

The ADA, playgrounds and a school district in Iowa

ADA Audio Conference Series
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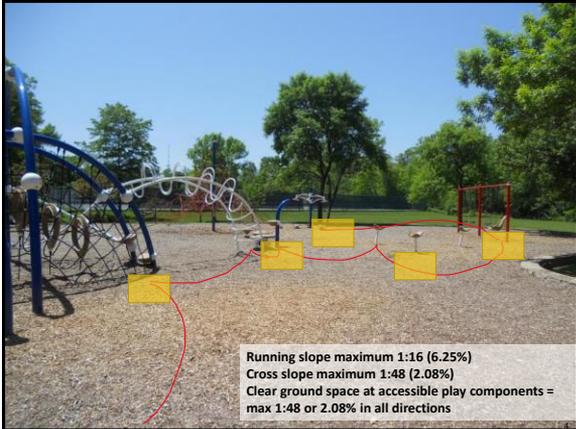
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Accessible Routes within the Play Area

- Must comply with Chapter 4 (unless otherwise noted in Chapter 10)
 - Openings maximum 1/2 inch diameter
 - Changes in level maximum 1/4 inch vertical or 1/2 inch beveled
 - Walking surface must be firm and stable
- Clear width minimum 60 inches (1008.2.4)
- Ground level running slope not to exceed 1:16 (6.25%)
- Cross slope not to exceed 1:48 (2.08%)
- Clear ground space at accessible play components 30 x 48 inches minimum and less than 2.08% in all directions
- Ground surfaces shall be inspected and maintained regularly and frequently to ensure continued compliance with ASTM F 1951; and ASTM F1292 in the use zone.



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What is “FIRM” AND “STABLE?”

- 302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.
- Objective measurement vs subjective opinion
- Concrete?
- Asphalt?
- Gravel?
- Pea gravel?
- Crushed limestone?
- Decomposed limestone?
- Wood chips?
- Sand?



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ADA Complaints

- Green Bay (WI) Parks & Recreation Department - 1993
 - Wood chips. U.S. Department of Interior Office of Civil Rights found wood chips to be inaccessible.
- San Francisco Unified School District - 1995
 - U.S. Department of Education Office for Civil Rights determined the surface beneath the accessible equipment as inaccessible "that prevent access by disabled persons to the play settings."
- Mt Diablo Unified School District, California - 1998 through 2007
 - Wood chips. Class action lawsuit filed by Disability Rights Advocates.
 - In 2007, the issue made national headlines when the school district was found to be in violation of the settlement agreement by using an engineered wood fiber product for playground surfaces. DRA sought to have the loose fill surface product replaced by unitary rubber surfacing which the school district estimated at a cost of \$2.7 million.
- Kanawha County Parks and Recreation, West Virginia - 2006
 - Wood chips or "engineered wood fiber"? Project Civic Access - investigated by DOJ
- City of Weston, Florida - 2008
 - Sand. Private right of action
 - Estimated \$168,400 to replace existing surfacing at 2 regional parks
- St Johns County (FL) School District - 2013
 - Wood fiber. U.S. Department of Education Office of Civil Rights finds 3 out of 4 playgrounds not in compliance because the surface had not been regularly inspected and maintained to ensure continued compliance with the ADA Standards.
- Rescue Union School District - 2018
 - Engineered wood fiber with ASTM F1951 certificate provided by the manufacturer.
 - U.S. Department of Education Office of Civil Rights finds the surfaces were not firm, level, stable, and accessible surfaces. Instead, the surfaces were loose, undulating, and uneven, particularly around high-use activities such as the swings and slides.
 - OCR did not find evidence to conclude that the surface was installed here consistent with the conditions under which the surface material was certified as accessible.
- Iowa City Community School District - 2020

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Access Board & ASTM Collaborate for Standards Specification

- ASTM (formerly known as the American Society for Testing & Materials)
- 1999 – a standard specification is developed to measure “wheelchair work” known as F1951 - Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
- 2001 – issues F2075 - 01 Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment to differentiate wood chips from processed “engineered wood fiber.”



- 2004 to Present – updates to F1951 to adopt a portable test procedure fail repeatedly to reach consensus among voting members comprised of manufacturers and users of the standard.

