



Emerald Fill Plus Installation Guidelines Landscape & Recreational Applications

Overview: The following recommendations are to provide our customers and constituents with proper, yet general guidelines when installing Emerald Fill Plus in synthetic turf applications such as residential lawns, putting greens, bocce and tennis courts, playgrounds and other commercial turf landscaping applications. The goal of these instructions are to promote a successful, efficient and rewarding installation experience for you and your client.

This document may not be inclusive of all project types and/or synthetic turf product specifications so please consult your turf manufacturer for additional support and technical assistance regarding infill quantities as needed.

Section A. Recommended Equipment

1. Utility knife (for opening bags)
2. Duct tape (for sealing partially used bags)
3. Gloves (optional)
4. Safety goggles
5. Wheelbarrow
6. Forklift for unloading pallets or super sacks (when necessary)
7. Drop spreader
 - a. Large scoop shovels can be used for small applications
 - b. 36" wide drop spreader for applications of 1,000-5,000sqft
 - c. Power or pull behind drop spreader for applications over 5,000sqft recommended
8. Power Broom or Grandi Groom
 - a. 24" nylon hand held power brush for applications of 1,000-5,000sqft
 - b. BCS power walk behind for applications of over 5,000sqft recommended
 - c. Lawn rake or Grandi Groom for very small applications
9. Wire brush (for detailing edges and corners)
10. Broom and/or leaf blower for cleaning excess infill around perimeter of project site
11. Lawn roller for putting green, tennis and bocce applications
 - a. 24-36" Water roller for applications up to 1,000sqft
 - b. 36-48" Walk behind power turf roller recommended for applications over 1,000sqft



Section B. System Recommendations by Turf/Application Type

1. Residential Lawns

- a. Artificial turf products designed for residential use are typically of medium to longer pile heights (1 5/8" – 2 1/4") and include a primary monofilament blade with a shorter, texturized yarn in between referred to as thatch. These products will be dense to replicate a natural seeded or sod lawn.
- b. Aside from the many inherent product benefits that Emerald Fill Plus provides, it's critical to top dress the turf with the correct quantities to ensure adequate cushion under foot, ballast across the surface to avoid unwanted movement or wrinkling of the turf, UV protection of the primary backing and proper support of the grass blades.
- c. We recommend a ratio of 3/8"-1/2" of Emerald Fill Plus for every 1" of pile height for the turf type described above. This equates to approx. 2-3.5lbs of Emerald Fill Plus per square foot for every 1" of pile height. Recommended mesh size for these applications would be 12/20.
- d. Depending on the tools used to properly power broom the Emerald Fill Plus into the turf, you may experience a minimal amount of product waste. In our experience, the material loss is less than 1% if installed properly and with care.

2. Playgrounds

- a. Artificial turf products designed for playground and high impact/use areas are typically of short to medium pile (1 1/4" - 1 3/4"). Similar to residential products they often include a thatch layer to provide more density and better wear over time.
- b. We recommend the 12/20 Emerald Fill Plus with this application at a rate of approx. 3/8"-1/2" for every 1" of pile height or approx. 2-2.5lbs of Emerald Fill Plus per square foot. It should be noted that if a safety pad is used under the turf, this does not change the Emerald Fill Plus recommendations.

3. Dog Friendly Applications

- a. Synthetic turf for pet/dog applications typically used are of shorter pile (1"-1 1/2") and may or may not include the thatch layer. Some products used for these applications will be a texturized PE or PP (Polyethylene or Polypropylene).
- b. For any non-texturized product (3/8"-5/8"), we recommend using Emerald Fill Plus 12/20 mesh at the rates applied above. Tightly knitted, short texturized products may require a smaller mesh for easier installation which would be the 30/50 Emerald Fill Plus products. We would recommend 2-2.5lbs per square foot for these systems.

4. Putting Greens/Tennis and Bocce Courts

- a. There are two common types of synthetic turf designs for PG's, Tennis and Bocce. First, a longer pile (1-1 1/4" bent grass) slit film fiber and the much shorter texturized product above.
- b. We recommend the 30/50 for the longer pile slit film products.



