

## Installation Instructions

**Please Note:** Sof' Solutions™ Inc. recommends using the services of a certified engineer or a landscape architect who is familiar with the local soil and climatic conditions to evaluate the information provided especially as it relates to drainage. **To prolong the life of Sof'Fall®, a drainage system is recommended. However, we do not dictate how extensive your drainage systems should be to be effective.**

Sof' Solutions™ Inc. assumes no responsibility for determining the size of the playground or the safety zone between the equipment and the border. An installer must thoroughly examine the site, specifications, and carefully check the dimensions before starting work.

**CPSC and ASTM Fall Zones** (According to CPSC handbook for Public Playground Safety) A fall zone of at least 6 feet must surround all equipment with the exception of:

1. *Swings* A fall zone equal to 2 times the height of the top rail is needed in front of and behind swings.
2. *Slides* A fall zone equal to the height of the slide plus 4 feet, extending a minimum of 6 feet, is needed in front of slide exits.

### Installations: In Ground/Above Ground

- Excavate the area 12 inches (for recommended 12 inch depth) with a 1%-2% grade to ensure proper drainage. The most effective drainage may be to carry all water outside of the play area (it is not recommended that Sof'Fall® be installed on a grade greater than 10%).
- Install retaining border and **fluctuation ramp** (see attached diagram).
- The area should be well compacted and accurately graded, especially in areas where additional fill has been brought in.
- Install playground equipment.
- Install drainage if applicable. If manufactured drainage is being used, place drainage strips evenly spaced 6 feet on centers, or as specified by architect, in direction of grade. If not using manufactured drainage, place 3 inches of drainage gravel on a layer of geotextile fabric and then place another layer of fabric over gravel. Install fabric as specified below.
- Install geotextile fabric. Cover sub-grade with the geotextile fabric supplied. Overlap all seams a minimum of 3 inches and secure the fabric rings with pliers every one to two inches. It will be necessary to slit the fabric to fit around equipment uprights. Where possible, overlap all slits with next piece of fabric.
- Place warning labels on uprights (see warning label installation instructions).
- Install the Sof'Fall® engineered wood fiber to the proper depth. Sof'Fall® is delivered on a semi-trailer that can be 70 feet long. When access to the play area is possible, the truck can unload directly into the play area or stockpiled where you specify.

## Installation Instructions (cont.)

- A bobcat or a small front-end loader may be used to spread surfacing, however it will also be necessary to spread manually. Install all the material delivered and please note that the surfacing will be several inches above grade until it compacts. **Sof'Fall® needs to be compacted in order to be accessible to all. This may be achieved by using a compactor in the initial installation.**
- Install Sof' Mat™ rubber mats in the middle of Sof'Fall® engineered wood fiber in excessive wear areas, such as slide exits, under swings, and sliding poles. Sof' Mats™ should be placed on 6 inches of surfacing with another 6 inches of surfacing on top of the Sof' Mats™
- Sof'Fall Engineered Wood Fiber must be hand raked for a level surface. After two weeks of active use, the surface must be raked again.
- Periodic adjustments of Sof'Fall® are required under slides, swings and other concentrated use zones. Installing Sof' Mats™ in these areas will help control displacement in these high use zones. Wetting down the initial load will help with compaction. **Warning: Failure to maintain Sof'Fall® at the initial installation depth may result in an injury.**

The installation instructions must be followed in order to validate the “Sof'Fall® Limited Warranty”. **In order to maintain Sof'Fall's limited warranty, you must purchase Sof'Fall Engineered Wood Fiber when replenishing your playground surface.** If questions arise regarding proper Sof'Fall® installation, please contact your Sof'Solutions™ representative or the Service Center directly at 800-523-8690. Thank you for choosing Sof'Fall® engineered wood fiber.