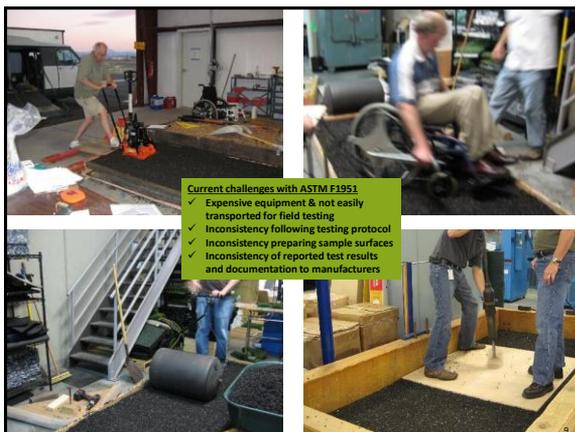
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What is ASTM F1951

- A lab test in a controlled environment; with limited portability for field testing
- Wheelchair work method
- 7% ramp used as baseline
- Measures work per sq ft for straight propulsion and turning
- Manual rehabilitation wheelchair with rider 165 + 11 lbs
- Records data applied to pushrim over 6 ½ ft distance

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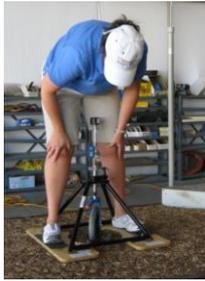


- Current challenges with ASTM F1951**
- ✓ Expensive equipment & not easily transported for field testing
 - ✓ Inconsistency following testing protocol
 - ✓ Inconsistency preparing sample surfaces
 - ✓ Inconsistency of reported test results and documentation to manufacturers

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Need for Standard to Determine Firmness & Stability

- Rotational Penetrometer (also referred to as an Instrumented Surface Indenter)
- Developed by Beneficial Designs as a portable field test to supplement the wheelchair work method in ASTM F1951.
- Wheelchair caster set in spring loaded caliper.
- Measures the vertical displacement of the penetrator.
- Preferred device used in the U.S. Access Board funded longitudinal study on the accessibility of playground surfaces.



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Sample Values for Various Surface Types*

Surface Type	Firmness	Stability
Concrete	.15 - .17	.17 - .19
Turfgrass	.55 - .65	.69 - .79
Carpet <small>(1/8 inch cut pile w/ 1/8 inch pad)</small>	.32 - .43	.41 - .55
Sand	1.13	< 1.13

*The values are from sample surfaces that are not part of a playground installation.

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Background

Iowa City Community School District (ICCS)
14,285 students
5th largest school district in Iowa

17 Preschool sites
21 Elementary schools
More than 60 playgrounds
Repair/replacement program



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ICCSA Playground History

- Grounds Department created in 2013.
- Employee playground training was stagnant.
- City of Iowa City playground maintenance
- 2013 Playground Review
 - Average age of over 20 years
 - Site based management
 - PTO funded projects
 - Lack of funding created inequities in ADA components and compliance.
 - Minimal to no landscape architect involvement
- 2014 Grounds Department formal training.
- Secured funding using PPEL tax dollars.
- Administrative Objective- Increase safety and upgrade playgrounds to meet federal ADA standards.
- A playground life-cycle program was started in the fall of 2014 with the design of 2015 playgrounds.



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Shimek Playground Design

- Fall of 2016 Shimek Playground Committee is formed.
- The committee consisted of the principal, facility staff, faculty, and a PTO representative.
- The PTO asked for an increased level of accessibility.
- The landscape architects provided site designs that included some ADA improvements.
- Pre-approved reputable playground vendors provided equipment designed with increased attention to ADA.
- Synthetic surfaces were not included in the concepts due to limited funding.
- PTO voted down the designs in favor of a lower level of accessibility.



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ADA Complaint

- In the fall of 2017 the district received notice of a complaint to the Department of Justice over ADA non-compliant playgrounds.
- No photos were provided to the district.
- The exact non-compliances were not provided.
- The complaint covered all aspects of the playgrounds and playground equipment.
- Particular attention was given to the Engineered Wood Fiber being used on the playground.
- The DOJ scheduled a date to review all playgrounds renovated or installed after 2012.



