

## What the Synthetic Turf Industry Doesn't Want You to Know

Abstract

This article will take an insider's look behind the artificial turf market in the United States and what the manufacturers don't want the public to know. The industry is just beginning to understand how these new emerging synthetic turf technologies perform and wear over time, but this information is seldom available to the public for fear it might influence purchasing decisions.

Synthetic turf has once again gained popularity as a premier athletic surface as new technologies mimic the performance of natural grass surfaces. Driven by massive marketing campaigns, the synthetic turf manufacturers promote these new technologies as superior to natural grass in terms of maintenance, surface performance, installation, quality and longevity. While these technologies are promising, there are limitations and liabilities to their use.

The increase in public demand has also created delivery problems along the entire synthetic turf distribution system from shortages of materials, manufacturing defects, unqualified installers, lack of quality assurance and performance problems. Let's look at how artificial turf is manufactured and installed. This will reveal the source of some of the problems seen in the synthetic turf industry.

### Synthetic Turf Manufacturing

The most surprising and revealing aspect of the synthetic turf manufacturing process is that most companies selling synthetic turf don't manufacture anything but marketing brochures. We have begun calling synthetic turf manufacturers "turf brokers," since it better reflects the structure of the business model that dominates the industry.

Every synthetic turf installation begins with a call to the local salesperson. The potential project is aggressively tracked by the synthetic turf brokers until a sale is closed. Upon executing a contract for installation of a synthetic turf surface, the turf broker's main office is notified and the manufacturing process begins. The main office prepares a

field layout plan indicating the markings, lines, colors and product type which is then sent to one of only a handful of tufting plants in the United States, the majority of which reside in Dalton, GA. Over 90 percent of the synthetic turf for the North American market is tufted by four or five companies in Dalton. Tufting is the process of stitching yarn into the primary backing. Tufting has replaced knitting as the most common method of synthetic turf manufacturing because of the economy and cost of production. However, tufting is less durable than knitting.

When the tufting plants receive an order, they obtain the synthetic turf fiber and primary backing from the independent factories which produce these items as finished products for a variety of open uses. The largest of the turf brokers will negotiate annual volume purchasing agreements or allocations from the fiber and backing manufacturers to ensure seasonal supply and competitive pricing. To convince the public that the brokers actually manufacture a product, some companies will lease or purchase tufting machines which reside in the large carpet factories next to the competitor's machines. These tufting machines are primarily maintained and operated by the carpet factories, not by the turf broker. It is not uncommon to see a synthetic field being manufactured next to a Berber carpet for your living room. It is also not uncommon to see two or three synthetic turf brand names being tufted next to each other or even on the same machine.

Once primary tufting factories receive the fiber and primary backing, the carpet is tufted according to the turf broker's specification. Each field is



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custom manufactured according to the specific requirements of the owner, depending on what sports are to be played on the surface. The yard lines and goal lines will be tufted directly into the carpet using a different color fiber. The tufting process will take about three days for an average field and is completely on demand. The industry has been so plagued by company foreclosures that many turf brokers are on a cash-only basis with the material suppliers.

After the fibers have been inserted, the tufted carpet is then sent to the secondary coating facility which applies a polyurethane or acrylic coating to the back of the primary backing to secure the fiber. Depending on the requirements of the turf broker, perforations are burned or punched into the carpet backing to permit drainage. Over 85 percent of the secondary coating for synthetic turf in the North American market is performed by one independent company. No matter what name brand you buy, it probably traveled through this plant for the sec-

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ondary coating process. After the secondary coating cures, the carpet panels are packaged and shipped directly to the construction site. Seldom does the turf broker have a representative inspect or review the carpet before it is shipped.

The next step in the process is to secure sand and rubber in-fill products. The turf broker orders sufficient graded sand and

SBR rubber from independent quarries and tire recyclers. The in-fill materials are purchased in bulk and direct shipped to the construction site. Every aspect of the synthetic turf process is typically out-sourced. Even the logos in the center of the fields are manufactured by an independent company which ships the finished logo sight unseen by the turf broker directly to the site.

### Synthetic Turf Installation

The basic materials for a synthetic turf surface are now on site ready for installation. The biggest misconception that is perpetuated in the industry is that the individuals who install the synthetic turf are employees of the turf brokers, sometimes called "in-house crews." We believe that in-house crews of the turf brokers are responsible for less than eight percent of the total synthetic carpet installed on an annual basis. The vast majority of synthetic turf installers are small companies or contract labor, who may or may not have been certified or trained by the turf broker. Demand for installers is so high because of the volume of fields being installed that a turf broker will use almost any installation crew that is available and has equipment. During the peak installation



from job to job by the turf broker and may not even know where they are working the following week. The carpet installers receive a work order which includes the seaming and layout plan, along with the estimated quantities of in-fill needed to complete the work. Many times these companies will never receive any of the construction documents or correspondence prepared by the owner, leaving them totally ignorant of the project requirements.

