

TABLE 4.14 Critical Heights Determination on Selected Playground Equipment

Equipment	Highest accessible part
Swings	Height of swing at 90° from the at-rest position
Slides (including platform)	Top of platform guardrail
Climbers	Maximum height of structure
Horizontal ladders	Maximum height of structure
Merry-go-rounds	Any part at the perimeter on which a child might sit or stand
Seesaws	Maximum attainable height of any part
Spring rockers	Any part on which a child might sit or stand

SOURCE: Adapted from the U.S. Consumer Product Safety Commission.

rubber or foamlike materials installed as either interlocking or joined mats or in some cases poured in place. The performance of these materials varies widely (Fig. 4.34). Specifiers should request current test information for the product to determine its acceptability for a particular application. A disadvantage of using unitary materials is their high initial cost (including the cost of base preparation). Also, some interlocking mats have been observed to curl up at the edges, creating a trip hazard. Unitary materials are also subject to damage by vandals in areas where vandalism is a problem.

The advantages, on the other hand, are significant. These materials have a consistent performance over their life cycle. Unitary materials have a low maintenance cost (vandalism costs excepted). The life cycle costs of unitary materials are often less than loose-fill materials. The material stays in place—it is not moved during play—and no unwanted objects can be hidden. Unitary materials also provide an accessible surface.

Loose-fill materials also include a broad range of products from sand to shredded bark to shredded foam. The advantages of loose-fill materials are primarily related to cost. Loose-fill materials are relatively inexpensive and are readily available, they require limited site preparation, and they are easy to install. The disadvantages include higher maintenance and life cycle costs. They are subject to contamination by precipitation, dirt, and other unwanted materials. Their performance may be affected by displacement by children during play and by weather conditions such as high humidity or freezing (see Figs. 4.35 through 4.37).

Bicycle and Multiple-Use Paths

According to some reports, more than 30 percent of Americans ride bicycles for pleasure. As interest in bicycling has increased over the past 30 years, the interest in bicycle paths and trails has increased as well. Communities across the country have developed or are planning to develop bicycle paths. Bicycle routes are usually one of three types: the dedicated bicycle path system sepa-