

# Substructure specifications

Although Playtop® can be installed as a package contract, some playground operators may wish to install the substructure themselves, leaving just the specialised work of mixing and laying the porous-rubber upper layers to the local Playtop® licensee. This section gives basic details of substructure specifications - we can provide more detail on request.

## Existing hard surfaces

Playtop® can be laid on most existing hard surfaces of concrete, bituminous macadam or asphalt in sound condition. Provided the surface is firm and even, it can usually be treated to achieve a suitable substructure. However, to avoid problems, please always refer to us for approval. Note that the finished surface will only drain freely if the existing hard surface is porous. Where there is existing play equipment on the site - especially moving equipment such as swings or carousels - the ground clearance under it must usually be maintained. This may mean raising the equipment or lowering the existing surface to allow for the thickness of Playtop®.

## New construction

An important cost advantage of Playtop® is that the very strong porous-rubber surface can usually be laid directly onto a dynamic (crushed-stone) foundation layer, without the considerable extra expense of an engineered structural layer. A structural layer is needed only when the thickness of the rubber is 20 mm, for example on run-about areas of a playground or under low-level play equipment. But it may be cheaper to increase rubber thickness to 40 mm to avoid building a structural layer (see Data Sheet 1).

## Foundation layer

The aggregate used to construct the foundation layer should be graded crushed rock, compacted and regulated to a finished thickness to suit site conditions. This may range from 100 mm to a normal maximum of 300 mm. The foundation layer should be laid with local deviations no greater than 10 mm under a 3 metre straight edge in any direction. This specification applies both to foundation layers for direct application of Playtop® and where there is to be an intervening structural layer.

## Structural layer

Where a structural layer is needed (under 20 mm thickness of Playtop®) we recommend a porous construction of open-textured bituminous macadam, so that the surface will drain freely. This may be laid as a single course with minimum consolidated thickness 50 mm using aggregate of 10 mm nominal size. Alternatively, two courses may be laid. First a base course of minimum consolidated thickness 40 mm using aggregate of 10 mm nominal size, followed by a top course of minimum consolidated thickness 20 mm using aggregate of 6 mm or 10 mm nominal size. The macadam should be laid with local deviations no greater than 8 mm under a 3 metre straight edge in any direction. A steel-wheeled roller should be used to compact the area while the materials are in a workable condition. Compaction should continue until the roller leaves no marks. Particular attention should be given to the location and standard of all joints.

If an impervious base is specifically required, the top course should be a dense bituminous macadam or hot rolled asphalt.

The structural layer should be completed at least 14 days before Playtop® is installed.

## Perimeter detail

The surface is normally retained by edgings. Hydraulically pressed precast concrete edgings are most common, although pressure-treated timber edgings, block pavings, engineering bricks or plastic may also be used. Edgings should be set in a concrete bed and haunch and set above the level of the substructure by the required thickness of Playtop® and any structural layer. They should be laid to an accurate line and level and to a tolerance compatible with the finished surface level. If Playtop® is to surface only part of an existing hard area, it may be possible to cut a chase at the perimeter to assist bonding and allow the top surface to form a gentle ramp rather than a dangerous trip-edge.

Technical data sheets are available for:

1. Assessing required thicknesses and areas
2. Substructure specifications
3. Additional tests
4. Maintenance and repair

All can be found under the Downloads section on: [www.playtop.co.uk](http://www.playtop.co.uk)

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