Will YOU Pay Twice? Caveat Emptor

As a result of an attempt to reduce cost and make a specification generic, you may have to purchase your 'protective surface' twice or upgrade it within a few years of the initial installation you may have to budget for a retrofit or replacement rather than expanding to new projects. If a synthetic surface fails to meet standards over time, you could well be paying twice the initial cost or more depending upon the failure of the existing surface.

According to the various standards for playground surfacing you will install a 'protective playground surface' generally 6' from the perimeter of a play structure to absorb the impact from a fall. The degree of the impact absorbed is outlined in the ASTM F1292 standard for playground surfacing. That surface can consist of a number of materials such as sand, metering stone, woodchips or a synthetic. The type of surface will depend upon your needs and the intensity of use of the play area. Where there is a very little activity and a maintenance budget to keep loose materials clean and loose, you would potentially select the sand or metering stone. The woodchips would carry a higher cost to the loose surface, however depending upon the type of woodchip selected; the need for maintenance could be reduced. In any event all of the loose materials will have to be topped up annually and replaced from time to time. All of these activities cost money and the budget commitment must be made at the time of initial installation. A synthetic surface will provide for cleanliness, low maintenance and total accessibility, however this could well be at higher capital cost with the savings being in the future.

The selection of just any synthetic surface does not assure you that you will be able to combine the higher capital cost with future savings on maintenance resulting in a successful project with total costs being lower over time. If you are not careful in your surfacing selection, you may find your costs being beyond your expectation.

Protecting your investment in a synthetic surface will depend upon the questions you ask and the assurances and warranties you demand as part of your installation. To assist you and hopefully save money in the long term we are providing with some insight as to some of the critical components that can cause premature failure of the surface in its performance.

Remember that you are placing a 'protective surface' to absorb energy to the requirements of the ASTM F1292 as a minimum performance for the life of the surface not just the first few months after it has been installed.

In relation to all other loose 'protective surfaces' that consist of a single material installed to a certain depth, the synthetic is a complex system consisting of special chemical binders, selected rubber crumb and installation techniques. In variably these components for any system are proprietary to the supplier of the system. For this reason specifying a surface by name, for nothing less than that the benchmark expectation, may be your first level of protection.

The chemistry of the surface is very important for a number of reasons. First it must be polyurethane and contain no latex, due to the allergies to latex. Second the polyurethane must contain components that will allow it to stretch and let the rubber granules move in relation to one another at the time of installation and over the long run. This is provided by the chemical components of high quality binders that have not been

'stripped' of its monomer. For long term strength, durability and rigidity to accommodate the anticipated traffic a portion of the polyurethane must provide these properties. Simple polyurethanes that contain minimal components will get rigid over time and reduce the impact absorbing performance of the surface and cause the need for replacement. One way to assure yourself that the chemical has been formulated for applications as a 'protective surface' you should be receiving from the installer a certificate of suitability from the chemical supplier. This will state that the polyurethane has been formulated for this purpose and the polyurethane manufacturer certifies that the polyurethane will not detrimentally effect the resilience of the surface over time in relation to the standard. You may also wish to request a statement as to how many years this particular formulation has been utilized for this purpose.

The rubber crumb used in the system must be carefully selected to allow the polyurethane to provide the performance required. This crumb must not be larger than 4mm in size in that a larger crumb will readily allow foreign materials to go in to the surface and lessen the resilience. In addition these larger granules are very abrasive to the child. A crumb in the size of 1-4mm will provide a smaller opening between the crumbs, while still providing good slip resistance in wet and dry conditions. There could well be circumstances where a smaller crumb size is desirable due to special requirements of a site. Be aware that this will change the properties of the surface and must be tested that only minimal loss of performance results. There are cases where a shredded rubber is used to provide for a mechanical adhesion that will enhance the lower quality of the binders that can be utilized to save cost. These surfaces have a very smooth texture and will demonstrate a lower degree of slip resistance than the rubber crumb surfaces.

Installation procedures, numbers of layers in the system, cured times between layers and the techniques utilized will have an affect on the final product and the ability of the surface to perform as an impact absorbing surface. The quality of workmanship will be seen here with regard to a consistent and clean installation.

The standard for playground surfacing, ASTM F1292, provides for the surface to meet the performance standard 'when tested', which means at any time during the life of the play environment. There are test instruments and independent organizations capable of performing site tests according the requirement of the standard. Any warranty for a synthetic surface should not only cover the durability of the surface, but also that it will meet the criteria of the standard at the end of the warranty period, with an expectation that this performance will continue into the future. **If you are not getting a warranty that ensures the conformance to ASTM F1292 at the end of the warranty period, you will be upgrading and PAYING TWICE.**