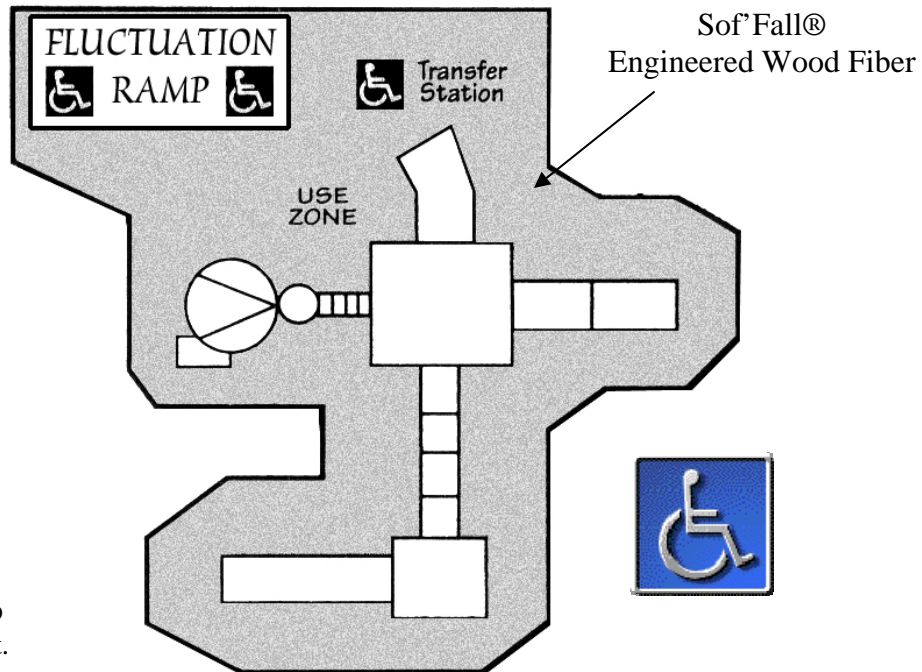
# Fluctuation Ramp

(Wheelchair access from perimeter of playground to use zone)

- When a playground is surfaced with a loose fill material (engineered wood fiber) known to be ADA accessible, the owner/operator must accommodate for the fluctuating level of the loose fill material from the perimeter of the playground to the use zone
- The Fluctuation Ramp described here is an inexpensive way to allow wheelchair access from the perimeter of the playground to the use zone.

## Top View of Playground

60 Inches  
Recommended



### [ASTM 1487-95](#)

#### SECTION 10.2.2.1

Ramp width shall be no more than 60" wide

#### SECTION 10.2.2.2

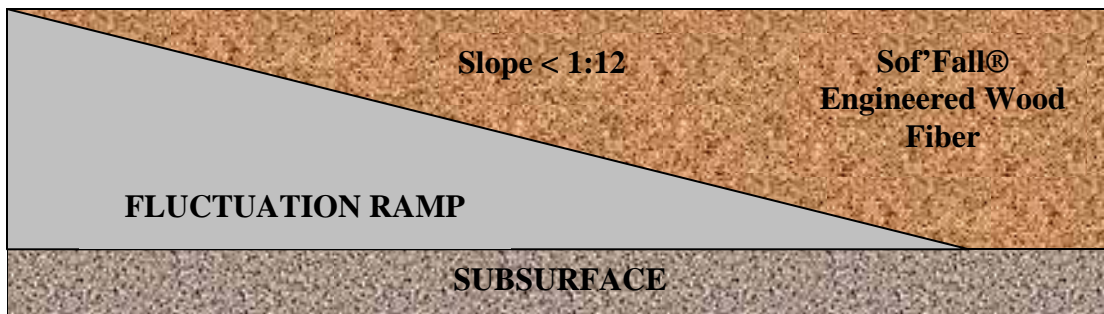
Slope of the ramp shall not be greater than 1:12

#### SECTION 10.2.2.3

The horizontal run of a ramp shall not be greater than 12ft.

