



# Choosing Playground Surfaces

Everything you need to know to keep your kids safe in the playground.

## Grass

### Advantages

- Good for overall playground
- Attractive in appearance
- Provides oxygen

### Disadvantages

- Not suitable for under swings, slides, or climbing equipment
- Requires maintenance
- Can stain clothing
- Slippery when wet



## Dirt

### Advantages

- Inexpensive
- Easily used to form hills and slopes

### Disadvantages

- Not suitable for under swings, slides, or climbing equipment
- Packs down tightly, may become too hard
- Becomes “mud” when wet
- May not drain well

## Concrete

### Advantages

- Provides a suitable surface for riding toys and some ball play

### Disadvantages

- Tests show this is the hardest surface available. Fatal injuries can occur if a child falls on his/her head from only 3 inches.

## Asphalt

### Advantages

- Provides a suitable surface for riding toys and some ball play

### Disadvantages

- Second hardest surface, with fatal accidents resulting from a fall from 2 feet
- Heats up and cracks easily

## Wood chips, bark mulch, engineered wood fibers, etc.(organic material)

### Installation/Maintenance

- Should not be installed over existing hard surfaces (ex. asphalt, concrete)
- Requires a method of containment (ex. retaining barrier, excavated pit)
- Requires good drainage underneath material
- Requires periodic renewal or replacement and continuous maintenance (ex. leveling, grading, sifting, raking) to maintain appropriate depth and to remove foreign matter

### Advantages

- Low initial cost
- Ease of installation
- Less abrasive than sand
- Less attractive to cat and dogs (compared to sand)
- Attractive appearance

### Disadvantages

- Rainy weather, high humidity, freezing temperatures may reduce cushioning potential
- Over time, decomposes and compacts requiring replenishment
- Floats and blows away easily
- Clings to clothing
- Can be blown or thrown into children’s eyes
- When wet, can become moldy and aggravate allergies
- Conceals animal waste and hazards
- Spreads easily outside on containment area
- Can be flammable

## Sand and gravel (inorganic material)

### Installation/Maintenance

- Should not be installed over existing hard surfaces (ex. asphalt, concrete)
- Method of containment needed (ex. retaining barrier, excavated pit)
- Good drainage required underneath material
- Requires periodic renewal or replacement and continuous maintenance (ex. leveling, sifting, grading, raking) to maintain appropriate depth and remove foreign matter

- Compacted sand should periodically be turned over, loosened, and cleaned.
- Gravel may require periodic break up and removal of hardpan (a layer of very hard clay-like matter or subsoil).

### Advantages

- Low initial cost
- Ease of installation
- Nonflammable
- Gravel is less attractive to animals than sand
- Drains fairly well
- Gravel does not have to be replaced frequently

### Disadvantages

- Sand clings to clothes and gets tracked inside easily
- Small particles of sand bind together and become less cushioning when wet; when thoroughly wet, sand reacts as a rigid material
- Depth may be reduced due to displacement by children's activities and sand may be blown by the wind
- Sand may be blown or thrown into children's eyes
- Sand tends to be used by animals as a litter box
- Pea gravel not appropriate for infants and toddlers (goes into mouths, ears, noses)
- Gravel is difficult to walk on and gets into shoes easily
- Conceals animal waste and hazards
- If displaced onto nearby hard surface pathways, could present a fall hazard

## Shredded tires (inorganic material)

### Installation/Maintenance

- Should not be installed over existing hard surfaces (ex. asphalt, concrete)
- Method of containment needed (ex. retaining barrier, excavated pit)
- Good drainage required underneath material
- Requires continuous maintenance (ex. leveling, grading, sifting, raking) to maintain appropriate depth and remove foreign matter

### Advantages

- Ease of installation
- Has superior shock absorbing capabilities
- Is not abrasive
- Less likely to compact than other loose-fill materials.
- Will not mold
- Does not deteriorate over time

### Disadvantages

- Is flammable
- Unless treated, may cause soiling of clothing
- May contain steel wires from steel belted tires (some manufacturers provide a wire-free guarantee)
- Depth may be reduced due to displacement by children's activities
- May be swallowed

## Rubber or rubber over foam mats or tiles, poured in place urethane and rubber compositions (unitary synthetic materials)

### Installation/Maintenance

- Some unitary materials can be laid directly on hard surfaces such as asphalt or concrete. Others may require expert under-surface preparation and installation by the manufacturer or a local contractor. Materials generally require no additional means of containment. Once installed, the materials require minimal maintenance.

### Advantages

- Low maintenance
- Easy to clean
- Consistent shock absorbency
- Material not displaced by children during play activities
- Generally low life cycle costs
- Good footing (depends on surface texture)
- Harbor few foreign objects
- Generally no retaining edges needed
- Is accessible to the handicapped

### Disadvantages

- Initial cost high
- Under-surfacing may be critical for thinner materials
- Often must be used on almost level uniform surfaces
- May be flammable
- Can get hot enough to cause burns
- Subject to vandalism
- Full rubber tiles may curl up and cause tripping
- Some designs susceptible to frost damage