

## Playground Surfacing

Each year more than 200,000 children visit hospital emergency rooms due to playground injuries. Falls to the playground surface are the number one cause of injury.

### Surfacing Types & Considerations

There are two types of surfacing options for playgrounds: Unitary and loose-fill materials. Unitary materials typically consist of rubber mats and tiles or poured in place. Loose-fill materials include wood chips, wood mulch (not CCA-treated), sand, pea-gravel, and shredded rubber mulch. Surfacing materials should be tested and comply with the ASTM standard F1292 for impact attenuation of playground surfacing materials.

Concrete, grass, and dirt are not considered appropriate playground surfacing. Sand and pea gravel are poor choices due to the limited fall height protection. Pea gravel is a choking hazard and should not be installed on playgrounds intended for children under three years of age.

The American with Disabilities Act (ADA) requires appropriate accommodations for disabled children which includes a pathway that is firm, stable, and slip resistant. ADA accessibility guidelines for firmness and stability are based on ASTM standard F1951.



*Loose-fill Surfacing*



*Unitary Surfacing*



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✿ *Maintaining the correct depth of loose-fill surfacing is critical for safety.*

## Inspection/Maintenance

- The initial fill of loose-fill materials should be at least 12 inches deep as the material will compress by at least 25%
- Loose fill should be maintained at a depth of 9 inches with the exception of rubber mulch which requires at least 6 inches.
- Loose-fill requires daily maintenance and regular inspection including removing foreign materials and standing water, ice, or snow.
- Surfacing should be raked daily to ensure a constant depth is maintained
- Examine playground for trip hazards which may include tree roots, rocks, concrete footings, loose-fill containment borders and underlayment, and play equipment components.
- As the ground freezes, the safe fall height may be reduced

## Use Zone

- Generally the fall surfacing use zone should extend at least 6 feet in all directions surrounding stationary equipment.
- Use zone may need to extend further than 6 feet depending on height and type of equipment.
  - Slides greater than 6 feet high require a longer use zone in front of the slide exit
  - An extended use zone is necessary in front of and behind swings
- Review *Public Playground Safety Handbook* for specific use zone requirements.
  - A copy of the handbook can be accessed at <http://www.cpsc.gov/PageFiles/122149/325.pdf>

## References

American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education (2011). *Caring for our children: National health and safety performance standards; Guidelines for early care and education programs*. 3<sup>rd</sup> Edition. Elk Grove Village, IL: American Academy of Pediatrics; Washington, DC: American Public Health Association.

U.S. Consumer Product Safety Commission (CPSC). (2008). *Public playground safety handbook*. Bethesda, MD: CPSC.