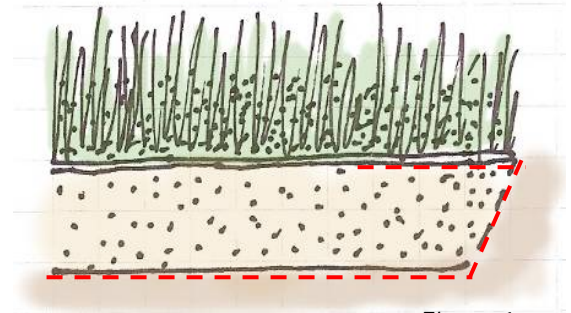


Figure 1

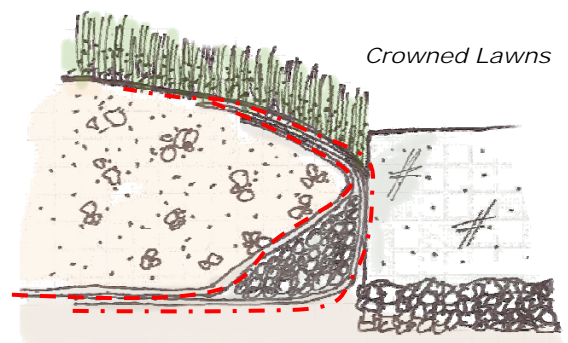


Figure 2

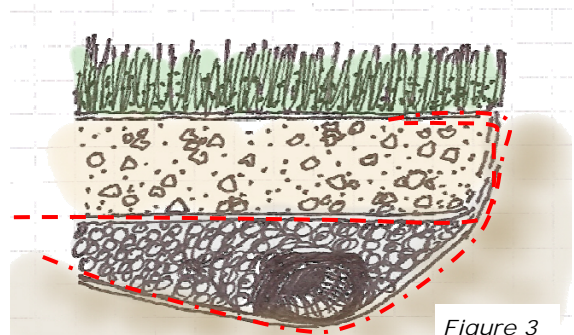


Figure 3

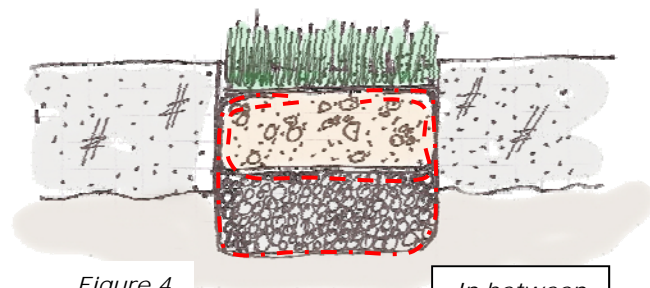


Figure 4

In-between  
Flagstone &  
Concrete  
Slabs

**Professional quality artificial grass solutions, if installed properly, can be a *significant enhancement* to the homeowner's property.**

***The advantages of synthetic turf are:***

- reduces water usage and waste through irrigation or sprinklers.
- reduces dust, dirt and allergens around the property.
- does not require mowing, edging, trimming or fertilizer.
- stays green and beautiful year round with a minimum amount of care and grooming.
- reduces the need for pesticides and may reduce mosquitoes, fleas and other common pests.
- can stabilize slopes, increase usable backyard space, enhance the look and appeal of the property.
- can be installed on non-porous areas, reducing radiant heat and glare from side yards and patios.
- can increase the form and function of a property with entertaining amenities such as bocce, golf & yard games.
- easily rejuvenated if neglected, repaired if damaged and modified if changes are desired.

***The disadvantages of synthetic turf are:***

- The initial investment is somewhat costly.
- If not installed and maintained properly (kept free of organic debris, blow off and brushed up to keep from matting down), the installation can become unsightly and repairs, like repairing carpets, tile or other colored items, may not match well, and can be labor intensive
- In full sun, on hot days, the surfaces can become uncomfortably hot - when enjoying the artificial turf area, keep cool by shading the area and/or wetting it down, prior and during extended use.
- If animals are allowed to defecate upon the surfaces, feces should be removed as soon as possible and the surfaces must be cleaned and sanitized with basic household products (enzymes, vinegar and green cleaners) and irrigated to keep fresh and clean, regularly. Solutions of bleach & water and many commercial products may be used, as well. Follow manufacturer's directions for handling and rinse well, after application.

