



MAINTENANCE GUIDELINES

For Porous Asphalt Surfaces

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1. INTRODUCTION TO MAINTENANCE OF POROUS ASPHALT SURFACES

Porous asphalt surfaced courts consist of a permeable foundation of graded stone, on which is laid the asphalt base (binder) course and wearing course (or playing surface). This is then usually coated with a spray applied coloured acrylic or polyurethane paint surface coating. Play-lines are painted on. The resulting surface is fully permeable, hard-wearing for sports use only, and playable throughout most of the year and requires relatively little maintenance. However, the maintenance that is required is of vital importance for the surface to remain good to look at, good to play on and be long-lasting. Indeed, the installer's guarantee is conditional upon the recommended maintenance requirements being carried out with reasonable efficiency.

2. WHAT MAINTENANCE AND WHY

The maintenance procedures are designed to ensure that:

- The playing surface is kept scrupulously clean.
- The free drainage of surface water is maintained throughout the life of the court.
- The court looks attractive and well always cared for and achieves a reasonable life span. This can vary from 8 to 12 years, sometimes longer for a lightly used but well-maintained court.

These objectives are achieved by:

- Sweeping or vacuuming leaves and other detritus from the surface.
- Washing the surface at least once a year.
- Applying treatments of moss-killer / weed killer, as necessary.
- Re-colouring every 4 to 6 years.

3. KEEPING THE SURFACE CLEAN

Leaves, tree flowers, pine needles and other detritus should not be allowed to remain on the surface for any length of time. If this happens, they rapidly rot down and settle into the interstices of the surface impairing drainage and providing a growing medium for algae and moss. A wide broom can be used to sweep the surface, but this can tend to push smaller material into the surface. Best of all is a mechanical garden vacuum cleaner, which will greatly speed up the operation and do it more efficiently. Mechanical leaf sweepers or blower / vacuums can also be good. The equipment should be well maintained and carefully operated to avoid contamination of, or physical damage to, the playing surface.

At least once a year the court surface will benefit from a vigorous wash. This not only has the effect of keeping the surface interstices clean and free draining but is also essential for maintaining good foothold. Playing surfaces near busy roads are particularly susceptible to becoming coated with "traffic film", whilst those near trees may become coated with "honey-dew" from aphids. The resulting black film from either cause can make the surface very slippery after rain.

If water pressure is reasonably high, general washing can be carried out with a domestic hosepipe assisted by a mild cold-water detergent. More effective are the cold-water pressure washers that are available from most equipment hire outlets. These must be used with care; however, the greatest attention being paid to establishing that the process is not dislodging the painted coloured surface coating or bitumen coated stone chippings. Again mild, non-foaming detergent increases the efficiency of the operation. Steam cleaners should not be used. If the court's surface has become very badly sealed and does not respond satisfactorily to this treatment, consult the installer or a firm that specialises in cleaning sports surfaces.

We recommend a professional clean by a sports maintenance contractor (such as ourselves) is undertaken every year for optimum long-term porosity and surface grip.

4. THE POST CONSTRUCTION PERIOD

We will indicate when play can commence on the new surface and our instructions should be followed meticulously. Unsuitable footwear and unauthorised use by roller skaters or cyclists should be prohibited, especially in warm weather. On a very new surface water will sometimes stand on the surface after heavy rain. This is a temporary phenomenon resulting from surface tension and should not cause concern unless it persists.

5. PLAY IN HOT WEATHER

The modern porous asphalt surface can be produced with special additives to lift the temperature at which it softens in hot weather, significantly above that which renders normal asphalt unusable. The surface coating is also beneficial in this respect. Nevertheless, a porous asphalt sports surface may still soften in hot weather, especially in the first season after construction. Thereafter the tendency to soften should diminish.

If the surface softens play should be stopped immediately, because serious damage can result from continuing to play. The first sign of the problem is usually when black marks begin to appear because of the paint being rubbed or scuffed off. Plus, there can be signs of aggregate loss/dislodgement resulting in a small black hole. **If play continues, this may cause irreparable damage.** It is sometimes possible to cool a hot surface by hosing it down with cold water to allow evening use to take place. Softening is a phenomenon usually confined to the first season, but, even thereafter for a year or two, the surface should be checked if very hot weather is experienced.

GENERAL COURT CARE COMMON TO ALL PLAYING SURFACES

6. FOOTWEAR

Good quality flat soled tennis shoes are recommended for all surfaces. Training shoes or other types of footwear with bars, studs or sharp serrations on the soles should not be used.

