

Sub-surface Preparation Guide

Proper preparation of the sub-surface or base is critical to the long term success of your project.

The ideal sub-surface for the SofTILE® KrosLOCK system is properly cured concrete or asphalt. The KROSLOCK system was also designed to be installed over properly leveled and compacted minimum 1 inch layer of (1/4 inch minus) “chip & dust” or “granite screenings”. This would be on top of a properly leveled and compacted sub base of 3 to 4 inches of (3/4 inch minus) aggregate of the correct size, type and consistency.

Due to the importance of proper sub-base preparation, SofSURFACES® has created this separate instructional guide specifically addressing the correct sub-surface preparation techniques required to obtain a surface suitable for a tile installation.

Whether you are a beginner or a professional installer of playground surfacing we highly recommend the reading of this Installation Procedures Manual prior to beginning installation of your base material and finally the installation of the SofTILE KrosLOCK safety surfacing system

By investing a few minutes in this manual you will save valuable time on the project while avoiding some of the most common errors associated with the base installation.

February 07, 2007

Product Storage

1. Geotextile & adhesive

Store all geotextile and joint adhesive in a dry storage area.

2. Packing Aggregate

If base is to be installed when temperature is near freezing during the day and below 0°C during the evening, then the aggregate materials should be stored in a large pile and tarped to minimize frozen material. Access for loading should be through one location only. This will allow the outer “frozen cap” to protect the inner stored material from freezing. Proper compaction cannot be completed using frozen clumps of aggregate.

Tools Needed

1. Must Have Tools

- a. Standard Tools for Moving Aggregate
Shovels, earth rakes, wheelbarrows etc.
- b. Standard Tools for Site Layout
Tape measure, masonry string, sledge hammer, stakes etc.
- c. Standard Tools For Site Cleaning
Brooms, leaf rakes, grain shovels etc.
- d. Standard Tools For Mechanical Compaction
Rolling, Vibrating Bomag Style Packer
For best compaction, use rolling, vibrating compactor instead of vibratory tamper.
- e. Standard Tools for Manual Compaction
Hand (manual) tamper, sledge hammer for edges.
Garden hose for moisture as well as water packed surface.
- f. Heavy Duty Knife
Olfa (or equivalent) heavy duty cutting knife for cutting geo-textile.
- g. Chalk Line or string line
To mark off the site for accurate determination of the size of the area. To check usage of bulk surface materials.

2. Optional Tools

- a. Stone Slinger
Used to place loose aggregate rapidly into areas that have multiple obstructions which prevent access by leveling and delivery machinery.
- b. Skid Steer-Bobcat or Equivalent
For larger surface areas, which require delivery of large volumes of aggregate.

3. Consumables

- a. Site Protection Lumber
If skid steer or other excavation equipment is to be used over landscaped areas, plywood, lumber etc should be used to protect the area from damage.

Site Survey

1. Orientation

Although the final orientation of the installed surface may not be a matter of choice, some consideration should be given to the following items.

a. Direct Sunlight.

SofSURFACES Inc. feets products are made from recycled rubber. Rubber absorbs heat from infrared light. (i.e. Surface heat is from exposure to direct sunlight, not from exposure to atmospheric temperature). If the surface area is exposed to direct sunlight, design considerations should include lighter colors that reflect infrared (although variance in color only has a modest impact on surface temperatures).

Rubber surfacing products, in direct sunlight exposure, typically will have a surface temperature that is 10°C (average) higher than adjacent asphalt. On a bright sunny day, with exposure to the south or west, the surfaces will be hot to touch. However, on north or east exposure and in areas that receive partial shading the surface will be close to the same temperature as the atmosphere. In northern climates, warmer surface temperatures during the cooler days of the early spring and late fall are often preferred.

b. Continual Shade or Damp Areas

Installation sites with complete, 100% continual shade may remain damp resulting in mildew and/or mold growth. The single component, 100% solid, polyurethane binders used in the formulation of SofSURFACES Inc. feets products contains mildewcides that retard mildew growth. In shaded areas, surfaces should be steam cleaned (or power washed) regularly (see cleaning and maintenance section) using any form of industrial carpet cleaner with disinfectants (mel-actant or counter-actant).