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ICCSD Response

- Proactively started a comprehensive review. The district determined it was meeting the minimum standards and district goals, but failed to reach the inclusiveness desired by the community.
- Specific attention was given to the Engineered Wood Fiber reported as ASTM compliant by the supplier.
- Additional training for Grounds and custodial staff responsible for daily maintenance.
- The district hired a third-party engineering firm to review current playground surfaces and complete safety and accessibility testing of the surfaces.
 - Playground surface experts Jennifer Skulski and Rolf Huber were hired for training/consulting with engineers and district staff.
- Implementation of field testing.
- District increased number of ADA components in new designs.
- Increase transparency of district playground ADA efforts.
- Mandated all design committees include faculty/staff with special needs/disability expertise.
- Adjusted designs and specs to exceed minimum standards.
- In the fall of 2019 ICCSD School Board adopted a plan for universal design strategy on all playgrounds.

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ICCSD Playground Program

- Purchasing requirements
 - All pre-approved vendors are required to provide testing results.
 - More stringent test results than minimum standards.
- Field testing
 - Surfaces are tested within 30 days of installation.
 - New surfaces are tested in year 1 and year 2.
 - After year two, testing continues on alternate years.
 - Maintenance routine continues regardless of the test year.
 - Testing includes every accessible route to the equipment, between equipment, transfer stations, and 3 random locations at the discretion of field engineers.
- Community involvement
 - In 2019, the district formed a Playground Advisory Committee to review current playground design practices and the suggestions of adopting a Universal Design Program.
 - Staff, faculty and community members were represented in the Playground Advisory Committee.
 - In the fall of 2019 the board approved the proposed Universal Design Program to be implemented during the 2020 construction window.



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Field Testing for ALL District Playgrounds

- The district developed a testing program with guidance from the third-party engineering firm and Skulski Consulting, similar to the protocol used in the Access Board-funded study of playground surfaces.
- Testing is completed by a Field Engineer and a Technician.
- Increased the number of data collection points.
- Implemented more strict testing parameters.
- Assign staff to be present during testing to repair any location that does not meet expectation.
- Test 50% of the schools each year.
- Testing occurs when in use without repairing the surface.



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Field Testing Results

ICCSO successful installation of EWF:

- Install 2 inch depth of EWF at a time.
- Water and roll after every 2 inches.
- Year 1: final surface should be watered and rolled 3 directions, no less than 3 times during the year.
- Year 2: final surface should be watered and rolled 3 directions no less than 2 times during the year.
- Annually: final surface should be watered and rolled 3 directions no less than once a year for remainder of lifecycle.
- Use of plate compactor and vibrating roller attachment speeds up the process

Data Point Results

- 2018: 80% to 90% passing
- 2019: 90% to 100% passing
- 2020: 99% to 100%

Data point results reflect engineered wood fiber (EWF), rubber tiles, and poured-in-place rubber (PIP) surfaces.

PLAYGROUND SURFACE TESTING BEFORE		Terracon	
Item	Value	Item	Value
1	100%	1	100%
2	100%	2	100%
3	100%	3	100%
4	100%	4	100%
5	100%	5	100%
6	100%	6	100%
7	100%	7	100%
8	100%	8	100%
9	100%	9	100%
10	100%	10	100%
11	100%	11	100%
12	100%	12	100%
13	100%	13	100%
14	100%	14	100%
15	100%	15	100%
16	100%	16	100%
17	100%	17	100%
18	100%	18	100%
19	100%	19	100%
20	100%	20	100%

An asterisk (*) appears next to the test results which did not meet the noted values on the day of field testing.

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Advice for Playground Owners & Disability Advocates

- Playground owners and disability advocates should work together to define what "accessible" and "inclusive" playgrounds look like, along with priorities for repair/replacement.
- Playground owners (school, parks department, etc) should have a minimum of one Certified Playground Safety Inspector (CPSI) knowledgeable of the 2010 ADA Standards and the ASTM standards.
 - National Recreation and Park Association Certification Program: <https://www.nrpa.org/certification/cpsi/>
 - Certification through National Program for Playground Safety is also a bonus. University of Northern Iowa: <https://www.playgroundsafety.org/>
- Special attention should be given to the ASTM surface testing results provided by suppliers.
- Care should be taken to ensure installation is completed correctly.
- Surfaces should be formally tested after installation for compliance with ADA & ASTM standards; and annually based on frequency of use.
- Consider input from third-party playground surface experts to review your playground program.
- Consider networking with other playground owners on best practices.

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Questions

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Contact Information



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Session Evaluation

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Next Session:

Tuesday, December 15, 2020

Social Media Management: Accessibility Basics

Registration available at: www.ada-audio.org

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