

Porous Macadam Maintenance Notes

Prepared By:

Courtstall Services Ltd
Unit 1, Northavon Business Centre
Dean Road
Yate
Bristol
BS37 5NH

Telephone: 01454 889944
Facsimile: 01454 889945

Maintenance Guidance Notes for Tennis Courts

General Court Care Common to all Surfaces

Footwear

Good quality tennis shoes are recommended for all types of surfaces. General shoes, boots, training shoes or other types of footwear with bars, studs or sharp serrations on the soles should not be used due to poor performance and potential damage to the surface. Various types of soles would be essential to provide the best results for play as different sports surfaces will have different play characteristics and weather conditions will also affect the slip value of the surface. Not only should players consider shoes with good foothold but also shoes with too firm a foothold as this may over-stress knees and ankles.

We recommend that all sports installations have a sign erected at the entrance gate indicating the most suitable type of footwear so that the user will achieve good performance and avoid potential surface damage. Incorrect footwear with aggressive soles can do a great deal of damage within a short time. It is also recommended that non-marking soles be worn so as to avoid unsightly marks upon the surface, which can be difficult to remove.

We recommend that players change into their sports shoes just before entering the court enclosure, thus a bench or seat adjacent to the gate would be beneficial. A good clean footpath to the court will also be advantageous, as this will reduce the amount of dirt, dust, mud, grass or other debris being carried onto the court surface. As a minimum we advise that a mat, scraper or shoe-cleaning device is available at the entry gates.

Furniture, toys and equipment on the court

All sports surfaces may be indented by heavy or sharp objects left to stand upon a surface. Common items are umpire's chairs, garden seats, maintenance equipment, machinery etc, which should not be left directly on a surface. Should you wish to leave such items on the surface we recommend spreading its load by boards or pads to minimize the risk of damage.

It is essential to prohibit the use of roller-skates, skateboards, bicycles, car parking and anything else which potentially may cause damage to the surface. Family pets, farm animals & wildlife should also be excluded from the court.

When removing sports equipment from their sockets or the introduction of other equipment we recommend that caution be taken so as to avoid damage to the surface. Typical examples are dragging of equipment across the surface or dropping the equipment.

External Court Perimeter

A 600mm minimum wide strip around the court perimeter should be kept clear of vegetation at all times to form a barrier against plant and weed encroachment onto the playing surface. A variety of options are available in order to create this area, ranging from simply weedkilling the ground to installing a gravel, macadam, concrete or slab pathway.

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.

Trees, Shrubs and Hedges

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. Specialist advice should be taken in respect to any planting within close proximity to the court in respect of potential root damage, shading and pollution of the court.

Trees with aggressive root structures, such as poplars, sycamores, eucalyptus and willows, should be avoided as these can cause major disturbance of the surface. Should trees be an essential item or existing trees are to be retained, the installation of root barriers between the court and the trees is strongly recommended. A variety of root barrier types are available which are dependant upon the type of trees nearby. Concrete barriers up to a depth of 1.0 m are usually recommended. However, it is beneficial to carry out a degree of planting within embankments formed during the earthworks of the court to minimize erosion of the soil over a period of time.

Branches of trees, which overhang the court invariably, cause problems. Water dripping from the branches may cause slippery or discoloured patches, encourage growth of algae or moss and over time erode the surface. The secretions of aphids coat the court surface with a sticky substance, which may impair foothold, encourage algae and damage the surface coatings. Areas of court surfaces under tree branches are also more susceptible to bird droppings which may cause damage. In general, we recommend that wherever possible overhanging tree branches be pruned well back.

Substances to keep away from sports surfaces

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| Cigarettes | All sports facilities should be made a 'No Smoking' area. Although they are unlikely to constitute a fire hazard, they may leave unsightly burn marks. |
| Chewing-gum | Chewing-gum is invariably very difficult to remove from a surface and thus should be banned from the facility. |

Petrol/oil/solvents All petrol, oil, solvents or derivative products should be avoided in the main as spillages will seriously damage most sports surfaces, especially bitumen-bound surfaces such as macadams. Great care should be exercised when using machinery upon the surface, such as garden vacuum cleaner, power washing equipment etc so as avoid petrol or oil drips. It is advisable to remove the machinery from the court area when refuelling or carrying out repairs. In the event of a spillage we recommend that the area be immediately irrigated with tepid water and detergent to minimize damage.

