



**MAINTENANCE
OF SAND-FILLED
ARTIFICIAL
GRASS COURTS**

Most sand-filled artificial grass courts consist of a permeable sub-base usually of bitumen macadam upon which is laid a tufted, polypropylene fibred carpet. The fibres vary in length and density. The carpet, which is loose laid, (not adhered to the sub-base), is then dressed with a filter-grade silica sand which fills the interstices between the fibres to within about 3mm of the fibre tips. The weight of the sand is sufficient to keep the carpet firmly in place. Play lines are either tufted into the carpet and therefore integral with it, or subsequently cut in using similar carpet materials of the appropriate white or yellow colour. Occasionally play lines are painted onto the surface, but these are decidedly temporary and need frequent repainting.

The resulting tennis surface is fully permeable, hard wearing and requires only a modest amount of maintenance, but this modicum of maintenance is nevertheless of vital importance if the surface is to remain good to look at, consistent in play, permeable and long-lasting. Indeed the installer's guarantee will usually be conditional on his recommended maintenance requirements being carried out with reasonable diligence.

What maintenance and why?

The maintenance procedures are designed to ensure the following:

- That the playing surface is scrupulously clean
- That the playing surface is level and of consistent texture to give a true predictable game.
- That the free drainage of surface water is maintained throughout the life of the court
- That the court looks attractive and well cared for at all time.

These objectives are achieved by:

- Sweeping leaves and other debris from the surface
- Brooming the surface to freshen the fibre surface, counteracting any slight sand drift or compaction and counteracting any tendency to form an impervious skin on the sand surface that might impair drainage.
- Applying prophylactic treatments of mosskiller and/or algacide

Keeping the Surface Clean

Leaves, tree flowers, pine needles, fluff from tennis balls and other detritus should not be allowed to remain on the surface for any length of time. If this happens they rapidly rot down forming a drainage-inhibiting 'skin' within the surface, providing a growing medium for algae and moss.

A wide soft broom or a rubber tined rake are ideal for removing vegetable matter and other rubbish. Better still a mechanical leaf-sweeper or garden vacuum cleaner will greatly speed up the operation. The equipment should be well maintained and carefully operated to avoid contamination of or physical damage to the surface. Both sweepers and vacuum cleaners may tend to remove rather too much sand during the first few months of the life of the surface, but thereafter this should cease to be a problem. Some disturbance of the surface of the sand may be a positive benefit (see brooming below).

Brooming

Brooming the surface is a crucial operation if premature loss of appearance and drainage is to be prevented. Apart from freshening the look of the surface (rather like a lawn mower striping a lawn) the purpose of regular and fairly vigorous brooming is to prevent the formation of a compacted and impervious skin on the top of the sand-layer, which will inhibit drainage and encourage moss and algae.

A three foot wide broom with bristles of medium stiffness is best (the installer can recommend or supply the correct type). it can be dragged over the surface, or better still pushed. Brooming should ideally be done in both directions – in the length of the court and then at right angles across it – but if this is too time-consuming, vary the direction of brooming from time to time.

The recommended frequency of brooming must depend on the amount of use the court receives and whether its location is open and 'clean'. Once a month is recommended, but it may be advisable to broom more often if the court is heavily used, shaded or subject to pollution. Similarly a little used court, in a domestic garden for instance, will come to no harm if the intervals between broomings are longer, provided the location is open and clean.

There is a selection of mechanical brooming machines available which will speed up and lighten the operation and these are recommended at clubs where there are several courts. The machines vary in the vigour

with which they broom the surface - some are rather fierce and are only recommended for use by experienced operatives and where heavy remedial brushing is indicated. Combined brush and vacuum machines must be used with even greater care because sand brushed and sucked from the surface may be very difficult to replace especially to replace especially when the court is well worn.

The installers' advice should always be sought when considering the use of any but the lightest machines.

It can not be overemphasised that to neglect the brooming of this kind of court may have serious long-term consequences even if, in the shorter term, the court does not appear to suffer. Brooming need neither be time consuming nor onerous, and its benefits are profound. To omit the process may result in a court ceasing to drain at half life or sooner. An unbroomed court will look scruffy and be susceptible to moss infestation.