## SIDE VIEW OF FLUCTUATION RAMP

Distance from perimeter to transfer station should be no more than 20 feet

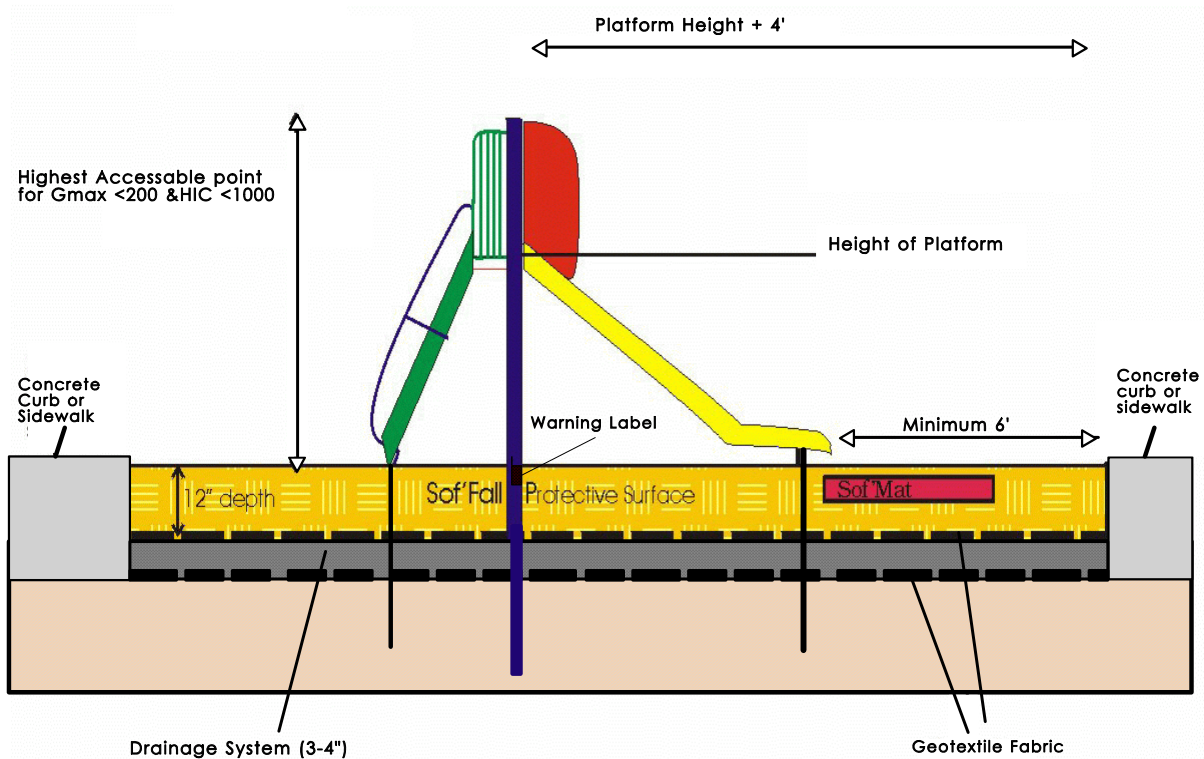


Maintain 12-inch depth

## Warning Label Installation Instructions

Warning labels can be found in the back of this binder

Place warning labels on outside posts of equipment in various locations throughout the playground area. Labels should be placed on uprights, with the top of the sticker reaching the recommended height. Twelve inches of Sof'Fall® is recommended for playground equipment with accessible heights above six feet (eight inches of Sof'Fall® can be used for accessible heights below six feet).



If a label becomes visible, it may be due to a low spot. **Rake the Sof'Fall® engineered wood fiber to reach a level play area.** If the label is still visible it's time to top-off the playground with more Sof'Fall® engineered wood fiber. It is imperative to maintain the appropriate level of surfacing to ensure safety.

# Low Maintenance Strategies

## Concentrated Use Zones

- During routine inspections, heavily used areas such as under swings and slide exits should be raked to maintain proper depth.
- If left unattended for long periods of time the weed barrier or Sof<sup>®</sup>Mat<sup>™</sup> may become exposed and the impact attenuating properties of Sof<sup>®</sup>Fall<sup>®</sup> will be reduced.

## Accessibility Requirements

- Rake the play area level. Playground must remain level to allow all children to play.

## Foreign Objects

- During routine inspections remove any foreign objects such as glass, rocks, and litter.

## Sof<sup>®</sup>Fall<sup>®</sup>/Sof<sup>®</sup>Mat<sup>™</sup> Under Concentrated use Zones

- Using Sof<sup>®</sup>Mats<sup>™</sup> will help limit the displacement of Sof<sup>®</sup>Fall<sup>®</sup> in high traffic areas.
- Trip hazards are created when the lip of the Sof<sup>®</sup>Mat<sup>™</sup> is exposed due to the Sof<sup>®</sup>Fall<sup>®</sup> becoming displaced through use. To avoid trip hazards maintain the Sof<sup>®</sup>Fall<sup>®</sup> over the edge of the Sof<sup>®</sup>Mat<sup>™</sup>.
- Never use Sof<sup>®</sup>Mats<sup>™</sup> next to sand. Sof<sup>®</sup>Solutions<sup>™</sup> recommends putting down 6 inches of Sof<sup>®</sup>Fall<sup>®</sup>, then placing the Sof<sup>®</sup>Mat<sup>™</sup>, and then putting down the remaining 6 inches of Sof<sup>®</sup>Fall<sup>®</sup> on top.

