

WaterPlay Surfacing Standards

At the recent meeting in Salt Lake City of the F08.63 sub-committee on playground surfacing, a task group was established to develop a Standard Specification for surface systems used in conjunction with water-play facilities. There is a core of expertise on this sub-committee that has been installing surfaces in these types of facilities for as much as 20 years. It is anticipated that the initial steps would be to take the approach of the Poured-in-Place surface work to develop issues and format. The sub-committee is requesting input from owners as their perspective would be beneficial.

It is expected that work will begin during the summer of 2004 with the first draft of the Standard being discussed at the sub-committee meetings to be held in Washington DC in November.

Anyone with information that they would like to share with the task group can contact the task group chair, Rolf Huber at rolf@everplay.com. Participation by owners, installers, manufacturers, regulators etc. will enhance the quality of the Standard.



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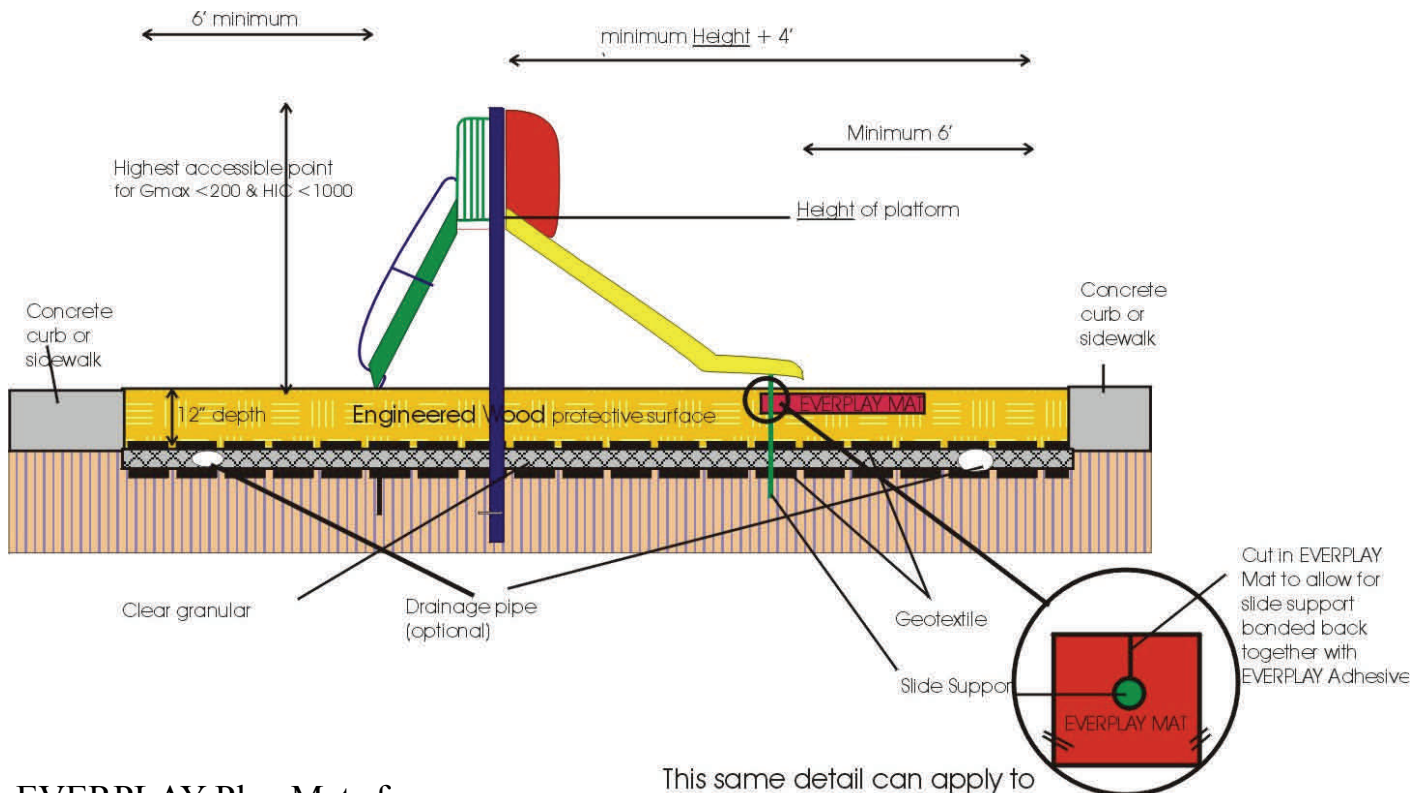
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State of the Art is not a limit, but a Point of Departure

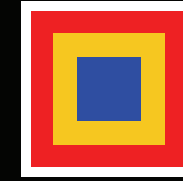


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EVERPLAY Play Mats for Swings, Slides and other high traffic or maintenance areas

This same detail can apply to Sliding poles and other features where the support penetrates the protective surface. The size of the EVERPLAY Mat will be determined by the feature. Only EVERPLAY Adhesive is to be utilized



EVERPLAY NEWS

EVERPLAY International Inc.