Moss & Algae

In certain situations and in some seasons algae or moss can become established on the court surface. Since prevention is very much more efficient than cure, it is important to treat the court with a good proprietary moss killer and algaecide at least once a year.

Moss is not usually found on that part of the surface that is trafficked by play, and it may not be essential to treat these areas although it is still a wise precaution to do so. Particular attention should however be paid to those perimeter and other areas that are not trafficked, especially if they are shaded by buildings or overhung by trees. Any good proprietary product is satisfactory provided it is not oil-based. The manufacturers' instructions should be closely followed. Some installers can supply specially formulated moss killers.

Should moss have become established it should be treated immediately, the application being repeated until the moss can be brushed and cleared away. In the case of very severe infestation, the installer should be consulted. High pressure cleaning equipment is now available but its use is a skilled process.

It should be emphasised that moss is only a serious problem if it is allowed to become established. An annual prophylactic application of moss killer is an easy way of preventing this. Regular brooming and use of the court renders moss an even less likely problem.

The First Month or Two

Immediately after construction there is an initial working-in period during which the final playing surface is created.

Initially the court surface will be left rather sandy but full penetration of the sand infill into the polypropylene fibres and its subsequent compaction into a uniform playing surface occurs naturally with normal processes, especially rainfall and initial play. This usually takes two or three months.

During construction every effort is made to ensure even distribution of sand over the whole court. Experience, however, shows that increasing the frequency of brushing in the early weeks of use is beneficial in creating the final playing surface.

If areas are found which are short of sand it should be possible to brush the sand into them from adjacent areas of ample or surplus sand, provided this is done within the last few weeks. If the under-sanded areas are extensive or do not respond to this treatment, the installer should be called in immediately.

Play Lines

The court will normally be supplied with permanently in-laid playing lines. However, if additional lines are required for special events, these can be painted on to the surface using water-based paints. Chalk lines can be applied but these tend to leave a lasting powder spread in the area of the line. Permanent lines require no special attention.

Stain Removal

Most stains can easily be removed with a solution of hot (not boiling) water and a household detergent e.g. washing up liquid. The removal of chewing gum can be simplified by using ice cubes to harden the gum. Heavy oil marks can be removed with a cloth and methylated spirits.

Weeds

No matter how much care is taken, weeds may occasionally appear on the surface usually as a result of wind blown seeds. Small numbers of weeds can be removed by hand without damaging the surface. Localised areas of weed seedling infestation can be treated with domestic weed killers without causing damage to the surface of the court. Oil-based weed killers should not be used.

Snow and Ice

Snow and ice are not harmful and can be allowed to melt through in. if it is important to remove the snow to enable play to start sooner rather than would otherwise be the case, brushes or wooden scrapers may be used. Metal shovels or scrapers may damage the surface and should not be permitted. Rock salt and chemical de-icing agents should not be used.

Provided that the foothold is adequate the court may be played on when frozen, but heavy use is to be discouraged because the fibre is relatively brittle at low temperatures.

If heavy rain falls immediately after a very cold spell, the court may become flooded for a few hours. This is because the sand beneath is still frozen. Do not worry, the ice will soon melt and the surface will then drain normally.

Footwear and General Court Care

Make sure that suitable tennis footwear is used. If the court is used occasionally for other sports, a multi-studded boot with a stud length of $\frac{1}{4}$ '' will be satisfactory. Metal studs must not be used.

It is strongly recommended that your court is a 'no smoking' area. A dropped cigarette will melt the fibres down to the surface leaving an unsightly mark. Chewing gum should be banned too.

Maintenance Schedule

Daily – at the end of the day's play:

- Make sure the net is slackened and rolled up in the middle
- Make sure the gate is shut

Weekly

- Clear leaves and rubbish from the court
- Deal with any new weeds, moss or algae

Monthly

- Broom court to re-distribute sand. Check sand levels
- Check for moss and algae growth, food stains, shoe-marks etc. and remedy as appropriate

Annually

- Apply mosskiller/algaecide
- Call in the installer if any aspect is causing significant concern

Note: these are minimum recommendations.

Common sense and careful observation should prevail. If any serious doubt exists about the effectiveness of the maintenance regime or the condition of the court(s) call in the installer immediately. It is better to be safe than sorry.