Salt As a general rule salt or other de-icing agents should never be used to remove snow or ice from sports surfaces. Their effects can be unpredictable and may cause serious damage.

Court Equipment

Tennis nets should never be over tensioned, as this will cause damage or potentially breakage of the steel headline cable. In severe cases the tennis posts may be pulled inwards which may result in a costly repair. A common cause is that the centre band has been set too short preventing the correct net height from being achieved.

The correct height for the net is 0.914 m (3'0") at the centre of which a net measure stick has been provided. After use we recommend that the net be always left untensioned to reduce strain on the equipment. We also suggest that the net is hooked up to avoid dragging on the surface thus avoiding excessive wear on the bottom of the net and unsightly scuffing of the surface. Should the court be left unused for prolonged periods of time we recommend that the posts and net are stored, ensuring that they are first carefully dried.

The winding mechanism should be greased occasionally to ensure smooth and quiet operation. It can also be helpful to lightly grease the post sockets and base of the posts to assist their removal, especially when they are left in position for long periods.

Weeds

Although a new or reconstructed court will be treated for weeds during the construction, unfortunately it will not eradicate 100% of weed growth as there may be highly resistant weeds on site or windblown seeds causing weed growth. Such weed growth that does occur usually represents a temporary inconvenience and only very rarely constitutes a 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 court location. Windblown seedlings can sometimes establish themselves in sand-filled artificial turf surfaces and porous macadam surfaces, but usually wither away quite quickly. Whilst weeds are unlikely to constitute a major problem, it is essential to deal with them promptly and not to allow them to become established.

Courts sited in fields, paddocks or other weedy areas or adjacent to suckering trees, may be at increased risk. This is attributed to tree roots giving rise to suckers and certain weeds, can spread rapidly under ground and may re-infest the court site. In these circumstances, it is advisable to maintain a weed-free environment around the court perimeter by applying a good general weedkiller on a regular basis to check underground growth before it reaches the court.

Weed Treatment

All grass, weeds, seedlings and shallow rooted plants should be treated with a paraquat based weedkiller, thoroughly wetting the foliage of the weeds. The weeds will be quickly scorched, then shrivel and die. The paraquat solution is poisonous and any surplus should be disposed of safely.

Deep rooted weeds, such as thistles, convolvulus, bindweed, mare's tail, Japanese knotweed, tree suckers, etc should be treated with a systemic weedkiller by spraying all the growing parts of the weed thoroughly. These weedkillers work by being carried down to the roots of the plant and thus tend to act more slowly. The weeds should be left in situ until the weedkiller has taken effect. Systemic weedkillers will only work very effectively on young, fast growing weeds and will be less effective late in the summer when the weeds have become established and growth has slowed down.

In general, we strongly advise that all weeds are treated as soon as they appear, as it is more difficult to eradicate established weeds and the longer they are left untreated the more potential damage to the surface will occur. Once weeds have been killed they may be removed, however caution should be taken to minimize disruption to the surface. If the weed has lifted the court surface, it should be carefully tamped down with a flat edge and warm water to assist flexibility of the surface.

Maintenance Guidance Notes for Tennis Courts

Maintenance of Porous Macadam Courts

Introduction

Porous macadam tennis courts are constructed with a permeable frost resistant foundation consisting of clean graded carboniferous stone, on which is laid the macadam bindercourse (not usually for budget/domestic installations) and surface course (or playing surface). This is then coated with a coloured, acrylic surface coating. The play-lines are then painted onto the coloured surface, but self-adhesive tapes may also be used.

The resulting tennis surface is fully permeable, hard-wearing, playable throughout the year and requires relatively little maintenance. However good maintenance is of vital importance if the surface is to remain of good appearance with good lifespan, porosity and consistent play. Indeed, our guarantee is conditional upon the recommended maintenance requirements being carried out with reasonable efficiency.

Reasons for Maintenance

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 cared for at all times, and achieves a reasonable life span.

