

## Determination of an Accessible Playground Surface System

An Owner/Operator will have playgrounds that they require to be “accessible” and will need to develop a performance specification and most will use the minimum requirements as set out in the US Department of Justice 2010 ADA Standards for Accessible Design.

The 2010 ADA Standards contain requirements for elevated and ground level play components, and the elevated and ground level accessible routes. The requirements for the accessibility of a playground and the accessible route will be found throughout the document, while sections 240 and 1008 speak to specific additional requirements and exceptions that relate to the play areas. The intent of this document is to focus on the ground level accessible route once the location of the elevated and ground level play components have been established. It could be that an owner decides to provide more than the minimum number of play components and may select to use unitary surfaces such as the poured-in-place to facilitate access to the entire play area with lower maintenance. It is for this reason that the ASTM F2479-11, Standard Guide for Specification, Purchase, Installation and Maintenance of Poured-In-Place Playground Surfacing, in section 11 provide a summary of the surfacing requirements.

An inspection of the accessible route and the person performing the inspection will determine the following;

1. Determine and list the minimum number of elevated play components required to be accessible and locate those that exit or enter from ground level, thereby requiring an accessible route
2. Determine and list the minimum number of ground level play components required to be accessible
3. Layout the ground level accessible route(s) according to the level of accessibility required by the 2010 Standard or the additional requirement of the owner/operator
4. Confirm that the selected accessible route provides a moving “clear space” rectangle measuring 60” wide and 80” high, without anything protruding into the space. (Reduction in the width of the accessible route may be permitted under certain conditions.)
5. Determine the types, manufacture and supply of the surfacing systems within the play area and on the accessible route
6. Acquire the test certificate for each surfacing system from the manufacturer for ASTM F1951-99 showing compliance to both the straight line propulsion and turning test
7. Acquire the test certificate for each surfacing system from the manufacturer for ASTM F1292-99 or 04 revision and confirm that it provides a critical height value greater than the fall height of the highest play structure
8. Perform a surface field test per the ASTM F1292-99 or -04 test method for all surface systems in the use zone on the accessible route (for test details see separate ASTM F1292 document)
9. Using a 60” straightedge and an electronic digital level determine that there are no locations where the running slope of the accessible route exceeds 6.25% (1:16)

10. Using a 60" straightedge and an electronic digital level determine that there are not locations within the accessible route where the cross slope exceeds 2% (1:48)
11. Using a 60" straight edge and a 1" calibrated block, determine that there are no gaps under the straightedge that allow for the insertion of the block. Insertion establishes a cross-slope greater than 2% within the accessible route
12. At each entrance, by transfer, or exit, by play component, there shall be a turning space of a 60" diameter and the cross-slope in all directions shall not exceed 2% (1:48). This is determined by applying a 60" straightedge and digital level across the turning space and the 1" calibrated block under the straightedge.
13. There shall be no change in vertical height on the accessible route that exceeds ½", with up to the first ¼" being vertical and the second ¼" with a bevel no greater than a 2:1 slope. This can be tested using a calibrated block.
14. There shall be no openings or gaps within the surface greater than by a ½" in diameter and most importantly if there needs to be a gap, the gap or opening shall be no greater than ½" and elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.
15. If the surface is a carpet or artificial turf, the exposed pile of the carpet shall not exceed ½". This can be determined with a calibrated block

Failure of any of these requirements will be a failure of the minimum requirements of the Department of Justice 2010 ADA Standard for Accessible Design and could result in a complaint. Remember that the ADA is not directly a Standard for safety, but rather a Standard to provide equivalent access for everyone. Where safety has been incorporated, it is to prevent installation of surfacing systems that would provide accessibility, but also a hazard to children on the playground within the use zone.

As a best practice and as a field test for the determination of firmness and stability of surface systems along the accessible route a device known as the Rotational Penetrometer (RP) may be used in accordance with the manufacturer's instructions to determine a baseline for the surfacing and the effectiveness of the surface maintenance program. This test could substitute to the high cost of performing the ASTM F1951-99 test in the field.

Other procedures and practices may be added at the determination of the owner/operator of the playground.