Volume 11, Issue 1
June 2004

ASTM revises Standard Guide on Surfacing in 2004

ASTM Revises Standard Guide for Playground Surfaces

In 1999 there was a determination that the Standards written by ASTM for “surface systems under and around Playground Equipment” were of a highly technical nature and most owners of playgrounds were not well served by these standards in the understanding of what was required of them. As a result a task group was established to write a document that would provide guidance, understanding, considerations, and explanations of how and where the technical documents would be used. The Standard Specifications described in this document are the technical requirements and are the determinant of performance.

The ASTM F2223 was first published in 2003. It provides the reader with;

- a short history and need for the playground surfacing standards,
- factors to consider when using a surfacing standard,
- terminology that is commonly used,
- the need for impact attenuation and the role of ASTM F1292,
- issues of providing accessibility for persons with disabilities and the role of ASTM F1951,
- an introduction to engineered wood fibre (likely the most prominent surfacing system) and the role of ASTM F2075,
- and the need to develop and maintain records as part of any playground.

There is a requirement to revise this document as the technical sub-committee determines or as the technical standards are revised and published. This was the case in late 2003 when it was determined that ASTM F1292 would be revised in 2004 and therefore this document needed to be revised to reflect that changes and any other explanations that were determined to be helpful.

In providing guidance and explanations the document provides insights of expectations for the activity of play and the playground. Since falls result in up to 70% of all injuries in the playground, generally as a result of an impact with the surfacing system, this document clearly points out that it is a very real and reasonable expectation that impact injuries can and will occur in the playground and these could include long bone injuries.

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ASTM Moves forward on the development of the Standard for Poured-in -Place Surfaces

In late 2002 a task group was established by the ASTM F08.63 sub-committee to address issues related with the supply and installation of unitary surfaces that are known as Poured-in-Place or “in situ”. This work was the next step in the defining of surfacing systems following the work on ASTM F2075 (Engineered Wood Fibre). There was anecdotal and empirical evidence that some of the polyurethane bound rubber systems were failing prior to their promise of many years of service.

Originally there was an interest in developing a simple “recipe” document that would specify the selection of raw materials, mixing proportions and installation techniques. Everyone thought that once this standard was published life would be wonderful and only the best surfacing would be installed. NOT the case. Since reduction of injury severity is a primary issue for

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Since the current technical changes relate primarily to ASTM F1292, changes to the Guide are primarily to the impact attenuation section. The first change is the explanation that surfaces having "lower values of g-max and HIC signify better performance for impact absorption". This is important to users of surface systems that specify lower values that they are actually reducing the risk of a life-threatening and debilitating injury as well as further reducing the severity of all other impact related injuries when they occur. This also allows the owner/operator, designer/specifier and manufacturer/installer of more impact absorbing surfaces to discuss these merits in context of performance to the Standard. Additionally this document clearly states that the technical standards set minimum performance and procedures. It is the responsibility of the designer/specifier and owner/operator to determine if these minimums are adequate for the needs of their playground and users (children).

This Standard Guide discusses the importance of testing surfaces for impact attenuation in the field. The test of the playground surface as it is actually installed is the only way for the owner/operator, parent and other stakeholders to determine the degree of protection being provided. This is also the place where those persons expecting that the children are protected beyond the minimum performance of platforms to specify that the drop be from the tops of barriers and guardrails (the location from which children will actually fall). As a result the playgrounds that are in place should be installed and maintained in a manor that has accountability built in.

As the ASTM F08.63 sub-committee on playground surfacing continues to revise and write new performance standards, the ASTM F2223 will continue to be revised to help the reader in understanding the less technical aspects. At the present time there is ongoing work with ASTM F1292, with regard to precision and bias reflecting the technology of the 04 revision, as well as a study to research a pre-test that might further simplify field testing, the ASTM F1951 is being reviewed with regard to potential alternate test procedures for accessible surfacing, ASTM F2075 is being reviewed as technology in the testing area is changed. In addition to these existing standards, work has begun on documents for "poured in place" unitary surfaces and surfacing systems that are installed in waterplay facilities.