These objectives are achieved by sweeping or vacuuming leaves and other detritus from the surface, occasionally washing the surface, and applying prophylactic treatments of moss-killer.

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 and settle into the interstices of the surface impairing drainage and providing a growing medium for the algae and moss.

A wide soft broom can be used to sweep the surface but this has a tendency to push smaller material into the surface. A rubber-tined rake is usually better, albeit rather slow and arduous. Best of all is a mechanical garden vacuum cleaner, which will greatly speed up the operation and do it more efficiently. Mechanical leaf sweepers can also be good. The equipment should be well maintained and carefully operated to avoid contamination of, or physical damage to, the playing surface.

Washing

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. Courts near busy roads are particularly susceptible to becoming coated with “traffic film”, whilst those near trees may be coated with “honey-dew” from aphids. The resulting black film from either cause can make the courts very slippery after rain.

If the water pressure is reasonably high washing can be carried out with a domestic hosepipe assisted by a mild cold water detergent. Even 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 the process is not dislodging the coloured surface coating or stone chippings. Again mild, non-foaming detergent increases the efficiency of the operation. Steam cleaners should not be used. If the court surface has become very badly sealed and does not respond satisfactorily to this treatment, consult Courtstall Services Ltd.

Moss & Algae

Unfortunately moss or algae can become established upon a court surface, however the surface is more prone in certain locations and during some seasons. Since prevention is very much more effective than cure, it is important to treat the court with a good proprietary mosskiller and algicide at least once a year. Particular attention should be given to the perimeter and other areas that are not trafficked quite as much as the main play areas, areas under shade from buildings, walls or trees should also be treated regularly.

Should moss become established we recommend that the court be treated immediately, with further applications until the moss can be brushed and cleared away. In very severe cases we recommend that you contact us for further advice. It should be emphasised that moss is only a serious problem if it is allowed to become established. We recommend as a minimum that an annual treatment of suitable mosskiller is applied. Regular use of the court will also help to minimise the moss growth within the main play areas.

The Post Construction Period

We recommend that play can commence on a new surface at our handover, however caution should be exercised in the first 12-24 months of use. During this period and especially in the first few months the surface will be slightly “tender” as the bitumen and surface coating achieve their final hardness. Whilst the surface continues to oxidise we recommend use with a little extra care and vigilance as this will pay dividends. In particular, unsuitable footwear and other bad habits such as “racket abuse” should be prohibited, especially in warm weather.

On a very new court water will sometimes stand on the surface after heavy rain. This is a very temporary phenomenon resulting from surface tension, and should not cause concern unless it persists.

Play in Warm Weather

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

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 as a result of the paint being rubbed or scuffed off. It is sometimes possible to cool a hot surface by hosing it down with cold water to allow evening play to take place. A useful guide to a softening court would be to depress the surface with your thumb, should the macadam surface move under this pressure we recommend not to commence play. We recommend this is carried out every hour during warm weather.

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. Unfortunately, there is no guideline temperature that will cause the court to soften, as it is a mixture of several items such as temperature, environmental location, shading, previous daily temperatures, overnight temperatures, rain etc. The sun's ultra violet rays can cause softening even if the air temperature feels cool.

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 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. Damage spots should be carefully firmed with the foot and touched up with surfacing paint.

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 carefully be 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 courts is impregnated.

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 soft broom or wooden scrapper. 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.

Maintenance Schedule

Daily	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.
Monthly	Deal with any moss or algae.
Annually	Wash the court Apply moss-killer Call in the Courtstall Services Ltd if any aspect is causing significant concern.
3-5 Years	Re-painting and line marking of the surface.
8-12 Years	Resurfacing works.

Footnote

The above guidance notes are intended as minimum recommendations. Common sense and careful observation should prevail. If any serious doubt exists about the condition of the court or the effectiveness of the maintenance regime, we recommend that you contact us immediately. Our guarantee is subject to compliance with the above notes and used for tennis or netball only. All defects must be notified in writing as soon as they appear so that suitable remedial work can be carried out to resolve the problem. Our guarantee may not cover defects which are not notified to us within a reasonable timeframe, i.e. a period where a defect may escalate into a more serious problem.

We would like to wish you many years of enjoyable use of your facility and look forward to your continued custom in the future.