2. Accessibility

Determine the method of aggregate delivery. How will the aggregate be brought to the final base area? Can a truck drive over adjacent surfaces without damages? Is

a skid steer needed? If so, can it drive across adjacent surfaces without damage? Will a stone slinger be needed for more efficient delivery and placement of the aggregate material?

Is this a rooftop installation? If so, how will the large volume of final tiles of raw materials be brought to the site?

Is there fence that needs to be removed?

Consideration must be given to each of the above questions prior to commencement of the sub-surface installation in order to plan for the tools needed and the work flow process.

3. Work Time Restrictions

Is the installation in a residential area thus preventing early or late installation hours? Will access be allowed to the site for full 24 hour periods?

4. Necessity for Security

In order to protect work in progress (Finished surface grading and compaction. Wet pour. Curing adhesive etc), will additional, site security be necessary? From when? Till when?

Will construction barrier tape need to be set up for pedestrian safety.

5. Utilities Accessibility

Water will be needed for compaction. Is this locally available? Are electrical outlets available?

Sub-Surface Drainage

A properly designed and installed water collection system is often overlooked during SofTILE site planning stages because in many cases a planners mind is focused on impervious surfaces (i.e. concrete or asphalt, etc.) where sub-surface drainage is/may not need to be installed. Due to SofTILE porosity, it is critical that a proper sub-surface drainage system be planned and implemented or the SofTILE surface may not stay level and ultimately may become damaged due to hydraulic pressure.

1. Evaluate Existing Drainage

a. Naturally Draining Sub-Surface

If the installation site is elevated (higher than adjacent grades) with natural drainage (adjacent grades slope away from the installation site at more than 1 inch in 12 inches), and does not currently collect water, then additional storm water management may not be necessary. The surface water will percolate through the resilient or safety surface (rapidly on lower density products (<50lbs/cft i.e. cast in place) and much slower on the higher density products (>60lbs/cft. i.e. commercial grade resilient surfaces) and through the tile joints. It will then drain across the top of the compacted or solid sub-surface, directed by the channels in the base of the tiles, and out the edges of the installation.

It is recommended that an individual with drainage experience (such as soil or civil engineer) inspect the site prior to commencement of the installation.

b. Non Draining, Sub-surface.

If the installation area is lower than the adjacent grades and tends to collect water, or if water has standing puddles on the sub-surface, then a sub-surface water management system must be installed.

2. Install Water Collection/Drainage System

a. For Packed Aggregate

If the sub-surface needs to have a water collection system, then perforated PVC pipe should be used. This perforated PVC pipe must be installed under and surrounding the sub-base area (see details) and tied into the external storm water collection system (ditch, storm sewer, etc). The perforated PVC should be placed below the top plane of sub-surface aggregate and encapsulated in ¾ inch clear crushed stone. Keep in mind that packed aggregate, when using variant sized granules is not very porous and therefore the sub-surface should be sloped towards the water collection PVC pipe.

a. Excavate trenches to contain perforated PVC pipe.

b. Install perforated PVC pipe with correct slope. Connect ends.

c. Back fill trenches with ¾ inch crushed stone wrap to a diameter of approximately 12 inches.

d. Tie drainage system into existing storm sewer or ditch.

e. For Concrete/Asphalt

If the sub-surface is solid (concrete or asphalt) and water collects on the surface, (deeper than 1/8 inch (.125 inch)), these non level areas must be filled with patch materials such as Mapei Planicrete EP or Mapecem PRP 145, fast setting, one component, polymer modified, cement based, pre-mix mortar. (see surface preparation section).

