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SCHOOL SAFETY

PLAYGROUND SURFACING

More than 75% of playground injuries come from falls to the ground. The surfacing material under and around playground equipment is one of the most important factors in reducing the likelihood and severity of injuries.

Playground safety standards are guidelines determined by the Consumer Product Safety Commission (CPSC). The American Society for Testing and Materials (ASTM) sets standards for the quality of materials used in manufacturing. The standards for playgrounds are ASTM F1487-F1495, and ASTM F1292 for playground surfacing materials.

Unitary surfacing materials are the best option for playground surfacing. Unitary surfacing materials are generally rubber mats and tiles, or a combination of energy-absorbing materials held in place by a binder that can be poured in place then cured to form a unitary shock absorbing surface. Unitary surfacing is more expensive to install, however, once installed, it does not require the ongoing maintenance that loose-fill material requires.

If unitary material is selected for playground surfacing, it is recommended to request a copy of ASTM F1292 from the manufacturer. ASTM F1292 is the standard specification for impact attenuation of surfacing materials. This document shows the product has been tested and meets the ASTM requirements. For more information on ASTM F1292, please visit www.cpsc.gov.

Loose-fill materials can consist of engineered wood fiber, which is a wood product that looks similar to landscaping mulch. Landscaping mulch is not an appropriate cushioning material and should not be used for playgrounds. There are rubber mulch products that are designed specifically for the use of playgrounds. Other types of loose-fill materials are pea gravel, sand, and wood chips. Loose-fill material must be monitored on a regular basis to ensure the material has not compressed, to maintain the proper depth, and put displaced material back into the playground area.

Inappropriate surfacing material includes asphalt, carpet, concrete, dirt, grass, chromated copper arsenate (CCA) treated wood mulch, or any other hard surface. Railroad ties that have been treated with CCA should never be used as a border around a playground.

As a general rule of thumb, loose-fill material should always be installed at 12", and should be maintained between 9" - 12". However, fall heights will determine the required depth of loose-fill material.

Minimum Amount of Loose-Fill Material in Inches	Type of Loose-Fill Material	Fall Height from Equipment
6"	*Shredded/recycled rubber	10'
9"	Sand	4'
9"	Pea Gravel	5'
9"	Non-CCA Wood Mulch	7'
9"	Wood Chips	10'

**Shredded/recycled rubber loose-fill surfacing does not compress in the same manner as other loose-fill materials. However, care should always be taken to maintain a constant depth as displacement of the material will occur.*

The above chart represents the amount of loose-fill material needed to protect up to a specific fall height. For example, if the fall height is 10', and the loose-fill material is shredded/recycled rubber, then the compressed loose-fill material depth should be no less than 6". However, if the fall height is 10' and the loose-fill material is wood chips, then the compressed loose-fill material depth should be no less than 9".

Loose-fill material must be monitored on a regular basis to ensure the levels never drop below the minimum compressed depth. Areas under slide exits and swings are more susceptible to material displacement and will require continual monitoring and raking of the material back in place.

Playground cushioning material should be monitored when school is not in session and throughout the summer months due to neighborhood children using the playground.

For additional information on playground safety, surfacing material, approved equipment, or ASTM standards, please visit www.cpsc.gov and look for the Playground Safety Handbook

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