**Section** **407. APPENDIX H Playground Surfacing & Critical Height**

Partially exempt programs are exempt from this standard.

Critical Height is a term used to describe the shock absorbing performance of a surfacing material and is used in this Part as an approximation of the maximum fall height from which a life-threatening head injury would not be expected to occur.

The surfacing material used under and around a particular piece of playground equipment should have a Critical Height Value of at least the height of the highest accessible part of the equipment.

Acceptable surfacing materials are available in two basic types, unitary or loose-fill.

Unitary materials are generally rubber mats or a combination of rubberlike materials held in place by a binder that may be poured in place at the playground site. Persons wishing to install a unitary material as a playground surface should request test data from the manufacturer that should identify the Critical Height of the desired material. Site requirements should also be obtained from the manufacturer because some unitary materials require installation over a hard surface, while for others this is not required.

Loose-fill materials can also have acceptable shock absorbing properties. These materials include, but are not confined to, sand, gravel and shredded wool products. Loose-fill materials should not be installed over hard surfaces such as asphalt or concrete.

Many vendors are unlikely to have information on the shock absorbing performance of loose-fill materials. For that reason the U.S. Consumer Product Safety Commission has conducted tests to determine the relative shock absorbing properties of some loose-fill materials commonly used as surfaces under and around playground equipment. The table below identifies the Critical Heights of these materials when tested at various depths.

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| Critical Height of Tested Materials |
| Material | 6 inch uncompressed depth | 9 inch uncompressed depth | 12 inch uncompressed depth | 9 inch compressed depth |
| Wood Mulch | 7 feet | 10 feet | 11 feet | 10 feet |
| Double Shredded Bark Mulch | 6 feet | 10 feet | 11 feet | 7 feet |
| Uniform Wood Chips | 6 feet | 7 feet | 12 feet | 6 feet |
| Fine Sand | 5 feet | 5 feet | 9 feet | 5 feet |
| Course Sand | 5 feet | 5 feet | 6 feet | 4 feet |
| Fine Gravel | 6 feet | 7 feet | 10 feet | 6 feet |
| Medium Gravel | 5 feet | 5 feet | 6 feet | 5 feet |

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(Source: Amended at 28 Ill. Reg. 3011, effective February 15, 2004)