If the solid sub-surface is surrounding a pool or any other high water/moisture producing source, it is important that the sub surface be sloped, a minimum of 2%, towards water collection drains. In areas where little or no moisture is expected to come in contact with the resilient surface (interior-non pool areas), sub surface drainage is not necessary.

Site Preparation-Pre Sub-Surface

1. Site Preparation as Separate Contract

Base preparation is normally covered under a separate contract from the resilient or safety installation, however the following information is provided as a guideline.

2. Remove all sod and topsoil.

Continue to remove topsoil until solid, packed and stable sub-soil is visible and level.

Retain materials on site for potential future use as back fill too resilient or safety surface. Remove excess material.

3. Test Sub-soil for Rebound.

If sub-soil is of poor quality then there is a possibility that geotextile cloth may be necessary between the sub-soil and the granular sub-surface. The sub-soil can be compaction tested by driving a vehicle over the area. If the sub-soil compresses and rebounds greater than 1 inch (25mm) additional compaction or increased granular base thickness will be needed.

4. Install Drainage Collection System (If needed) Prior to Sub-Surface Installation

Drainage system installed as described above prior to installation of sub-surface.

5. Install Retainer Edge (As necessary)

a. Increase Depth Edge

If the resilient surface is adjacent to a loose (soil, sod, gravel, sand) surface, the edge of the granular base can be sloped under this loose material. The extent of the sloped run and rise is depended on the potential for the adjacent surface to become disturbed. If the adjacent surface is to have sod/grass and is not expected to be used frequently a 12 inch run at a 1:1 slope will provide a sufficient edge.

If however, the adjacent surface is sand and/or is expected to receive heavy use, this edge should extend for at least 24 inches in a 1:2 slope.

b. Solid Retainer Edge-Buried

A suitable, solid retainer edge for the packed aggregate sub-surface could be made from concrete (curb) or pressure treated wood. Ensure that the design of this wall will allow for soil movement due to frost or other forces. Typically this would require a minimum of a 12 inch tall wall at 6 inch wide. If the wall is to be pressure treated 6x6, it should be supported with vertical support posts, set in concrete every 72 inches on center.

The top surface of the retainer wall should be low enough to allow for the resilient or safety surface to be installed on it while providing the finish surface at the elevation required. The resilient surface installed over this wall should be attached using the full spread adhesive (FSA) method.

c. Solid Retainer Edge-Exposed

Follow similar installation instructions to that shown above except that the placement of the wall will allow for it to be exposed.

Adhesive must be installed in FSA pattern over the entire edge of both the retainer and rubber surface being installed against the exposed retainer edge.

If the exposed retainer edge surrounds a play area, it must meet minimum distance from the play structure as specified in ASTM F1487 Standard for Public Play

d. Solid Retainer Edge-Existing

Concrete walkways, asphalt pathways, building walls and retainer walls are just a few examples of retainer edges that typically are existing and surround the site prior to most installations.

Sub-Surface Installation-Packed Aggregate

A solid sub-surface (i.e. Concrete, Asphalt, wood) is the recommended base for all resilient surfacing products due to the predictable nature of these surfaces. However, packed aggregate sub-base MAY be a suitable alternative for some areas and/or budget constraints.

1. Sub-Soil Geo-textile-If Necessary

Install geo-textile fabric over subsoil (if necessary. See above.) This is needed only if the subsoil is not stable. Overlap joints by 12 inches. Seal joints using polyurethane adhesive. (Bulldog Grip PL or Sonneborne Premium or equivalent).

2. Install 4 to 8 inches of Granular Packing Aggregate

If base is sandy (drains quickly) and is stable (well packed) and/or in low frost, low moisture areas, 4 inches of packing granular (Granular A – ¾ inch minus or equal) gravel should provide sufficient base for a pedestrian use surface. "Granular A shall be produced by crushing. Granular A or equivalent shall consist of crushed rock composed of hard fractured fragments free of clay coatings. Granular A shall be produced from bedrock or gravel, cobbles or boulder of uniform quality" (Contact local soil engineers or paving stone installers for detailed, local aggregate specifications and performance expectations). In higher moisture and/or high frost areas, 8 inches of granular material will likely be necessary. Install the granular materials in 3 to 4 inch layers. Level and pack each layer separately.