## Drainage and Winter Weather

- Sof<sup>®</sup>Solutions<sup>™</sup> Incorporated does not dictate what kind of drainage system is needed to be effective in removing water from the playground. Consumers should check with their local landscape professionals who are familiar with the local climate conditions affecting drainage such as type of soil, annual rainfall, slope of site, etc.
- As with any surfacing material, during freezing temperatures Sof<sup>®</sup>Fall<sup>®</sup> will freeze. When the surface is frozen the play area should not be used. It may be necessary to close the play area until the temperature rises. Life threatening injuries may occur when a child falls onto a frozen surface.

## Moisture Retention

- The moisture content of Sof<sup>®</sup>Fall<sup>®</sup> is high because it is manufactured from virgin wood. Moisture helps the product retain its cushioning properties.
- If you live in an arid climate with little rainfall, an occasional wetting down of the product will help to retain moisture.

## Top-Offs

- To maintain Sof<sup>®</sup>Fall<sup>®</sup> at the recommended depth (8"-12") the playground will need to be topped off every two to three years. **Warranty will be void if not replenished with Sof<sup>®</sup>Fall Engineered Wood Fiber.**

## Questions

- Sof<sup>®</sup>Solutions<sup>™</sup> Customer Service is always available to answer questions you have in regards to installation and maintenance of Sof<sup>®</sup>Fall<sup>®</sup> engineered wood fiber **call 800-523-8690.**

Warning: Failure to maintain and inspect your playground on a regular basis could result in unsafe conditions on and around the play area and possibly void the product warranty and/or lead to serious physical injury to persons using the playground. Sof<sup>®</sup>Solutions<sup>™</sup> Incorporated isn't responsible for injuries and/or damages that result in failure to maintain your playground.

# Sof'Fall® Engineered Wood Fiber Bid Specification

## Protective Surfacing Under and Around Playground Equipment

### Description of Product

- Product is manufactured engineered wood fiber comprised of softwoods and/or hardwoods, consisting of randomly sized wood fibers the majority of which do not exceed 1.5” in length and containing 10% to 20% fines to aid in compaction (it is generally understood that the manufacturing process allows a few oversized pieces).
- Product must prove to be non-toxic. It may not contain any recycled wood products or any wood containing paint, chemicals or additives. Bidder to provide Toxicity Test Data\*.
- Product to have minimal bark and to be free of twigs, leaf debris and other organic material, and to be certified as non-flammable\*.
- Product depth, after installation, must be in accordance with the procedure described in ASTM F1292 and meet guidelines for critical height as set forth by the CPSC for use of wood products for protective surfacing.

### ASTM Testing

Manufacturer must be in compliance and provide testing data for the following standards as set forth by the American Standard for Testing Materials (ASTM), for surface systems under and around playground equipment.

- ASTM F1951-99 (previously ASTM PS 83-97) determination of accessibility of surface systems under and around playground equipment\*.
- ASTM F1292-96 impact attenuation of surface systems under and around playground equipment\*.
- ASTM F2075-01 standard specification for engineered wood fiber for use as playground safety surface under and around playground equipment\*.

### IPEMA Certified

Manufacturer must provide proof of certification. “In the interest of public playground safety, IPEMA provides an independent laboratory which validates a manufacturer’s certification of conformance to ASTM F1292-99. A list of current validated products, their thickness and critical height may be view at [www.ipema.org](http://www.ipema.org).”

### Geotextile Weed Barrier Fabric

- Installation of Geotextile fabric must accompany that of the Sof'Fall® engineered wood fiber surfacing on all new installations.
- Geotextile fabric must be a minimum of 28 mills thick and have a tested 26 gallons per square foot per minute permeability.

### Accessibility Ramp

- Installation of a fluctuation ramp must accompany all Sof'Fall engineered wood fiber surfacing installation.

### Manufacturer Agreement

- Manufacturer must carry 10 million dollars in product liability insurance.
- Manufacturer must have a written 10-year limited product warranty.

\*If a summary of these items does not accompany this specification please contact your representative or call the Sof' Solutions™ customer service department at 800-523-8690.

