



the coolest solutions under the sun®

INSTALLING SHADE SYSTEMS PRODUCTS

Why the Need for Shade?

The following are some disturbing facts published by the American Cancer Society:

- Depletion of the earth's ozone layer is increasing our exposure to the sun's dangerous Ultra-Violet (U.V.) rays
- U.V. rays can cause skin cancer and other ailments
- Over a million Americans develop skin cancer annually
- A newborn baby today is twice as likely to develop skin cancer vs. 10 years ago
- 80% of a lifetime of U.V. exposure occurs before the age of 20
- One bad sunburn during childhood can cause skin cancer 30 years later

As more and more people become aware of the harmful effects of unprotected sun exposure, park and school administrators are increasingly providing sun protection for the public. Playgrounds, splash pads, pools, skate parks, bleachers, dugouts, and concession areas which were once left uncovered are being protected with a variety of shapes and sizes of shade canopies in lively colors. As an added benefit, shade covers can also protect spectators or children playing on playground equipment from in bound fly balls from adjacent ball fields. Especially where children's health and welfare is concerned, this once "optional" park amenity is quickly becoming required equipment.

Choosing the Right Kind of Shade

The industry has answered the call for long-lasting, durable, and attractive shade products. The best products on the market offer 20 years rust through corrosion warranties on their steel posts and frames, 10 year warranties on their polyethylene fabric canopies and stitching thread, with up to 99% screening of U.V. rays, and many imaginative designs and color choices.

From an installation viewpoint, the above should also be supplemented by a simplified installation procedure. Shade Systems has taken the additional step of designing and patenting the Turn-N-Slide™, a built-in mechanism to facilitate easy installation of its CoolNet™ shade canopy. This is important both in the initial installation as well as the

subsequent removal of the canopy for the winter season or in case of hurricane. While canopies are constructed of heavy-duty knitted polyethylene, and structures are generally engineered to withstand at least 80 mph wind speeds even with the canopy attached, they do not provide a substantial snow load rating, nor can they survive a hurricane. So it's important to be able to remove them quickly when you need to, and easily re-attach them later. Unlike the shade products of other manufacturers, Shade Systems products do not use continuous cables which must be tediously measured, cut, and clamped by the installer on site. Instead, Shade Systems canopies arrive with independent cables for each side of the canopy already pre-cut, looped, and clamped at the factory, and pre-inserted in the canopy's hems. All the installer has to do is simply slip the cable loops and fabric corner over the Turn-N-Slide hook and turn the mechanism.

So that customers and installers can fully appreciate the ease of using the Turn-N-Slide™, Shade Systems provides a 6-minute demonstration video on its web site (<http://www.shadesystemsinc.com/turnslide.htm>), as well as downloadable written instructions on operating the Turn-N-Slide easy fastening system (<http://www.shadesystemsinc.com/instructions%20-%20Turn-N-Slide.pdf>).

Why Cover Playground Equipment?

When deciding how large or how high a shade cover to provide over or around play areas, it is important first to decide if the playground equipment is to be shaded, or just a shaded seating/gathering area will be provided nearby.

Shading playground equipment is a great idea, since in addition to providing the benefits of U.V. protection to children, the shade canopy will also prolong the life of the playground equipment itself. Most modern playground equipment uses a great deal of plastic components, features powder-coated finishes on the metals, and may include poured-in-place resilient surfacing underneath. All these elements are susceptible to accelerated aging from exposure to the sun's U.V. rays. Like the protection the shade canopy gives users, it also keeps the U.V. rays from deteriorating the play equipment and surfacing, thereby extending the useful life of these valuable investments.

Additionally, shade canopies are a great way to protect children on playground equipment near ball fields, as fly balls bounce harmlessly off the canopy overhead.

Keeping Your Distance from Playground Equipment

When planning the shade cover over playground equipment, the provider must consider ASTM requirements. Overhead obstacles must be at least 7' away from the play equipment's highest climbing point. As the amount of shade provided is inversely related to the shade cover's height, try not to exceed the minimum by too much. Check with Shade Systems for exact spacing, as most shade roofs are a hip design, which means they rise higher as you approach the center of the shade canopy. Also, special attention must

be paid to the support posts for the shade system. They must not encroach on the play equipment's safety zones, and any posts in high traffic areas might be candidates for padding. And unlike the footings of most playground equipment, Shade Systems concrete footings can be quite large. To avoid conflicts with underground utilities, curbing, building foundations, or other equipment's concrete footings, the footing size must be determined with the help of the shade manufacturer ahead of time so that proper placement can be planned.

Another option for play areas is to provide a shade system near the playground equipment, but not over it. Especially if limited by budget, a smaller shade system with tables and chairs near the play area can provide a much-needed respite from the hot sun for tired children and supervising adults alike. The height should be kept as low as possible, while remembering that shade fabric within a vandal's reach is a temptation. If vandalism is not an issue, Shade Systems recommends a 7' height for the eaves. To discourage vandals, 8' or higher eave heights should be considered.