3. Rolling Packer

It is critical that the base be properly compacted. Without adequate sub-surface compaction the planarity of the finished surface will be changed as the sub-surface planarity changes.

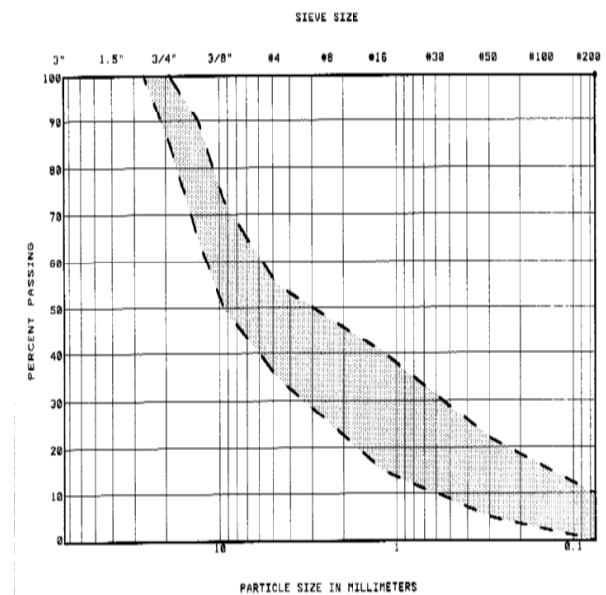
Use a rolling (Bomag or equivalent) vibrating, packer to reach 98% SPD (Standard Proctor Density). In most cases, it will be impossible to obtain adequate

compaction with vibrating packers alone. Rolling and vibrating Bomag style packers provide best packing.

Complete multiple roller passes in each direction.

4. Aggregate Grading Curve

Granular base aggregate (¾ inch minus) should match the grading curve shown below. Larger granules than ¾ inch can create problems for final surface levelling. Any local aggregate supplier will provide, on request, a grading curve chart (similar to the one shown below) for the aggregate that they are proposing as a substitute. It is important that the curve of the materials they are proposing to supply, matches (as closely as possible) the curve shown below.



The above sieve analysis is the ideal curve for a simple and long lasting packed aggregate sub-surface. Since a packed aggregate base is subject to potential movement, we recommend staying within the above gradient to reduce sub-surface movement possibility.

5. Assist Packing by Soaking Aggregates

Soak the area with water. Allow the water to percolate through the aggregate and partially dry. Then re-pack with the roller

compactor once again. Once materials have been adequately packed, a compaction test (nuclear densometer or equivalent) is recommended for both client and installer assurance of quality. However, a simple "heel test" is adequate for an approximation of compaction. Kick the packed aggregate at an angle with boot heel. If heel can be pushed into aggregate, it is not properly packed.

6. Assist Packing by Adding Cement

If after completing the above steps, the aggregate supplied still does not reach the specified density of 98% SPD, than packing can be enhanced by spreading 1 88lb (40kg) bag of cement over 200sqft of aggregate base. Water this cement to allow it to percolate into the aggregate. Repeat the above procedure. Pack with rolling packer after completion of cement addition.

7. Use templates during augering

Install play center posts (or any other footings) using plywood templates (with correct diameter holes cut in them) to prevent excavated subsoil (during the augering process) from contaminating the base aggregate materials.

8. Fill all play center post holes from bottom to top with concrete.

Fill all play center post holes from bottom to top with concrete. SSI does NOT recommend packing the holes full of granular material because of the risk of future sinking after exposure to multiple rainstorms.