# Limited Warranty

Sof<sup>®</sup> Solutions<sup>™</sup> Incorporated (“Sof<sup>®</sup> Fall<sup>®</sup>”) warrants the Sof<sup>®</sup> Fall<sup>®</sup> installation to the original purchaser

## What is Covered

1. Sof<sup>®</sup> Solutions<sup>™</sup> warrants the Sof<sup>®</sup> Fall<sup>®</sup> installation to meet or exceed the Playground Surfacing Guidelines of the U.S. Consumer Product Safety Commission (December 1993), when tested within the laboratory temperature guidelines as determined by the ASTM standard F 1292-96m under normal use for TEN (10) YEARS from the date of installation.
2. Sof<sup>®</sup> Solutions<sup>™</sup> warrants the polypropylene fabric of the Sof<sup>®</sup> Fall<sup>®</sup> installation to be free from defects under normal use for the LIFETIME of the Sof<sup>®</sup> Fall<sup>®</sup> installation.
3. Sof<sup>®</sup> Solutions<sup>™</sup> Warrants the wood fiber of the Sof<sup>®</sup> Fall<sup>®</sup> installation to be free from defects under normal use for TWO (2) YEARS from the date of installation.

## Warranty Conditions

If the Sof<sup>®</sup> Fall<sup>®</sup> installation is defective within the applicable warranty period, Sof<sup>®</sup> Solutions<sup>™</sup> will, subject to the conditions set forth below, replace defective installation components at no charge within a reasonable period of time. Components that are used for replacement under this warranty are warranted for the remainder of the original warranty period. The replacement of defective components shall constitute the sole and exclusive remedy in the event of a breach of warranty.

## INSTALLATION AND LABOR COSTS:

Within the first ninety (90) days of the warranty period, Sof<sup>®</sup> Solutions<sup>™</sup> will pay all necessary installation and labor costs associated with the replacement of defective components under this warranty. After the first ninety (90) days of the warranty period, the owner shall be responsible for all such costs

## Exclusions

Any defect, malfunction, or failure caused by or resulting from improper installation, including insufficient or lack of drainage, service or maintenance, or from abuse, neglect, accident, vandalism, act of God, or any other cause beyond the control of Sof<sup>®</sup> Solutions<sup>™</sup> will not be covered by this limited warranty. Failure to maintain proper depth, failure to install all materials delivered, **the use of substitute materials**, or change in impact attenuation characteristics due to sand or other foreign materials tracked into the system are not covered by this warranty.

## Disclaimer

Any implied warranties covering the Sof<sup>®</sup> Fall<sup>®</sup> installation, including but not limited to warranties for merchantability or fitness for a particular purpose, are limited in duration to ninety (90) days from the date of original installation. Sof<sup>®</sup> Solutions<sup>™</sup> shall not in any case be liable for special, incidental, consequential, indirect or other similar damages arising from breach of warranty, breach of contract, negligence or any other legal theory. Sof<sup>®</sup> Fall<sup>®</sup> has been advised of the possibility of such damages.

**Sof<sup>®</sup> Solutions<sup>™</sup> Incorporated does not warrant improper drainage. All sprinklers must be redirected to spray outside of play area. It may be necessary to periodically turn Sof<sup>®</sup> Fall<sup>®</sup> to allow excessive moisture to dry.**

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Warrantor Sof<sup>®</sup> Solutions<sup>™</sup> Incorporated  
PO Box 667, Draper, UT 84020

# ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)  
02/11/04

**PRODUCER**

All American Insurance Agency  
5120 South Washington Blvd #B  
P.O. Box 9578  
Ogden UT 84409-  
(801) 475-0850 ( )

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

**COMPANIES AFFORDING COVERAGE**

- COMPANY  
**A** Western Heritage Insurance
- COMPANY  
**B** Scottsdale Insurance
- COMPANY  
**C** Evanston Insurance
- COMPANY  
**D** State Auto

**INSURED**

Sof'Fall Inc.  
P.O. Box 667  
Draper UT 84127-  
( )