For the non-technical person the purchase of and addition to your playground library of the ASTM F2223 would greatly enhance your knowledge in this field. This newsletter will attempt to keep its readers current with the changes and highlights however it can never provide the detailed information that you should have. You can get a copy of the Standard at www.ASTM.org.

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the playground surfaces and consumers are looking to this type of surface to meet their accessibility requirements, it was determined that buying information would be the direction to go.

Poured-in-place technology and terminology are extremely complex and there are a number of supplier/installers who have developed systems that have been in place for up to 15 years with measured success. This again did not allow for the culling of the good from the bad and describing what a good poured-in-place surface would consist of. Successful systems can vary significantly from each other. As a result, the expertise of the members was pooled to discuss and develop guidance relating to performance issues.

A review of the industry, inspectors and owner/operators indicated that there were a number of problems that needed to be addressed to assist the specifier and buyer in the development of performance specifications and provide questions that should be asked of suppliers prior to contracting or installing.

- The typical failures that found were;
- Failure to meet the impact attenuation requirements (ASTM F1292) from the owner/operator stipulated drop heights either at the time of installation or within a few years after.
- Failure to continue to meet the original critical height of the installed surface.
- Shrinkage of the surface and separation of seams between colours or at the surrounding walkways for retainers.
- Cracking within the surface
- Surface got hard and brittle
- The rubber granules on the surface started coming off.
- The surface discoloured or faded.
- Repairs were difficult to get done within a reasonable time-frame.
- Hard and soft spots throughout the surface.

With this list in hand it was almost impossible to come to common ground as to how a good poured-in-place surface is developed or installed. This was a problem that needed a great deal of goodwill between competing suppliers in the open discussion of issues that might relate to one, but not another.

Another problem that was raised was that the suppliers of Poured-in-Place surfacing have the potential to bury or overwhelm they buyer with details of technology and information that they need to know, but does not necessarily help the buyer. This could happen whether a surface was good or bad.

The new Standard Guide on Poured-in-Place surfacing is intended to provide the specifier and owner of the playground with an underlying knowledge of what Poured-in-Place surfaces can be and the issues to take in to consideration prior to a purchase. Some of these relate to injury reduction and perform-

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ance that are key to the surface, while others relate to budget and aesthetics.

- Important issues raised include;
- An understanding of the terminology, issues and interrelationships.
- The base type and materials under the poured-in-place surface.
- Chemical binders, types and their role.
- Types of rubber employed at various layers of the surface and their role.
- The requirement that ultimately the Poured-in-Place surface needs to comply with the ASTM F1292 and contract documents for impact attenuation.
- The need to field test surfaces at the time of installation and throughout its service life.
- An outline of the issues affecting performance.
- An outline of the issues related to installation techniques.
- Quality and training of crews.
- An outline of the issues related to changes in temperature, humidity and fluctuations in either during installation.
- Submersion in water for periods of time once it is installed.
- Resistance to UV (ultraviolet light) once installed.
- Maintenance is important to every surface system and even Poured-in-Place surfaces.
- Repairs required as a result of vandalism or failure need to be timely and must restore the function of the playground. How repairs are performed and if there are repair kits available are important considerations for the owner/operator.
- Warranty for materials and workmanship and more importantly compliance to standards and specifications are important. Many warranties that currently exist do not cover compliance to impact attenuation during the period. a major problem when this is the most significant compliance issue.
- There is always more information that could be provided to the owner/operator. With Poured-in-Place surfaces there will be specific tests that will be listed as being good information to consider with regard to differing systems.

In all, the Poured-in-Place standard guide should level the playing field between the manufacturer/supplier/installer and the specifier/owner/operator. The educational value of this standard should improve the quality and longevity of Poured-in-Place surfaces being installed.



EVERPLAY Loose Fill Mats

The CSA Z614 and ASTM F1292 require that the owner/operator install and maintain their surfaces to the performance of the Standard. Many owners have been diligent in their efforts to install surfaces that both meet these requirements and the ever shrinking budgets. The biggest problem is the disruption and redistribution of materials in the high traffic areas such as the swings and slides.

EVERPLAY now has the solution to this problem with the 4' x 4' Play Mat. This mat is installed slightly below the final grade of the loose fill surface and the digging of holes in the loose fill surface is kept to that depth. This will allow for the better distribution of labour and keep the playground in operation.

The recommendation is to have the EVERPLAY Play Mats installed in any area that is subject to disruption. This will reduce the amount of time required by maintenance staff to fill holes and level the surface.

An additional application is to install the EVERPLAY Play Mats against the entrance of the play area to allow people to traverse from the surrounding hard surface into the play area. This will require the installation of a support directly at the edge.

For further information call 416-410-3056.