If/when a client elects to absorb the risk associated with filling the holes with granular material then it is critical to emphasize to the installer of these adjacent structures the importance of packing the granular backfill in these areas. Most third party installers, not being responsible for the surface, will normally just fill the holes full and tap them slightly on the surface and then leave. If a resilient or safety surface installation is completed directly over these poorly packed holes, the sub-surface will

settle after the first rainstorm and the surface around the poles will become uneven.

The backfill material placed into the excavated hole must be thoroughly packed every 3 to 4 inches of depth. Since it is not possible to know for certain if the sub-surface installation contractor completed the aggregate packing to specifications it is important to have third party contractors sign a base preparation agreement (see attached). If the client or sub-surface installer has not opted to fill the holes to the top with concrete, upon arrival at the site, we recommend removing some of the pre-filled material around the post holes. Then soak the material that is left around the base of the pole. Then re-install the granular materials and pack every 4 inches of vertical depth. In addition, a small cap of concrete could be poured over the last 4 inches of depth before installing the final resilient surface. Ensure that the areas are well compacted and sloped away from the posts. Using a sledge hammer and water it is possible to obtain good compaction. These areas should not be lower than the surrounding areas.

The backfill material placed under low decks is also not often leveled or properly compacted usually because it may be too low to accept power equipment after the decks are installed. A "2 x 4" extended over and on the backfill can be hit with a sledge to aid in the compaction.

8. Level Sub-Surface Aggregate to 1/8 inch to 1/4 inch over 12 inches Measured in Any Direction (1-2% slope)

Most packing aggregate (that falls into the same gradient curve as granular A) will have a size ranging from "dust" (microns) to 3/4 inch. This is difficult product to get smooth enough for a proper surface installation due to the percentage of larger (>1/2 inch stone) material in the mix. These

larger stones prevent an even, smooth application of a leveling screed bar.

9. TOP Level “chips & dust” – IMPORTANT!

Since the planarity of the granular base will determine the planarity of the final surface we recommend installing a properly leveled and compacted minimum 1 inch layer of (1/4 inch minus) “chip & dust” or “granite screenings”. (similar material to that which is used in the manufacture of concrete block), over the final compacted and leveled sub-surface. This “chips and dust” is also used to fill the minor undulations in the planarity of the packed aggregate.

10. Extend Granular Base 3 to 6 inches Past Actual Edge of Installation.

The edge of any surface is the area of greatest use and misuse. Lawn mowers, tractors, vehicles etc., often come in contact with the edge. Extending the sub-surface aggregate base 3 to 6 inches past the anticipated final edge of the resilient or safety surface installation will assist in stabilizing the edge in the future.

11. Taper Edge of Packed Aggregate Base When Adjacent to Non-Solid Edge

When no solid retainer is going to be used at the edge of the SofTILE installation, then the granular base must be sloped off at a 4 inch (rise) in a 12 inch (run) slope or until packed sub-surface is 4 inch below finished grade of adjacent surface. This prevents a tripping hazard in the event the adjacent loose surface erodes and exposes edge of SofTILE.

12. Base Surface Slope to be 1% to 2% or Greater

In order for adequate water drainage, base surface slope should be a minimum of 1%. (About 1/8 inch in 12 inches)

13. Inspect Final Packed Aggregate Base

It is important to carefully inspect any base (solid or packed aggregate) supplied by an outside contractor. Often, clients assume that commencement to install SofTILE over

the prepared base indicates acceptance and responsibility for the base. Because the cost to remove and replace good SofTILE over poor base is significant, it is important to emphasize to the client that commencement of an installation over any type of base prepared by another contractor in no way indicates approval of the base compaction and stability. It is only an indication that the installer of the resilient surface is satisfied with the planarity of the base. However, at the same time, it is important that you provide the client as much assistance as possible to ensure their prepared base will not fail.

