SAPCA
SPORTS AND PLAY CONSTRUCTION ASSOCIATION

The SAPCA Code of Practice for the Construction of Padel Courts

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The Sports and Play Construction Association

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The Lawn Tennis Association

The Code of Practice for the Construction of Padel Courts has been produced in consultation with the LTA and is recognised and supported by the LTA for the construction of padel courts in the UK. The LTA are the officially recognised national governing body for padel.

The LTA provides free advice and guidance on tennis facility development. For further information, please contact the LTA on 0208 487 7000.

Disclaimer

The Sports and Play Construction Association (SAPCA) and the Lawn Tennis Association (LTA) do not accept any liability for the design or construction of any facilities, or the actions of any contractors employed, as a result of, or in connection with, any information provided in this publication.

Some sports surface system/products and designs, available to potential clients, may be covered by patents. Clients should ensure that the use of similar products does not infringe any patents held by manufacturers or installers. SAPCA and the LTA do not accept any liability for choice of surfacing systems or padel court enclosures infringing any current or future patents.

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Definition of terms

The padel court	A padel court is defined as an area 20.0m long x 10.0m wide enclosed above ground with either solid rebound walls and mesh panels, or more commonly now a combination of glass and weld mesh rebound wall and fence panels, supported on steel or aluminium posts fixed to a concrete foundation with an artificial turf playing surface.
Total playing area	20.0m x 10.0m (excluding the 'out of court' area)
Out of court area	Additional playing area outside the playing area within the enclosure adjacent to the net, on both sides of the court, measuring 8.0m long x 2.0m wide.
Formation	The prepared natural ground on which the court is built.
Base	The foundation of the court, normally formed from graded aggregates over a geotextile membrane.
Drainage	The system of underground pipework designed to remove surface water from the playing surface and sub-base construction to a suitable outfall or external drainage system.
Asphalt binder course	A layer of coarser asphalt that is laid on the base to provide stability and strength to the finer grade asphalt laid on top of it; used to be known as the base course.
Asphalt surface course	A layer of 6mm asphalt laid either as the playing surface or as the receiving layer for a synthetic surface; used to be known as the wearing course.
Artificial turf	A sand dressed, or sand filled carpet manufactured from polyethylene or polypropylene yarn, normally of tufted construction.
International Padel Federation	The world governing body for the sport of padel
Enclosure	The above ground level part of the padel court that surrounds the court.

Preamble

The Sports and Play Construction Association (SAPCA), in conjunction with the LTA, has produced this document to provide prospective clients, designers and specifiers with guidance on the basic construction requirements and specifications currently employed in building padel courts. The standards outlined throughout the document have been recognised and supported as the minimum level for the construction of padel courts in the UK.

The document calls on the experience of SAPCA member companies, who have constructed a wide range of installations for a variety of clients over many years. The requirements of the various sports' governing bodies and the relevant standards organisations are incorporated, where appropriate, in the document.

While it is not intended that this document should become part of a contract, it is believed that it will prove useful in the selection of an appropriate padel structure and playing surface and form a useful reference in the design and construction process.

SAPCA will keep under review the use of the Code of Practice and will consider any suggestions for amendment, which should be addressed to the Sports and Play Construction Association, Units 115 – 119, Fort Dunlop, Fort Parkway, Birmingham, B24 9FE. Revision to the Code of Practice will be made when such action is considered appropriate.

Notes to be read in conjunction with the Code of Practice.

- This Code of Practice is intended for use by padel court contractors, sports facility design professionals and padel court purchasers and owners. The Code of Practice should not be used as a substitute for carrying out appropriate surveys and obtaining professional advice in individual circumstances. Although the Code of Practice has been produced by reference to padel courts constructed under normal climatic conditions in the United Kingdom, the Sports and Play Construction Association cannot accept any responsibility whatsoever for any loss, damage or injury howsoever caused arising from reliance on the specifications within the Code of Practice.

- The Code of Practice provides a minimum standard of specification and proficiency which members of the Sports and Play Construction Association are committed to meeting. As guideline specifications, however, they do not supersede a reasonable interpretation of the specification and terms of contract applied in each contract. For individual projects, variations in climate, soil conditions, topography and other site-specific conditions may necessitate standards of specification greater than those recommended within the Code of Practice.

- Parties not experienced in padel court construction are strongly advised to consult qualified contractors and/or sports construction consultants. Details of experienced padel court contractors and sports construction consultants can be provided by the Sports and Play Construction Association.

- Anyone designing a padel court or a structure to cover a padel court must have the structural design calculations signed off by a competent UK structural engineer with the correct level of professional indemnity (P.I) insurance.

- The term “asphalt” is the internationally accepted technical name for all surfaces which are composed of a mixture of bitumen and stone.

- In accordance with common practice within the construction industry, the depth of any individual construction layer is specified within the Code of Practice as the nominal compacted depth. The nominal depth can be regarded as the design depth of a layer of construction within a tennis/padel court, within the applicable tolerances’ margins.

