

# Playground Surfacing

## When is an impact attenuating surface required?

All playground equipment with a free height of fall greater than 600mm above ground level and specific equipment items such as slides, swings, carousels, cableways, rocking and spinning items must have an impact attenuating surfacing beneath and around (impact area) it to minimise serious head or other injuries in the event of a fall.

## Selecting a Surface

The two main types of playground surfacing are loose-fill and solid (unitary) material.

Playground surfacing must meet the test requirements of *AS 4422 Playground surfacing* and the supplier should provide documented evidence for your records that it complies to the Australian Standard.

Consider environmental conditions, cost and maintenance when selecting a material.



### 1.1 Installation

*AS 4685.0: Playground equipment and surfacing* requires loose-fill surfacing to be installed at a minimum depth of **300mm** and maintained at not less than **200mm**. Install and maintain loose-fill surfacing at a greater depth to allow for product loss and dispersion as children use the playspace.

### 1.2 Maintenance

Inspect loose-fill material regularly, rake to remove sharp and organic debris. Do not rotary hoe as this disturbs the subsurface and can bury and mix contaminants.

Loose-fill material is easily displaced and should be retained by a border or edge that is constructed of an appropriate material and does not present trip hazards or sharp protrusions. Check the border is secure and that timber components have not separated or split.



## 1. Loose-fill Material

Loose-fill includes products such as bark mulch, wood chips, wood fibre and sand. The cushioning effect of loose-fill is achieved by trapping air between particles. These products are generally less expensive up front than solid materials but require regular maintenance and topping up so consider the cost of ongoing maintenance.

Sand is popular, however it also must be tested to AS 4422. Each sand type varies and may have differing depth requirements. Check with the supplier for information.





## 2. Unitary Surfacing

Include products such as synthetic grass, rubber tiles and wet pour rubber. The impact attenuating qualities vary according to the thickness of the layer and the composition of the material.

Unitary surfaces can work well in combination with loose fill products providing a fixed surface beneath heavy traffic areas such as swings (as pictured previous page) and at the run-out (base) of slides. This reduces both the ongoing costs and labour to replenish loose fill.

## 2.1 Design Tips

Avoid joins in wet pour rubber and synthetic grass in high traffic areas such as beneath swings and at the run-out (base) from slides. Install lighter colour rubber as this will absorb less heat however, be aware that light colours in large expanses can reflect glare and may make the area uncomfortable for users. Heat and glare issues can be minimised with the provision of shade structures or trees.



## 2.2 Maintenance

Regularly check solid surfaces for wear and tear. Use an outdoor blower/vacuum cleaner or stiff broom to remove leaves and unwanted material from the surface. An annual high-pressure wash will maintain the appearance and reduce any foliage stains. Repairs to any surface damage is required immediately. If the surface is shaded and conditions are moist, fungal growth may occur. This can be easily rectified by washing with a mild detergent solution and stiff broom or pressure wash.

Synthetic grass may require topping up of sand (refer to manufacturer's maintenance regime). To keep the sand from compacting and to limit the fibres from "matting down", brush synthetic grass on a regular basis.

### Playground Surface Impact Testing

AS 4685.0 requires impact testing of unitary surfacing after installation and then every three years to ensure the impact attenuating surface is complying to the test requirements of AS 4422.



### Preventing Burns and Scalds

Before children enter the playspace, use a thermometer to check the temperature of the playground surface. Alternatively, hold your hand just above the surface to determine if the playground surface is too hot. If the surface temperature feels too hot or is 50° or more it is too hot for play.



### Suggestions:

- Wetting the area to cool the surface
- Install light coloured surfacing
- Install shade structures or plant trees
- Wait for a cooler time of day

Guide to Climate-Smart Playgrounds:

<https://researchdirect.westernsydney.edu.au/islandora/object/uws%3A60046>

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