Installation of Geo-textile on Granular Base

(Geotextile is not needed over concrete or asphalt installations. It is installed to provide stability between the SofTILE™ layer and the granular base materials)

1. Cut and Place Lengths of Geotextile

(Terrafix 200 or 270R or equivalent). Position the first 3m wide width beside and parallel to the area that has the most cuts for posts and other adjacent supports. Cut the edge of this piece to fit adjacent supports. Allow it to extend at least 12 inches past the posts.

2. Overlap (by 12 inches) and Continuously Seal Joints

Overlap the joints by at least 12 inches. Continuously seal joints with polyurethane adhesive (same material used for tile to tile and tile to base adhesive). In addition, seal joints where the product has been cut multiple times.

3. Stretch Geotextile.

After adhesive has partially cured (or joint is additionally supported with duct tape) stretch the geotextile material as tight as possible.

4. Retain Geotextile at Edges

Retaining the geotextile at the edges can be done using staples to wooden retainer,

adhesive to concrete retainer or buried
under the soil at increased depth edges.

Sub-Surface Installation-Solid

NOTE: A properly prepared, cured and dry concrete or asphalt sub-surface is the ideal sub-surface for SofTILE®.

1. Test Planarity

Water will collect on the surface if the slope is less than 2% or if the area is subject to heavy rains and if the planarity of the surface is not consistent. If water collects on Asphalt or Concrete bases, the adhesive can be affected over time. To test planarity, flood the area with water and mark puddles with chalk. Puddles deeper than ¼ inch (2 stacked quarters) should be patched with Mapei Planicrete EP or Mapecem PRP 145, fast setting, one component, polymer modified, cement based, pre-mix mortar. Rough concrete (variances more than 1/8 inch) should also be patched.

2. Inspect Concrete Finish

Concrete should have a light broom finish for best surface adhesion. A heavy broom finish will result in a higher than normal adhesive usage. Ensure that there are no cracks and the area is generally level.

3. Test Drainage

The surface should be able to accommodate 25 year storm water volume. If significant water volumes cannot escape from the sub-surface and water backs up under the tiles, the hydraulic pressure could result in a damaged installation.

4. Preparation of Asphalt or Concrete Sub-Surface

A properly prepared asphalt or concrete sub-surface is ideal for SofTILE. Asphalt or concrete sub-surfaces are essential in any commercial applications, water parks (subjected to hydraulic uplift pressure) and in installations that will be subject to vehicular traffic (subject to pull/tear from wheel turns).

a. Confirm that the Concrete or Asphalt has Fully Aged/Cured

The very first and most important step when installing over concrete or asphalt is to ensure that they have cured/aged

sufficiently. Normally this is a minimum of 28 days for concrete.

Asphalt may require longer curing times to allow the oils to dissipate. Some asphalt surfaces may have a significant amount of tars or oils and the adhesive should be tested for adhesion.

b. Make sure Concrete And Asphalt Surfaces are Dry

The single biggest reason for adhesive failure is too much moisture at time of installation. If the asphalt/concrete base is wet and/or the mats are wet, they must be allowed to completely dry before installation begins. Less than 3lbs moisture per 1000 square feet is the ideal dryness level before applying adhesive. This can be tested with anhydrous calcium chloride test kit.

Another “layman’s” moisture test would be to leave a rubber mat lying over the floor for 24 hours. If moisture is visible on the back of it when it is lifted up, the floor is still curing or there is too much moisture from other sources.

c. Mechanically prepare the area as required

For concrete the area to where the adhesive will be applied may need to be mechanically prepared (sand blasted or grinder) should there be a “cement paste” on the surface. The surface should then be cleaned to remove any dirt or dust. The same is for asphalt but a bond test should be done every time.

d. Acid Etch to Enhance Cleaning

Curing and Adhesion (optional) Etching the concrete increases the adhesion by opening the surface pores of the concrete. Mix 25% Muriatic acid by volume to water (1 parts Muriatic Acid to 3 parts water). Wash the entire area with this solution. A light broom scrub will be sufficient. This will also assist in removing any spills of diesel or oil from installation equipment. After complete area has been etched, carefully (rinse) the entire surface.

e. Power Wash Concrete and Asphalt surfaces

Power washing is recommended on concrete and asphalt to properly clean the area for proper adhesion. The importance of a clean surface is proportionate to the age of the concrete. If the concrete base is new, it will likely be sufficiently clean to eliminate the need to power wash. However asphalt will also tend to have its own oils and tars that may inhibit adhesion.