**Artificial turf may be installed on homeowner's lots, with an approved architectural application, subject to the following conditions and restrictions:**

**1. All installations must be approved by the Architectural Review Committee and submissions must include the following materials and information:**

- a. Completed Home Improvement Application including plot plan:
- b. A description of the Artificial Turf System that will be used including specific information on:
  - i. Artificial Grass Surface including validation of total lead (Pb) content in yarn fibers\*
  - ii. Definition of type and depth of aggregate base materials & site construction plan
  - iii. Definition of soil stabilizing fabric including permeability specification sheet & MSDS
  - iv. Definition of infill materials including specification sheet & MSDS
  - v. Definition of seaming materials and adhesives including specification sheet & MSDS
  - vi. Copy of manufacturers warranty for all materials, workmanship and builder's warranty statement for workmanship for construction (California Contractor's are required to provide a minimum of 1 year workmanship warranty)
- c. A description and proposed plan for drainage of the affected area; include materials lists and site plan.
- d. A minimum 12" by 12" sample of the exact artificial turf or synthetic grass surface materials to be used - substitutions are not allowed without prior approval.

\* ASTM maximum Voluntary Standards for lead (Pb), in artificial grass yarns and fibers, is 300ppm > : Determined by using ASTM & EPA acquisition and testing protocols - E1613 & 3050B/6010B. Total digested lead results should be notated in parts per million (ppm). Manufacturers, Suppliers and Installers that voluntarily comply to this ASTM standard can be found at [Get-The-Lead-Out.Org](http://Get-The-Lead-Out.Org).

**2. Minimum requirements for Artificial Turf System Installations are as follows:**

- a. Primary layer on native soil: non-woven, highly-permeable soil stabilizing fabric for the soil type and conditions of the installation. Fabrics must be porous and not impede infiltration of normal watershed to appropriate drainage solutions required by any other related CC&R of property.
- b. Minimum 3" – 5" of appropriate compactable aggregate base with subsequent or additional imported base materials and fabric layers, as required\*
- c. Acceptable artificial turf surface fibers include: Polyethylene (PE) Polypropylene (PP), Nylon (PA) with a minimum 6 year (Nylon (PA)) and 8 year (PE & PP) manufacturer warranty against UV degradation (fading and discoloration) and the style and color selection must compliment other adjacent natural lawn and landscaped grass within the community; must meet or exceed ASTM standards\*.

Acceptable backing materials include perforated, vertically draining, latex or polyurethane coated materials to provide optimum tuft bind and maximum permeability. Horizontally draining backings must not be infilled; infill materials are prone to migrate into drainage systems.

Acceptable infill materials will include but are not limited to: recycled rubber crumb, acrylic coated silica sand, recycled PET bead lets, thermo-plastic elastomer coated silica sand, semi-round silica sand. Sub-angular silica sand may not be used as infill materials.

All materials submitted for approval must be accompanied by test documentation which declare that the artificial turf yarn and backing materials are disposable under normal conditions, at any US landfill station (Total Content Leach Protocol (TCLP) test)

- d. Infill materials, type and amount, per square foot, installed, as suggested by the turf manufacturer or based upon standard industry guidelines\*
- e. Surfaces must appear seamless and edges must appear natural, and well groomed.
- f. Total surface installation must be water permeable with minimum 25 inch/Hour Permeability Rating
- g. All job materials used for surfaces must pass applicable fire retardancy ratings including pill burn test

**3. Additional Requirements for Rear Yards that are not visible from common or public areas**

- a. Artificial surface must be of suitable materials, styles and color for the purpose intended and meet the minimum specifications noted above
- b. Specialized surfaces for putting greens, play areas, bocce ball and other uses are allowed in rear yards, only and must be engineered and installed as permanent construction. The use of artificial turf materials on existing hardscape such as patios or side-yard concrete driveways or pathways is subject to the approval of the Landscape Committee.

**4. Additional requirements for Front Yard uses in visible sites from common or public areas**

- a. Artificial surface must be of suitable materials, styles and color for the purpose intended and meet the minimum specifications noted above Appropriate uses are for lawns and landscape elements, only
- b. Minimum pile height (individual turf blade height) is an average of 1.5 inches; classic slit film, monofilament or a combination of blade styles; including texturized and knit de knit materials used for thatch are allowed

Please note that all installations must appear natural at all times. Any deviation from a natural look due to improper installation or lack of maintenance will be in violation of these rules.

Product improvements may occur at any time; the Landscape Committee will remain open to review new products and solutions as they become available and may modify, from time to time, the Artificial Turf Minimum Specifications and Guidelines.