Players will find it advantageous to have two or three pairs of shoes with different sole types, for instance, a smooth sole that may give perfect grip on a dry surface may need to be replaced with a sole that has more grip when the same surface is damp or wet. Similarly, some sole types may give too firm a foothold on some surfaces, therefore, may over-stress knees and ankles etc. Trial and error will soon indicate the optimum sole for any given type and condition of surface.

Note: It is useful to have a note at the entrance to the court recommending the correct type of footwear. A player wearing incorrect shoes with aggressive soles can do a great deal of damage in a very short time. It is also wise to avoid black soles on painted surfaces because these tend to leave unsightly black marks, which are difficult to remove.

It is also advisable to have some form of mat, scraper, or shoe-cleaning device at the entrance to the court so that players can clean their shoes before going on the court.

7. FURNITURE, TOYS AND EQUIPMENT ON THE COURT

Most surfaces will be indented and therefore damaged by heavy or sharp objects standing on the court. Umpire's chairs, garden seats etc. should not be put directly onto the surface, but boards or pads should be placed under the legs to spread the load. It is also essential to prohibit roller-skates, skateboards, bicycles, wheelbarrows, and anything else that people may bring on the court and which could do damage to the surface. Family pets should also be excluded. Machinery being used on the

court surface, such as compressors, water-pumps etc. should be stood at all times on a piece of plywood or similar.

8. THE COURT PERIMETER

A strip of ground at least two feet (600mm) wide outside the surround fence should be always kept clear of vegetation to form a barrier against plant and weed encroachment onto the playing surface. This may be done quite simply with an appropriate weedkiller. It follows from this that climbing plants such as roses or clematis should not be planted to grow up the surround fencing. Not only may their roots disturb the court surface, and their leaves pollute it, but they may cause severe damage to the fencing during high winds. Shrubs, trees and hedges should be planted as far back from the court as possible, certainly allowing sufficient room between the surround fence and plants for maintenance to be carried out between them.

9. TREE ROOTS

Trees, hedges, and shrubs to be planted close to the court should be chosen carefully to avoid any with aggressive root systems, such as poplars, willows, and sycamores, as these can cause major disturbance of the surface. If their use is essential, the insertion of a root barrier between the trees and the court is strongly recommended, just as it is when the court must be sited near mature specimens.

10. OVERHANGING BRANCHES

Water dripping from the branches may cause slippery or discoloured patches, encourage the growth of algae or moss, and sometimes even erode the surface. The secretions of aphids coat the court surface with a sticky blackish substance, which may impair foothold and encourage algae and, in severe cases, damage the surface. Last, but by no means least, the droppings of larger birds, such as pigeons and collared doves, can cause damage. For all these reasons overhanging branches should be pruned well back.

11. SUBSTANCES TO KEEP AWAY FROM SPORTS SURFACES

- **CIGARETTES**

All courts should be made a “No Smoking” area. Cigarettes are unlikely to constitute a fire hazard, but cigarette ends will leave unsightly burn marks on most surfaces.

- **CHEWING-GUM**

This should always be banned. Chewing gum is invariably difficult to remove, although some advise the use of ice cubes which harden the gum and allow it to be broken away more easily.

- **PETROL, OIL AND SOLVENTS**

Petrol, oil, or solvent spillages will seriously damage most surfaces, especially those that are bitumen-bound or are superimposed upon a bitumen-bound sub-base. Great care should be taken to ensure that any machinery used within the court area, such as a garden vacuum cleaner, is clean and in good repair and does not drip petrol or oil. It is strongly recommended that machines be removed from the court surface before refilling with petrol, diesel, or oil. In the event of a spillage immediate copious irrigation with tepid water and detergent may minimise the damage.

- **SALT AND DE-ICING AGENTS**

As a rule salt or other de-icing agents should never be used to remove snow or ice from tennis courts; their effect is unpredictable, and they may cause serious damage.

12. WEEDS

Despite all the wonders of modern science, there is no safe herbicide in existence that can be guaranteed to kill all weeds on tennis court sites prior to construction and to ensure that no subsequent growth will take place. Such weed growth that does occur usually represents a temporary inconvenience and only very rarely constitutes a significant threat to the court.

The extent to which weeds may constitute a nuisance will also depend very much on the type of surface and the location of the court. Weeds are virtually unheard of on porous concrete surfaces and are rare on impervious acrylic surfaces. Windblown seedlings can sometimes establish themselves in sand-filled artificial grass surfaces, but usually wither away quite quickly. It is on bitumen-based surfaces, such as grey-green or porous asphalt, where troublesome weeds are most likely to be encountered.

Whilst weeds are unlikely to constitute a major problem, they will appear in a small number of cases, more especially in the year following the construction of the court. The secret is to deal with them promptly and not allow them to become established.