5. Preparation of Wooden Sub-Surface

Wooden surfaces can either be solid plywood or deck planking (provided the spaces between planks does not exceed ¼ inch). Secure any loose pieces. Countersink protruding nail heads. Replace any damaged or rotting wood. Like all other sub surfaces, make sure the surface is clean and dry prior to adhesive installation.

Since the wooden surface will collect moisture (due to the porosity of the tile), treating the wood prior to installation of the tiles is recommended to retard rotting due to moisture. However, even with treated wood, expect rapid deterioration of the wooden sub-surface. Concrete board and extruded, recycled plastic timber are ideal substitutes for traditional wooden sub-surfaces.

There are different specifications and quality of work for both concrete and asphalt installations. After the adhesive has cured and if the tiles can be pulled up with asphalt or concrete attached to the glue, it is the base that has failed and not the adhesive.

Granular Base Installation Agreement for a SofTILE™/SofTILE™ Surface

Between;

The Supplier:
SofSURFACES Inc.

The Client:

4393 Discovery Line,

Petrolia, Ontario, N0N 1R0

The Client, hereby acknowledges the receipt of the sub base recommended specification and that the granular base installed at the _____ was not installed by the Supplier, therefore the Supplier is not responsible for the planarity, compaction, drainage and composition of the base and cannot be held responsible for the immediate and long term performance of the installed granular base or changes that may occur to the installed surface materials due to granular base failure. The Client hereby accepts full responsibility for any labor and/or material costs to remove and replace the resilient surface in the event of granular base failure.

The Supplier recommends that the granular base under a typical play center safety surface area be completed by the client or subcontractor by following these steps:

- a. Excavate and remove all sod and topsoil in the surface area to be installed.
- b. Remove debris
- c. Pack subsoil base with vibrating, compaction roller and install geo-textile
- d. Install properly leveled and compacted sub base of 3 to 4 inches of (3/4 inch minus) aggregate of the correct size, type and consistency.
- e. Install play center posts (or any other footings) using plywood templates (with correct diameter holes cut in them) to prevent excavated subsoil (during the augering process) from contaminating the base aggregate materials.
- f. Fill all play center post holes from bottom to top with concrete. SSI does NOT recommend packing the holes full of granular material because of the risk of future sinking after exposure to multiple rainstorms. If/when a client elects to absorb the risk associated with filling the holes with granular material then the material must be put into the hole in 3 to 4 inch layers and carefully packed (normally with an inverted sledgehammer) at each layer. A 3 inch cap of concrete would be placed on top of the granular
- g. Carefully pack the entire granular base to 98% SPDD. Use water to enhance packing if necessary. Pay special attention to edges and other areas were the base soil may have been disturbed. Areas sloping into a loose fill area work best to have cement mixed in surface.
- h. (For SofTILE™ installations only) Spread 1 inch thick of ¼ inch minus granular (screenings or fines) over the aggregate base, level and compact to plus/minus 1/8 inch over 10 feet planarity.

If the Supplier, upon arrival at the site, determines that the base installation does not meet specifications, the Client will be informed and be given the option of having the installation crew standby while the Client rectifies the granular base at the then current rate per man hour per man plus any applicable equipment, per diem or material charges.

Signed on this date _____, _____;

The Client:

The Supplier:

Name _____

Name _____

Title _____

Title _____