- In the interests of clarity and consistency, the minimum compacted depth is also specified, to define the tolerance on the design depth that is considered acceptable. It is intended that the consistent use together of the terms “nominal compacted depth” and “minimum compacted depth”, by contractors and consultants alike, will help to avoid any confusion when competitive quotations are being examined.

- The information contained within the Code of Practice, while accurate at the time of publication, may be subject to change at a future date. Due to changing technologies and new developments in construction methods, revisions to the recommendations are likely and only the most recent edition of the Code of Practice should be used.

The Sports and Play Construction Association (SAPCA)

As the recognised UK trade association, SAPCA fosters excellence, professionalism and continuous improvement throughout the sports and play construction industry, ensuring provision of high-quality facilities necessary for the success of British sport.

SAPCA's Aims and Objectives

- To promote high standards of design, construction and workmanship for sports facilities in the UK.
- To regulate the industry through the vetting and monitoring of SAPCA members.
- To participate fully in the development of British, European and other standards for the construction and performance of sports facilities, for all levels of play.
- To liaise closely with the governing bodies of sport, both nationally and internationally.
- To encourage the use of new technology in the design and construction of sports facilities.
- To provide and support training and education for the industry's workforce.
- To provide a strong voice for the sports construction industry in the UK.

www.sapca.org.uk

The SAPCA website (www.sapca.org.uk) provides a wealth of valuable information for anyone involved in the development of sports facilities.

Further information

SAPCA operates through its own full-time administration. For further information, including a list of members, please contact SAPCA at the headquarters address below.

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Introduction

From the first considerations regarding the construction of a padel court through to completion, a clear understanding is required of the process. The processes and decisions that need to be made can be complex and will depend upon many contributing factors.

- Section one details some key principles to consider when developing a padel court project and also includes a checklist of specific points to consider when designing and constructing a padel court.

- Section two details the construction guidelines for a padel court from design through to construction. It covers such detail as dimensions, orientation, topography, drainage, base, foundations for the enclosure and type of playing surface that should be considered when constructing a padel court. It also specifies the requirements for the enclosure and the combinations of glass panels, weldmesh and rebound fencing. The general requirements of the playing surfaces are also detailed, including evenness, porosity, shock absorption and rotational friction. The diagram on the following page outlining the development of the project is designed to help potential clients make the correct decisions at the right times by looking at the ideal routes a project may take from proposal to completion and the information required at each stage.

- Section three details the sports lighting requirements for padel courts.

- Section four details the requirements for indoor structures or coverings for padel courts such as a canopy.

- Section five details the maintenance schedules that are required to ensure that the padel court, the enclosure, the lighting and where applicable the court covering is maintained in a good condition to ensure that the facility remains at the highest possible standard but most importantly **safe to use**.

Construction of a Padel Court

Project brief	This phase reviews the project brief and considers factors such as location, usage, funding, procurement and project management.
Project feasibility	This phase can include the development of a business plan, planning application and if required funding applications. A consultant can be appointed during this phase if required, this will normally be for a large project.
Site investigation	Prior to the design phase a detailed site investigation is required. This includes topographical, geotechnical, electrical and drainage surveys. This may not all be necessary on a small project.
Design specification	This phase includes the production of full design specifications and technical drawings.
Appointment of contractor	In this phase a review of submissions is undertaken. This includes evaluation and contractor selection.
Construction period	This phase includes the construction of the facility. If required, independent quality control is undertaken to assess build quality and design specification conformity.
Project completion	This phase includes handover of the completed project. If required, performance testing may be undertaken to ensure compliance. A maintenance regime should be provided by the installer.
Aftercare	Includes the ongoing maintenance programme and warranty period of the installation. If required, performance tests are undertaken to monitor surface behaviour.

1 Section One – Considerations for developing a project

1.1 Project checklist

1.1.1 Key principles to consider when developing a padel court project

- It is key that site specific designs for the padel court foundations need to be developed for each project by a suitably qualified UK structural engineer with Professional Indemnity (P.I) insurance. **Specific padel court foundations and concrete ring beam dimensions need to be calculated to suit the local ground conditions and regional wind loadings which can vary considerably depending on the location within the UK**.

- The impact of the facility on drainage and the surrounding area should be considered in line with planning requirements and the need for sustainable urban designs. Planners are now considering the impact of the constructed facility and its drainage capacity on the surrounding urban area and often the constructed area will need to have a positive drainage capacity uplift in the area the facility is constructed.

- Within UK planning regulations all construction projects need to be designed in accordance with Biodiversity Net Gain (BNG) requirements. Biodiversity net gain (BNG) is a way of creating and improving natural habitats. BNG makes sure development has a measurably positive impact ('net gain') on biodiversity, compared to what was there before development. **In England, BNG is mandatory from 12 February 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). Developers must deliver a BNG of 10%. This means a development will result in more or better-quality natural habitat than there was before the development.**

- The use of temporary structures can be considered, if they are planned to be used for a temporary period of time based on the recommendations set out by the relevant enclosure manufacturer. It is likely that temporary structures will require more regular structural maintenance than permanent installations.