Courts sited in fields, paddocks, or other weedy areas or adjacent to suckering trees, may be at increased risk beyond the immediate post-construction period. This is because of tree roots giving rise to suckers and certain weeds, such as creeping thistle, can spread rapidly underground and may re-infest the tennis court site thereby. In these circumstances, it is advisable to maintain a weed-free 'cordon sanitaire' around the perimeter of the court by applying a good, general weed killer regularly to a strip of a minimum width of 1m (3ft) immediately outside the court surround fencing. This will check underground growth before it reaches the court.

- **TREATING WEEDS**

All grass, weeds, seedlings, and shallow rooted plants should be treated with a **contact** weed killer, thoroughly wetting the foliage of the weeds. The weeds will be quickly scorched, then shrivel and die. **NOTE:** All weed killers must be applied in strict accordance with the manufacturer's instructions. Any surplus to be disposed of as directed.

Deep-rooted weeds, such as thistles, convolvulus, bindweed, mare's tail, tree suckers, etc., should be treated with a systemic weed killer, spraying all the growing parts of the weed thoroughly with the solution. These weed killers work by being carried down to the roots of the plant and, therefore, act more slowly than other herbicides. The weeds should be left in situ until the weed killer has taken effect. **Systemic** weed killers will only work very effectively on young, fast growing weeds and will be less effective late in the summer when the weeds have hardened off and growth has slowed down.

- **GENERAL HINTS:**

Treat weeds as soon as they appear – do not let them become established. When the weeds are dead, they may be carefully removed. Great care should be taken not to disturb the surface of the court. A sharp, narrow-bladed knife may be useful for cutting off thick weed stems below the surface. If the weed has lifted the court surface, it should be carefully trodden down with the flat of the foot once the weed has died. If very deep-rooted weeds persist despite the spot treatment described above, advice should be sought from us or a specialist weed-killing company.

13. BIRD DAMAGE

An unusual nuisance that may sometimes be experienced is damage caused by bird droppings. This is usually only a significant problem during the first year or two of the court's life, during the summer months, or where branches overhang the court.

The droppings adhere to the surface, dry out in warm weather, and shrink. In the process the paint coating and even Bitumen coated stone chippings may be pulled off.

The remedy is to cut back overhanging branches. If the droppings are already in situ they should be hosed away before they full dry out. Damaged spots should be carefully firmed with the foot and 'touched up' with surfacing paint.

14. WORMS

Another rare cause of surface damage is that caused by worms. In mild, wet weather worms sometimes appear on the court surface, usually in ones or twos but very occasionally in larger numbers. How they get there is something of a mystery, but once on the surface they seem unable to get any further and usually die. In warm weather, they then adhere to the surface and shrink causing very similar damage to bird droppings.

Worms on the playing surface should be removed as soon as possible. Damaged spots should be carefully firmed with the foot and 'touched up' with surfacing paint.

If the problem persists consideration should be given to applying an appropriate worm killer. Repeat applications may have to be made, copiously watered in, to ensure that the subsoil beneath the court is impregnated.

15. SNOW AND ICE

Snow and ice should not prove harmful and can be allowed to melt through in due course. Powdery snow can be swept away using a wide broom or wooden scraper. Metal shovels or scrapers should not be used because they may damage the surface, as will mechanical snow removing equipment, such as mini tractors.

Do not use salt, urea, or other chemical de-icing agents. Their effect is unpredictable, and they can cause severe damage.

16. TENNIS EQUIPMENT

The winder mechanism should be lubricated periodically. The net must not be over tensioned- the winder handle can be removed to restrict access to the winder mechanism. The correct height at the middle of the net is regulated by the centre band and adjuster and should be set at a height of 0.915m if a net measure is not available.

Once the tension has been released from the net, the tennis posts can be lifted out of the sockets and the net wound around the posts to avoid the time-consuming task of removing and refitting the net to the posts. Handle carefully and store safely so the posts will not be damaged.

Close the captive lids on the sockets when the tennis posts are not in them to prevent a trip hazard. If the lid is damaged so that it does not sit flush with the playing surface, have it repaired or replaced immediately.

17. MAINTENANCE SCHEDULE

WEEKLY

- Clear any debris, leaves and rubbish from the court.
- Wash off any bird droppings- ideally as soon as possible after you see them

MONTHLY

- Deal with any weeds, moss or algae.

ANNUALLY

- Wash the court- taking care not to damage the surface
- Apply moss-killer if the court is susceptible to moss growth.
- Call in the installer if any aspect is causing significant concern.

PLEASE 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, call us in immediately. It is better to be safe than sorry.

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