Section C. Recommended Installation Procedures

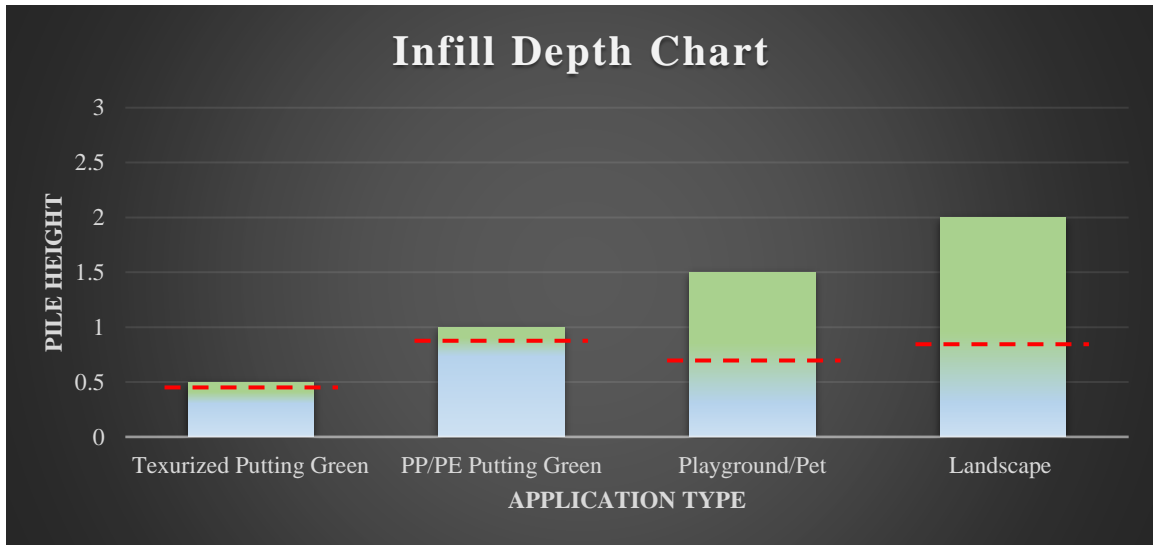
The procedures below assume that all ground preparation, sub base, borders and synthetic turf materials have been completed and the surface is ready for infill.

1. Prepare all tools and equipment and ensure all safety precautions are met.
2. Just before applying the Emerald Fill Plus, rake or power broom across the surface of the synthetic turf so that the blades of grass are as vertical as possible. This will help “open” the surface so that the granules have easier entry in between the fibers. The goal is to fill the section from bottom up.
3. Cut open the Emerald Fill Plus bag and fill the spreader hopper to a comfortable weight limit.
4. Start along one end of the lawn and move sideways in parallel rows.
5. Calibrate the spreader based on the application rates above for the respective application type (pet, golf, etc). We recommend spreading and raking the product into the fibers in lifts (1/4” at a time) to ensure proper distribution and quantity.
6. Once you have made the first pass over the entire surface, power broom the Emerald Fill Plus deeper into the surface, making sure that there are no granules sitting on top of the grass blades.
7. Begin your second pass once you’ve power broomed the entire surface. Repeat this process until you have reached the recommended depth stated above for each application type.
8. Once completed, the grass blades should appear vertical (maybe a slight angle) and consistent across the surface. If some areas appear flat or matted, more Emerald Fill Plus may be needed.
9. When using a thatched turf product, the Emerald Fill Plus should not be noticeable at a glance. The top of the Emerald Fill Plus should be buried under the thatch yarn slightly and only recognized when kneeling and spreading the grass bladed apart with your fingers.
10. Finally, use an infill measuring device to confirm proper recommended depth.

***Note:** Slit film putting greens will need to be rolled in order to bend the blades of grass over the infill. Client and contractor should consult each other to achieve the desired stimp speed. Generally, the Emerald Fill Plus should be top dressed to within 1/8-1/4” from the tips of the grass before the green is rolled.

The following chart provides depth and quantity ratios. Please note that a variance of approx. ¼” or .5lbs may be acceptable dependent upon the application type.

Product	Pile Height	Turf Spec	Depth	Lbs. Per Sqft.
30/50	1/2”	Texturized PE/Nylon	7/16” – 1/2”	1.5-2.0lbs
30/50	5/8”	Texturized PE/Nylon	9/16” – 5/8”	2.0-2.5lbs
12/20	1-1 1/4”	Pet/Playground	3/8” – 1/2”	1.5-2.5lbs
12/20	1 1/2 - 1 3/4”	Landscape	1/2” – 3/4”	2.5-3.5lbs
12/20	1 7/8” – 2 1/4”	Landscape	3/4” – 1”	3.5-4.5lbs



Section D. Reference Library



1. Drop Spreader



2. Grandi Groom



3. Wire Brush
(Edge detail)



4. Lawn Roller
(Putting Greens)



5. Power Broom



6. BCS Walk Behind
(Larger installs)