\* ASTM maximum Voluntary Standards for lead (Pb), in artificial grass yarns and fibers, is 300ppm> : Determined by using ASTM & EPA acquisition and testing protocols - E1613 & 3050B/6010B. Total digested lead results should be notated in parts per million (ppm).

# MINIMUM JOB SPECIFICATIONS

## Special Report : Artificial Grass Guidelines for Associations

SR.04 - 2009

### Basic Lawn or Side Yard Installation

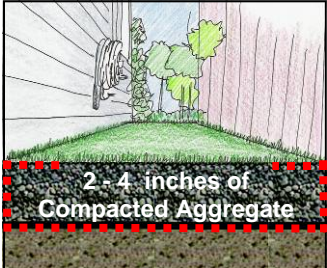


Illustration of a side view of the (above) construction at right.

ASGi has developed a minimum job specification and industry standard installation guideline based upon best-business-practices, sound construction techniques and the peer review of seasoned installers located throughout North America and abroad.

The minimum recommended job materials for a permanent, professional installation for lawn or landscape would include:

- Porous, Soil Stabilizing Fabrics
- 2-4 inches of Various Compactable Aggregate Base Materials
- Permeable Artificial Grass Surfaces
- Seaming Materials & Supplies
- Infill Materials



Over Well-Draining, Native Soil

**Installation Guides at  
[www.asgi.us](http://www.asgi.us)**

## MINIMUM INSTALLER CREDITIALS

The State of California requires that ALL contractors (operators) charging in excess of \$500 per job (labor and materials included) be licensed by the Contractors State License Board, also known as the CSLB.

No one can borrow or lend a license - it is issued to either a person, a company or a corporation. Who you contract with should be the named licensed contractor or you may not have a bondable contract in the eyes of the CSLB. **You can validate a license, bonds and insurance of a contractor at <http://www.cslb.ca.gov> or call 1-800-321-CSLB (2752)**

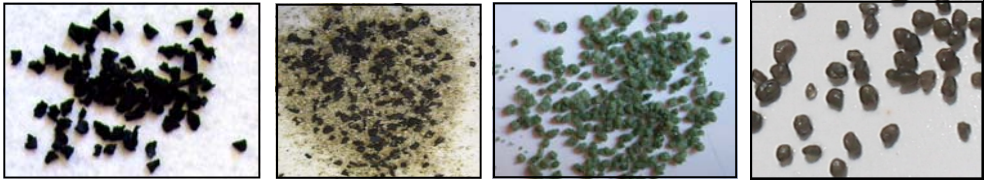
To contract for the sale and installation of artificial grass materials, operators should have 4 (four) years of experience and must hold a valid, active C27 and/or a C61/D12 license in California. Always ask for references, referrals and check them to verify experience.

*Your contractor should be able to provide proof of required bonds, workman comp & general liability insurance.*

*If your contractor (or a sub-contractor) does not carry a valid workman's comp insurance policy - you may be liable for injuries that occur to laborers on your property during the construction of your project.*

**All artificial grass surfaces benefit from the use of INFILL.**  
*Infill materials are used on top of the artificial grass surfaces, after they have been laid in place, seamed and edges trimmed. Infill materials are selected for their grade, size, shape and ability to fill up the voids between rows of yarn stitches of most turf styles and like any ballast materials, help to distribute weight across the installed surfaces, holding them in place; eliminating the surfaces from creeping, buckling or separating at the seams. All infill will contribute to the infiltration rate of the surfaces and be a determining factor in the surface fibers resiliency, wear and fall zone safety rating. The amount and type of infill used is determined, primarily, by the safety and effectiveness of the selected material which is based upon specifications and best-business-practices for the intended use, traffic, local weather and project expectations.*

Commonly used infill material selections:



SBR Ambient Rubber Crumb (recycled)      SBR (Ambient) Rubber Crumb & Semi-Round Silica Sand      Elastomer-Coated Semi-Round Quartz Granules (silica sand)      Acrylic - Coated Semi-Round Quartz Granules (silica sand)



Example of Infilled Monofilament Lawn Grass  
Infilling helps protect blades from UV damage, add weight to hold the grass in place and provide a natural feel to the surfaces. Infill Materials can help blades last longer.



Infill Close Up      Infill Applied to Surfaces

Compliments of Your Water District, Property, Community & Homeowner Association

Additional Studies, Links, Glossary of Terms & Guidelines at [www.asgi.us](http://www.asgi.us)

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