

SAFETY FIRST: Recycled Rubber Mulch



Leading Playground Surface
for Fall Height Protection

FACT: A child is hurt on a playground every 2½ minutes in the U.S. – severely enough to be rushed to the emergency room.

July 2010



As playground safety surfacing, a 6-inch layer of recycled rubber mulch will cushion a child's fall from as high as 16 feet, offering better fall height protection than any other material on the market.

A study by the National Program for Playground Safety (NPPS) indicates that 79% of playground injuries occur as the result of a fall in which the surfacing material was inappropriate or inadequate.

With more than 200,000 children injured each year as a result of playground falls, according to the U.S. Centers for Disease Control and Prevention, safety surfacing is the most vital component of avoiding playground injuries.

Any type of equipment on which a child stands, sits or climbs should have a safe zone of appropriately resilient surfacing.

More than one-third of all playground-related injuries are severe – fractures, internal injuries, concussions, dislocations and amputations. Almost 70% occur on public playgrounds. Most are associated with climbing equipment, slides and swings.

FACT: A fall from a height as low as 1 foot onto concrete could cause a concussion.

According to the Public Playground Safety Handbook published by the Consumer Product Safety Commission (CPSC), "surfacing under and around playground equipment is one of the most important factors in reducing the likelihood of life-threatening head injuries."

And each year, about 15 children ages 14 and younger die from playground-related injuries. About a quarter of the deaths are from falls to the playground surface.

The most widely accepted method for evaluating the shock-absorbing properties of a playground surfacing material is to release an instrumented "headform" onto a sample of the material and record the effects of impact. Guidelines for these evaluations are developed by the American Society for Testing and Materials (ASTM).

These startling numbers demonstrate a critical need for broad support of playground design and construction that prevents children from being injured or even killed.

FACT: Falling from a height of 8 feet onto dirt is the same as traveling 30 m.p.h. into a brick wall.

Field and laboratory testing described in ASTM F1292 (*Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment*) provides a “critical height” rating of the surface. This height can be considered as an approximation of the fall height below which a life-threatening head injury would not be expected to occur.

Other Advantages of Recycled Rubber Mulch

Recycled rubber mulch is clean and nontoxic. The coloring will not rub off on children or pets, and recycled rubber mulch minimizes airborne dust and particles. Also, recycled rubber mulch will not cause painful scrapes, scratches or splinters.

- Requires minimal maintenance.
- Will not decompose or compress.
- Resists erosion caused by wind and water.
- Lasts up to 10 years or longer.
- Does not attract mold, insects or vermin.

MINIMUM COMPRESSED LOOSE-FILL SURFACING DEPTHS ¹

Depth (Inches)	Material	Critical Height (Feet)
6	Recycled Rubber Mulch	16*
9	Sand	4
9	Pea Gravel	5
9	Wood Mulch	7
9	Wood Chips	10

¹ CPSC Handbook for Playground Safety

* International Play Equipment Manufacturers Association



THE RULE OF 6

The surface beneath playground equipment should be covered at least 6 inches deep with recycled rubber mulch extending at least 6 feet in all directions surrounding the equipment.

Not even constant one-on-one supervision will prevent every fall, but “The Rule of Six” will prevent injuries or reduce their severity.

FACT: Only 9% of all backyard playgrounds in the U.S. have protective safety material beneath the equipment.

SOURCES

"America's Playgrounds: Safety Report Card," University of Northern Iowa, 2006
http://www.uni.edu/playground/research/report_card_form.pdf

"CPSC Handbook for Public Playground Safety," U.S. Consumer Product Safety Commission, 2007
http://www.playsafesurfacing.com/Products/CPSC_Handbook_for_Public_Playground_Safety.pdf

"Facts: Safety Awareness," Healthy One
http://www.usmc-mccs.org/display_files/Facts_SafetyAwareness.doc

"Falls Prevention," National Fires Protection Association
<http://www.nfpa.org/itemDetail.asp?categoryID=1777&itemID=42363&URL=Safety%20Information/For%20consumers/Unintentional%20injuries/Falls%20prevention&cookie%5Ftest=1>



"How Safe is Your Home Playground Equipment?" *BackyardCity*, April 2010
<http://www.backyardcity.com/articles/Playing-It-Safe-Part2.htm>

"Play It Safe on the Playground: Safe Kids Kansas Warns: Playground Surfaces Are Critical,"
The Kansas Department of Health and Environment. June 2008
http://www.kdheks.gov/news/web_archives/2008/06232008.htm

"Playground Injuries: Prevention Strategies," Centers for Disease Control, September 2006
<http://www.cdc.gov/ncipc/factsheets/playgr-prevention.htm>

"Playground Safety Tips," National Safety Council: Greater Omaha Chapter, June 2007
<http://www.safenebraska.org/pdf/Playground-Safety-Tips.pdf>

"Preventing Injuries to Children on Playgrounds," SAFE KIDS Nebraska
<http://www.safekidsnebraska.org/safety-tips/Playground%20tips.pdf>

"Rubber Mulch: The Natural Choice," *Green Building Pro*, June, 21 2010
<http://www.greenbuildingpro.com/articles/57-features/1840-rubber-mulch-the-natural-choice>

"SAFE Playgrounds: Recognizing Risk Factors," *EarlyChildhoodNEWS*
http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=128

"Schools and Playgrounds," September 2007
<http://www.oregon.gov/DHS/ph/safekids/playgrounds.shtml#PlaygroundRisks>

"Slips and Falls the Leading Cause of Home Injury," *Rochester Healthy Living*
<http://www.rochesterhealthyliving.com/articles%20health%20physical/ph020306.htm>

"Testing the impact attenuation of loose fill playground surfaces," *Injury Prevention*, 2000; 6:141-4.

"What You Should Know About: Unintentional Fall Injury," Oklahoma State Department of Health
http://www.ok.gov/health/documents/CG_Falls.pdf