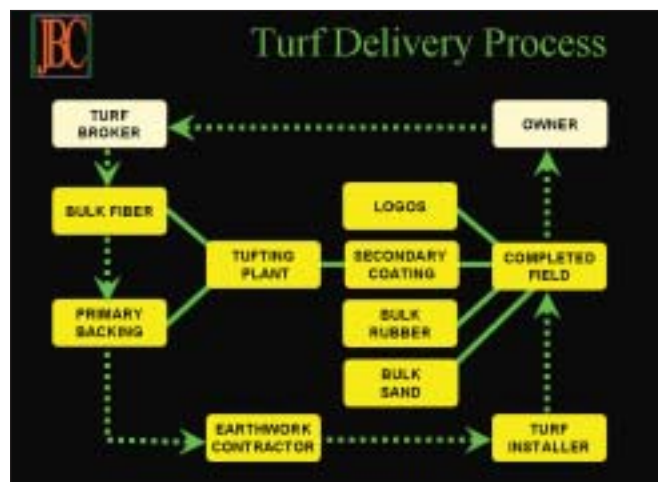
The materials are typically on site when the installation crews arrive. Their primary responsibility and focus is to install the synthetic turf and move on to the next project. Anything that would slow this process down is problematic, such as inspecting the materials that have been delivered to the site or correcting sub-base problems. Quality assurance or coordination between sub-contractors is sporadic at best. Remember that it is in the best interest of the turf broker to provide the least amount of documentation possible, which limits contractual responsibilities to the owner. If a grading plan is not provided, the owner cannot verify whether the grading has been performed correctly.

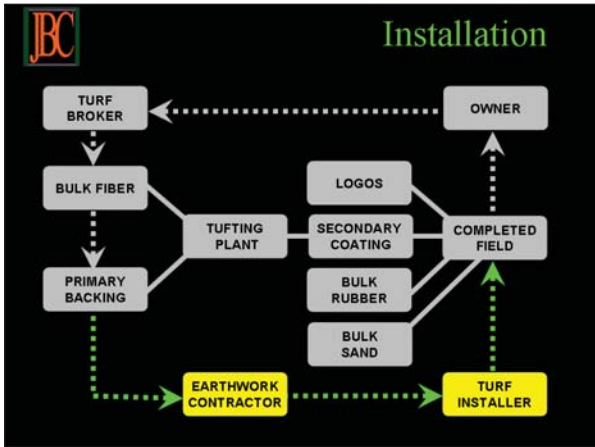
We have yet to see a systematic approach by the turf broker to test or inspect materials delivered to the site to ensure they comply with the expected requirements. Since the carpet panels really can only be inspected at the manufacturing plants or when the carpet is rolled out on site, it is virtually impossible for the installation crew to have a defected carpet panel returned to the tufting plant. This would delay the project for weeks, so regardless of the quality of finished product that arrives on site, it is typically installed without question.

Most owners only purchase one or two fields in a decade, and are helplessly

Installation  
 crews are bounced  
 May and  
 September, compe-  
 tition for trained  
 crews is fierce and  
 at times ruthless.  
 In some instances,  
 it appears that  
 installation volume  
 is a more important  
 criterion in select-  
 ing installers than  
 quality.

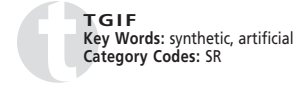
Installation  
 crews are bounced





is difficult to assign. When a product fails, is it the fiber, primary backing, secondary coating, in-fill materials or installation quality? Remember that each of these items is more than likely out-sourced to different companies.

The turf brokers actually rely on the out-sourced company warrantee to remedy defects. Most synthetic turf warrantee claims take years to resolve as the cause of the defect is determined, and many owners end up just giving up pursuing remedy of defects through the turf broker's general warrantee.



uninformed about the process; whereas the turf brokers may install a couple hundred fields a year, so any concerns about quality are quickly dismissed with, "This is the way we have done it in the past," and "We are the experts." This almost total reliance on the turf broker as the judge of quality leaves most owners in an extremely vulnerable position. In fact, most sales staff will discourage the owner from seeking professional guidance when designing a synthetic turf field. The common response is, "You don't need to waste your money on consultants, we can do it all for you." It must be understood that the best interests of the turf broker may not be the best interests of the owner. The objectives are clearly different.

The dramatic increase in the demand for synthetic turf in the past couple of years has challenged the industry's ability to keep pace. We have recently seen severe shortages of fiber, silica sand and SBR rubber. The limited pool of quality installation crews has plagued every turf broker resulting in significant schedule delays and construction defects. Even the tufting plants and secondary coating process have experienced manufacturing problems as new companies rush new products out to market in order to capture the public's growing demand in the new gold rush. When materials become scarce, poor choices are made in substitution, resulting in an increase of installation failures. Most of these choices are typically made out of expediency, since there are more fields to be installed than can be done each year.

Understanding the synthetic turf manufacturing process sheds a light on the origin of problems in the turf delivery process. The complete fragmentation of manufacturing process and lack of quality assurance creates an environment where responsibility

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