Other Shade Applications

The opportunities for providing shade in public recreation places are almost limitless. Here are just a few examples:

Bleachers: When covering bleachers, stay 8' above the top-most row to discourage reaching up and grabbing the roof rafters. Do not be too stingy with the shade overhangs. For example, a standard 3-row bleacher that is 15' long should have a shade system which is at least 14'x25' for complete coverage during most times of the day. For smaller bleachers such as a 3-row by 15', a T-Cantilever shade system is a good choice as it requires only two concrete footings.

Dugouts: These are usually narrow and long, and there are nearby fence post footings which must be avoided. A low shade system is recommended, 7' or 8' high. Also, excessive posts can be eliminated by considering a Single Cantilever model which has its posts to the rear of the dugout fence.

Poolside: As most existing concrete slabs do not have the strength to provide the necessary resistance to the wind uplift which the shade system will exert, concrete pool decks oftentimes must be cut to install the shade system's in ground bury support posts. The installer must be careful to find out ahead of time the locations of below-deck piping and electrical lines so that they can be avoided or re-routed if necessary.

Spraygrounds: Like pool decks, Spraygrounds often involve cutting through concrete slabs, so the same considerations apply. Additionally, if shade is being provided over the water elements, the installer should be careful to make sure it is high enough to clear the maximum overhead reach of the water spray. Continuous chlorinated water spray hitting the polyethylene shade fabric will cause it to deteriorate prematurely.

Skateparks: Like playground equipment, Skateparks can have shade directly over the ramps as long as the shade adequately clears the highest possible reach of skaters. This is oftentimes higher than you might expect, so the 7' playground clearance rule is not adequate. If placing shade support posts in the skating area, they should be padded.

Tennis and Basketball Courts: Tennis, Basketball, and other court-type sport areas can either have a large Mega Span shade covering the entire court, or smaller shade systems over resting or concession areas. Of course, posts as well as the lower ends of roof rafters should be installed well out of the play areas.

Car Parking: The key here is to keep the posts away from the path of cars. Cantilevered systems are best suited for this application, as the posts can be installed near the wheel stops of the parking spaces, thereby providing plenty of clearance for maneuvering cars.

On all shade applications, common sense prevails when deciding where the posts are placed. Avoid high traffic areas, and position the shade system taking into consideration the position of the sun in the sky so that maximum shade is achieved in the location desired.

Handling Shade Systems Components

We already touched on the differences between the concrete footings of shade structures and playground equipment, but handling shade components can also differ substantially from playground equipment parts.

Concrete Footings: These are generally larger than those found on playground equipment, and each footing is individually designed by Shade Systems for the particular shade configuration and height. In some cases, posts on the same structure will have different-sized footings, so check your installation drawings carefully before starting. Also, all Shade Systems footings call for steel rebar cages, which are not provided.

Posts and Rafters: Depending on your structure size, these can be quite substantial and heavy. Even the smallest Shade Systems products will use 5" O.D. posts, but unlike playground equipment, these will be 7 ga. wall thickness. They will weight 10 lbs./foot – heavy, but still manageable by hand in most cases. However, posts can also be schedule 40 pipe in sizes ranging from 6" I.D. to 12" I.D. Even a 6" post will weigh 20 lbs/foot, and a 12" post will weigh a whopping 50 lbs/foot. Especially if your structure is taller than 10 feet, it is recommended that mechanized lifting equipment be used to position the posts in their footings. Likewise, rafters can also be fabricated from heavy steel tubing weighing hundreds of pounds. A small crane or other means of lifting the rafters into position is recommended.

Hardware: Unlike playground equipment, hardware required to install a shade product is usually minimal. However, it is mostly stainless steel and may include larger sizes. As a soft metal, stainless steel is easily distorted if forced, so the installer must be extra careful

not to cross-thread bolts. Especially when working with the Turn-N-Slide mechanism which is pre-installed at the factory on the rafters, it is important to follow the written instructions carefully.

Touch-Up Paint: Like playground equipment, a supply is provided with each order, in either spray can form or liquid. Touch-Up paint should be applied sparingly to scratched surfaces *prior to attachment of the fabric canopy* to avoid overspray.

Fabric Canopy: Although the CoolNet™ shade fabric used by Shade Systems is constructed of heavy-duty knitted polyethylene and designed to last many years, it is susceptible to damage during installation if not handled properly. The canopy will arrive poly bagged and boxed. When opening the box as well as the bagging, extra care should be used with utility knives to make sure the fabric is not accidentally cut. The fabric should be removed from its packaging and carefully spread out on a clean, flat surface near the structure. Remember that the cables are already pre-inserted in the hems at the factory. So the installer must be careful that neither the looped cable ends protruding from the hems nor the fabric itself catches on any sharp objects, rocks, etc., which may be on the ground. When attaching the canopy to the frame per the accompanying Assembly Instructions, care must be taken that the fabric does not catch on any frame hardware. Snags from catching the fabric on the ground or on frame hardware will cause the lock-stitch knitting to tear. Although a tear will not run due to the lock-stitching, it cannot be repaired and must be sent back to the factory for replacement.

Finally, because the Turn-N-Slide system is meant to provide the customer a means of removing the canopy themselves for the winter season or in case of hurricane, it is important that the instructions and special vandal-resistant allen key(s) be kept in a safe place for future reference.