**COVERAGES**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| CO LTR | TYPE OF INSURANCE   | POLICY NUMBER | POLICY EFFECTIVE DATE (MM/DD/YY) | POLICY EXPIRATION DATE (MM/DD/YY) | LIMITS                               |
|--------|---|---------------|----------------------------------|-----------------------------------|--------------------------------------|
| A      | GENERAL LIABILITY   |               |                                  |                                   | GENERAL AGGREGATE \$2,000,000        |
| Y      | COMMERCIAL GENERAL LIABILITY  | SCP0489046    | 01/13/04                         | 01/13/05                          | PRODUCTS - COMP/OP AGG \$1,000,000   |
|        | CLAIMS MADE <input checked="" type="checkbox"/> OCCUR   |               |                                  |                                   | PERSONAL & ADV INJURY \$1,000,000    |
|        | OWNER'S & CONTRACTOR'S PROT:  |               |                                  |                                   | EACH OCCURRENCE \$1,000,000          |
|        |   |               |                                  |                                   | FIRE DAMAGE (Any one fire) \$100,000 |
|        |   |               |                                  |                                   | MED EXP (Any one person) \$1,000     |
| D      | AUTOMOBILE LIABILITY  |               |                                  |                                   | COMBINED SINGLE LIMIT \$1,000,000    |
|        | ANY AUTO  | BAP2076313    | 08/28/03                         | 08/28/04                          | BODILY INJURY (Per person) \$        |
|        | ALL OWNED AUTOS   |               |                                  |                                   | BODILY INJURY (Per accident) \$      |
|        | SCHEDULED AUTOS   |               |                                  |                                   | PROPERTY DAMAGE \$                   |
|        | HIRED AUTOS   |               |                                  |                                   |                                      |
| Y      | NON-OWNED AUTOS   |               |                                  |                                   |                                      |
|        | GARAGE LIABILITY  |               | / /                              | / /                               | AUTO ONLY - EA ACCIDENT \$           |
|        | ANY AUTO  |               |                                  |                                   | OTHER THAN AUTO ONLY: \$             |
|        |   |               |                                  |                                   | EACH ACCIDENT \$                     |
|        |   |               |                                  |                                   | AGGREGATE \$                         |
| C      | EXCESS LIABILITY  |               |                                  |                                   | EACH OCCURRENCE \$5,000,000          |
| Y      | UMBRELLA FORM   | CUBW1257204   | 02/03/04                         | 02/03/05                          | AGGREGATE \$5,000,000                |
|        | OTHER THAN UMBRELLA FORM  |               |                                  |                                   | \$                                   |
|        | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY   |               | / /                              | / /                               | WC STATUTORY LIMITS OTHER            |
|        | THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL |               |                                  |                                   | EL EACH ACCIDENT \$                  |
|        |   |               |                                  |                                   | EL DISEASE - POLICY LIMIT \$         |
|        |   |               |                                  |                                   | EL DISEASE - EA EMPLOYEE \$          |
| B      | OTHER Umbrella  | XLS0020548    | 02/03/04                         | 02/03/05                          | 3,000,000                            |

**DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS**

Sales of ground cover:

**CERTIFICATE HOLDER**

Sof'Fall Inc.  
P.O. Box 667  
Draper UT 84127

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

*Scott Jones*



# Impact Attenuation Test Results Summary\*

## Background

There are two standards for determining when a fall to the surface may be life threatening. “One method holds that if the peak deceleration of the head during impact does not exceed 200 times the acceleration due to gravity (200G’s), a life-threatening head injury is not likely to occur. The second method holds that both the deceleration of the head during impact and the time duration over which the head decelerates to derive a value know as Head Injury Criteria (HIC). Head impact injuries are not believed to be life threatening if the HIC does not exceed a value of 1,000” (Playground Surfacing: Technical Information Guide, CPSC: Page 20, section 10.1, Determining Shock Absorbency of a Surfacing Material).

## Summary

The Following one page summary reveals the results of independent testing on Sof’Fall® engineered wood fiber. Tests were performed in accordance with ASTM F-1292, Paragraph 11, standard specification for Impact Attenuation of Surface Systems Under and Around Playgrounds.

### Sample #1 (23 degrees C)

| <u>Height (ft.)</u> | <u>HIC</u> | <u>G-Max</u> |
|---------------------|------------|--------------|
| 1                   | N/A        | N/A          |
| 2                   | 21.10      | 22.14        |
| 3                   | 44.64      | 30.72        |
| 4                   | 63.41      | 37.31        |
| 5                   | 95.14      | 45.02        |
| 6                   | 126.82     | 51.86        |
| 7                   | 153.98     | 57.83        |
| 8                   | 210.26     | 66.42        |
| 9                   | 247.51     | 71.39        |
| 10                  | 247.79     | 69.65        |
| 11                  | 302.21     | 76.37        |
| 12                  | 503.90     | 101.49       |
| 13                  | 569.94     | 106.22       |

### Sample #3 (49 degrees C)

| <u>Height (ft.)</u> | <u>HIC</u> | <u>G-Max</u> |
|---------------------|------------|--------------|
| 1                   | N/A        | N/A          |
| 2                   | 16.68      | 18.79        |
| 3                   | 35.47      | 28.49        |
| 4                   | 51.17      | 32.47        |
| 5                   | 56.60      | 37.44        |
| 6                   | 99.79      | 44.25        |
| 7                   | 147.70     | 53.49        |
| 8                   | 188.70     | 59.46        |
| 9                   | 271.07     | 72.63        |
| 10                  | 268.76     | 71.40        |
| 11                  | 372.99     | 83.08        |
| 12                  | 484.07     | 95.28        |
| 13                  | 649.99     | 110.45       |

