

# The Implications to the Playground Designer of the ASTM F1292

The latest revision of the ASTM F1292 standard was published in September of 1999 and the impact for the playground installer and owner are significant. Although the manufacturer, installer and owner have always been responsible for the performance of the playground surface, the accountability, written requirements and ability to test for conformance are now clearly stated. The ASTM F1292 is the test procedure to measure impact attenuation of playground surfaces required in the ASTM F1487, CSA Z614-98 and CPSC guidelines. Failure to comply with the provisions of the ASTM F1292 is placing children at risk, inviting liability and bad business.

Only by understanding the requirements of the ASTM F1292-99 can the playground designer take the steps to protect themselves and develop future business opportunities. This will involve the development of policies, procedures, documentation and compliance testing of surfaces at the time of installation and during the life of the installation. Most playground designers are lulled by the precision manufacturing and durable nature of playground structures and do not realise the variations in materials and the dynamic changes that occur to the playground surface during and after installation.

The ASTM F1292 clearly states in section 4.1 that " All surface systems must be tested in accordance with the performance requirements in 4.2 (the traditional 3 temperature laboratory test). This clearly will include not only synthetic or unitary systems, but all systems such as sand, pea gravel and wood systems. Failure to require test certificates of all suppliers is the first mistake the playground installer will make. The next concern is installing the surface system to the specifications and procedures of the surface system manufacturer or supplier. Failure to secure and follow these instructions would be the second mistake that the playground installer can make. The third and most devastating mistake will be the installation of a surface that does not meet the contractual obligations for the installation. Should this occur the playground installation contractor will not be paid for the work and will have expensive repairs and remedial work.

The prudent owner/operator and their consultants will know that surfacing is dynamic and will only get worst in performance rather than better, will not want to have a surface system that meets the minimum performance or have a drop height that is the minimum required by the ASTM F1487 or the CSA Z614-98 or the CPSC Guide. This owner/operator will read in sections 4.3, 4.4 and 13.2.1 to "carry forth the impact tests at the drop height, as specified by the initial owner/operator. They will also realise that they are required to keep the surface in compliance with the ASTM F1292 standard. Since this owner has these obligations and is paying the bill, they will probably use the cost effective and accurate free fall test method in the ASTM F1292 standard for the first time, to confirm that the terms of the contract have been met prior to paying for the installation.

For the playground designer that has been around they will be familiar with the 3 temperature laboratory test (30, 72, and 120°F) and that the field test is done with this temperature range. Fourth mistake. Section 4.3 allows for the field test to be performed at ambient temperature. This may present a particular problem at and below 30°F. Further to the performance of the test at ambient temperature it is a

requirement of section 4.4 that should the system fail the test “ the surface system should be made to comply or the playground equipment on the surface should not be used until the surface complies.” If the designer has not protected themselves with a temperature exclusion in their contract and warranty, they have an additional problem of having to fence off the site to protect themselves. The alternative is to foster a business of investigating and assisting a valuable client in providing winter protection for the surface and the playground equipment.

As a result the cautious playground designer will put a plan into place that consists of the following;

- Make sure you have a certificate of confirmation that the surface system has a critical height at least as great or greater than the drop height stipulated by the owner/operator. Where the contract stipulated performance for the g-max or HIC is less than the maximums of the standard, make sure that the surface system meets this requirement.
- Make sure the surface system supplier or manufacturer provides installation procedures that allow the installer to meet the performance of the test certificates.
- Arrange for a free fall test as allowed in the ASTM F1292 standard for verification to yourself of compliance.
- Make sure the contract document clearly states the drop height for any testing that will be performed and know that the ASTM F1487 and CPSC Guide will provide the minimum.
- Make sure that temperature constraints of the surface system are clearly stated in the contract documents.
- Develop the ability to provide a system of closing a playground should this be a requirement of your client.

A careful read of the ASTM F1292 will provide all parties to the installation of the playground and playground surface system with the ability to protect themselves within the terms of the standard.