### Sample #2 (-1 degree C)

| <u>Height (Ft.)</u> | <u>HIC</u> | <u>G-Max</u> |
|---------------------|------------|--------------|
| 1                   | N/A        | N/A          |
| 2                   | 35.91      | 29.48        |
| 3                   | 32.90      | 26.12        |
| 4                   | 60.17      | 34.58        |
| 5                   | 78.71      | 39.30        |
| 6                   | 128.63     | 50.00        |
| 7                   | 132.90     | 50.63        |
| 8                   | 233.64     | 68.16        |
| 9                   | 338.26     | 82.84        |
| 10                  | 416.49     | 91.79        |
| 11                  | 494.86     | 99.00        |
| 12                  | 428.84     | 88.93        |
| 13                  | 592.58     | 107.71       |

## Test Requirement

The HIC Value not to exceed 1,000  
HIC. G-Max Value not to exceed  
200 G-Max.

## Conclusion

The test sample met the HIC and G-Max requirement to 13 feet

\*Testing performed by Detroit Testing Laboratory, Inc (1996). Copy of original test report available to customers upon request.

# ADA Accessibility Test Result Summary\*

## Background

Federal law prohibits disability-based discrimination by states, local governments, and private entities (such as restaurants and child-care centers) that provided public accommodations. The ADA specifically requires that, “each service program or activity conducted by a public entity, when viewed in its entirety, be readily accessible to, and usable by individuals with disabilities.” This statute requires all new and/or altered public facilities, including playgrounds, must be accessible to everyone. The access board proposed rules for play area accessibility to include surfaces within the play area. They must be firm, stable, slip resistant, and also meet the requirements of ASTM F-1951-99. The ASTM F 1951-99 (Formerly PS83-97) is the current standard used to measure the accessibility of a surface in a play area. It specifically addresses the issue of maneuverability across play area surfaces. Maneuverability measures the effort needed to move a wheelchair across a surface.

## Summary

The following one page summary reveals the results of testing of Sof’Fall® engineered wood fiber. Tests were performed in accordance with ASTM F-1965-99 for determination of accessibility of surface systems under and around playground equipment at the recommended 12-inch depth after compaction. Test results indicate that Sof’Fall® engineered wood fiber is an accessible surface for use under and around playground equipment.

| <b>Results: Part 6 Wheelchair work measurement method – Straight propulsion</b> |                       |  |                       |
|---|-----------------------|--|-----------------------|
| Sof’Fall® engineered wood fiber   |                       | Hard, smooth surface with grade of 7.1 ± 0.3% (1:14) |                       |
|   | <u>Work per meter</u> |  | <u>Work Per meter</u> |
| Trial 1   | 74.6N                 | Trial 1  | 78.2N                 |
| Trial 2   | 69.2N                 | Trial 2  | 75.7N                 |
| Trial 3   | 76.8N                 | Trial 3  | 75.5N                 |
| Trial 4   | 65.2N                 | Trial 4  | 73.9N                 |
| Trial 5   | 65.2N                 | Trial 5  | 73.6N                 |
| Average (n=3)   | <b>69.7N</b>          | Average (n=3)  | <b>75.0N</b>          |

| <b>Results: Part 6 Wheelchair work measurements Method - Turning</b> |                       |  |                       |
|--|-----------------------|--|-----------------------|
| Sof’Fall® engineered wood fiber                                      |                       | Hard, smooth surface with grade of 7.1 ± 0.3% (1:14) |                       |
|  | <u>Work per meter</u> |  | <u>Work Per meter</u> |
| Trial 1  | 53.9N                 | Trial 1  | 57.4N                 |
| Trial 2  | 56.5N                 | Trial 2  | 55.7N                 |
| Trial 3  | 54.1N                 | Trial 3  | 54.5N                 |
| Trial 4  | 53.0N                 | Trial 4  | 55.8N                 |
| Trial 5  | 50.0N                 | Trial 5  | 55.5N                 |
| Average (=3)   | <b>53.7N</b>          | Average (n=3)  | <b>55.7N</b>          |

## Report of Sieve Analysis of Fine & Coarse Aggregates

Date Samples: October 13, 1997  
Sof'Fall® Lab Testing  
Sof' Solutions™ Inc.  
Draper, UT 84020

| Sieve Size | % Retained<br>(Cumul) | % Passed<br>(Cumul) | Specifications |
|------------|-----------------------|---------------------|----------------|
| 1- 1/2"    |                       |                     |                |
| 1"         |                       |                     |                |
| 3/4"       |                       |                     |                |
| 1/2"       | 0                     | 100                 |                |
| 3/8"       | 1.1                   | 99                  |                |
| No. 4      | 40.5                  | 59                  |                |
| No. 8      | 73.9                  | 26                  |                |
| No. 10     |                       |                     |                |
| No. 16     | 87.1                  | 13                  |                |
| No. 30     | 94.1                  | 6                   |                |
| No. 40     |                       |                     |                |
| No. 50     | 98.1                  | 2                   |                |
| No. 100    | 99.6                  | 0.4                 |                |
| No. 200    | 99.9                  | 0.1                 |                |

Soil Classifications (ASTM D2488):  
Atterberg Limits (ASTM D4318):  
Description: wood fiber

Testing done by: AGRA Earth & Environmental  
Engineering Global Solutions

## Product Toxicity

### Consumer Information & Data Summary

Over the past decade, the use of wood surfacing has become the preference of playground providers and consumers alike. Sof'Fall® engineered wood fiber not only cushions a fall better than traditional surfaces such as sand and gravel, but it has also been tested to be free of chemicals and additives.

**Recycled wood products derived from used pieces of pressure treated wood, chemical-soaked pallets, and other undesirable wood cannot claim to be free of toxic substances.**

According to the Consumer Product Safety Commission (CPSC), every year children treated in emergency rooms for poisoning-related injuries were exposed to toxic substances through inhalation, ingestion, or eye or skin contact. Aspiration of even small amounts of hydrocarbon-based chemicals like gasoline, kerosene, naphtha, and tar, to name just a few, can cause asthma, pneumonia, pulmonary damage, and death (Consumer Product Safety Review, Spring 1997 vol. 1 No. 4, Reducing Poisonings to Children).

**Sof' Solutions™ Incorporated supports its claim to be non-toxic with testing data.**

A Semi-volatile test on Sof'Fall® engineered wood fiber was performed to seek out the presence of 68 different chemicals. Of the chemicals for which the sample was tested, only one, benzoic acid was found. The lab analysis reveals that, “the identification of the presence of benzoic acid in the sample is consistent with woody plant material. Benzoic acid is found to occur naturally in woods and would not be considered hazardous in the sample.” No other chemicals were detected. Therefore, with laboratory certification, Sof'Fall® engineered wood fiber is non-toxic. (Full test summaries are available upon request)

# Sof' Mat™ Bid Specification & Installation

## Technical Specifications

### Sof' Mat™

|                 |  |
|-----------------|--|
| Weight          | 3.75 lbs/ft <sup>2</sup> (65 lbs/pc)                             |
| Composite       | Recycled rubber crumb bound together with a polyurethane binder. |
| Colors          | Black  |
| Suggested Sizes | 4' X 4' under slide exits<br>3' X 6' under each swing            |

## Surface Preparation and Installation

The Sof' Mat™ should be placed on a minimum of six inches of Sof' Fall® engineered wood fiber with six inches of Sof' Fall® on top. The Sof' Mat™ should be placed with the Sof' Fall® engineered wood fiber surfacing mounded in the middle. The corners of the Sof' Mat™ should be tucked into the Sof' Fall® to help eliminate tripping hazards.

The Sof' Mat™ can be cut and secured around a pole or a support. Sof' Mat™ adhesive must be used to secure the mat together again. Do not use adhesive in wet conditions. The temperature must be at least 35 degrees F for the adhesive to cure. Temperatures above 80 degrees F and high relative humidity, will accelerate the cure of the Sof' Mat™ adhesive. Typical cure time for the adhesive is 18 hours.

When cutting the Sof' Mat™, the edge should be protected with the use of a metal straight edge while using an exacto knife. Kevlar or steel mesh gloves should be used.

## Typical Use

The Sof' Mat™ is used anywhere a durable, resilient surface is required in high traffic areas or on fluctuation ramps.

## Warranty

Sof' Solutions™ warrants that the Sof' Mat™ listed in this specification conform to the formulations and standard of Sof' Solutions™, Inc. for a period of three years from the time of purchase.