- **The use of temporary padel court structures beyond a specific timeframe is questionable. The legal definition of temporary is a 12-month period. Temporary structures also need to adhere to the relevant UK structural engineer design requirements to ensure that enclosure failures do not occur. Furthermore, the use of temporary structures for an extended period of time, will involve additional maintenance and potentially require planning consent. As they are likely to fixed to ensure structural integrity then planning consent may be required even though the structure is not permanent.**

- Temporary structures may still require planning approval based on their impact on noise to the surrounding area. If a temporary structure is being considered, planning advice should be sought from a specialist consultant or the local planning authority.

- The use of second-hand structures and enclosures should not be considered without an assessment of the existing ground conditions and the required structural calculations being designed and met by a UK structural engineer. **There have been numerous second hand padel enclosures erected in the UK using non-galvanised metal and non-structural design calculations. These enclosures maybe prone to rusting**

and/or damage due to not being designed and installed for outdoor use in the UK climate.

- The use of 'steel plate' padel enclosures can be considered, however, they will still require a site-specific structural design. The steel plate design affectively uses the weight of the steel plate bolted to the substrate below to offer the required stability. **This design will only be acceptable if the structural calculations combining the steel plate enclosure and the underlying substrate are signed off by a UK based structural engineer.**

- The use of 'platform' padel enclosures can be considered, however, they will still require a site-specific structural design. The platform design is used locate the padel enclosure in an area where the underlying ground is not level (car park or other hard standing area) and uses the weight of the structure to maintain its structural stability. **This design will only be acceptable if the structural calculations combining the platform enclosure and the underlying substrate are signed off by a UK based structural engineer.**

- Where facilities are being developed with court coverings, if the design incorporates the sides and ends being fixed to the ground, the structure is therefore deemed to be a building and therefore is required to comply with UK Building Regulations.

- Where facilities are being developed with multiple court numbers, consideration should be given to the layout and spacings between courts to ensure sports wheelchairs safe access and movement and Equality Act (2010) compliance.

- Different playing surfaces can be considered for temporary venues for more sustainable working practices.

1.1.2 Specific points to consider before proceeding with a padel court project

1. Planning consent for the for the construction and installation of a padel court and/or covered structure will be required.

2. Location for the proposed padel court should be considered in relation to noise and light disturbance to the surrounding environment and neighbourhood. A detailed lighting design will always be required as part any planning application for the construction of padel courts. If the location of the proposed court(s) is adjacent to residential properties (30.0m – 50.0m away) then it I likely that a noise assessment report will also be required. **SAPCA recommends that these reports are produced for a planning application for the construction of padel courts**.

3. Position of the padel court and its surrounds should be suitable for player access (including sports wheelchair users) and ongoing maintenance, including maintenance of the playing surface and cleaning of the glass on both faces.

4. The 'Out of court' play area and the potential need to include it needs to be considered in the design. Is it needed? Is there sufficient space? What is the impact on the design of the facility? The requirements for the 'Out of court' play area may well be impacted by the level of play at the facility or the need for specific levels of competition and advice should be sought from the LTA.

5. The potential future or current requirement for the padel court to be covered, should be considered as the need for additional footprint and access to the area may become

challenging once the project has been completed. There could be a significant impact on the layout of the courts, the canopy or indoor structure and the footprint required where future plans may include covering the courts.

6. Based on the increased noise generated by the introduction of padel courts, an acoustic assessment will normally be required to support the planning application. Consideration should also be given to the use of noise dampening designs where the residential properties adjacent to the court(s) are considered to be sensitive to noise. **SAPCA recommends that acoustic reports are produced for padel court planning applications in this type of locality.**

7. **In relation to acoustic issues with padel courts, SAPCA and the LTA have been made aware of padel courts that have been closed down through environmental health concerns due to the intensity of noise created by the courts. All developers of padel court projects need to be aware of and consider the implications of noise to the local environment where the courts are being constructed. Even where noise assessments have been made and agreed in the planning consent, post construction, additional issues could be raised on environmental health concerns with noise.**

8. The design of the sports lighting system to achieve the required performance criteria for the level of usage will need to be considered, along with the details for the type and specification of the luminaire being used and the mounting height. On the basis that lighting will be required for the padel court, a lighting data pack will need to be produced by a specialist consultant or contractor to support the planning application.

9. All metalwork components used in the padel enclosure and/or covered structure should be designed and manufactured for the UK climate with sufficient warranty from manufacturer in place.

10. The design of the concrete foundations for the padel court and/or the covered structure or canopy must have the structural design calculations signed off by a competent UK structural engineer with the correct level of professional indemnity (P.I) insurance

11. The glass forming the padel enclosure must be 12mm thick for all outdoor courts or those covered by a canopy, kitemarked and must be specified within the design. For courts constructed indoor consideration can be given to 10mm glass.

12. The arrangements for player access (including disabled and sports wheelchair access) to the court (on one side or both) should be considered in design. The use of hinged access points can offer a good solution to accessing the padel court.

13. The court surfacing product should be a product designed for padel. On the majority of padel courts the playing surface will be a short pile sand filled/dressed synthetic turf product. Where temporary courts are being installed consideration can be given to other prefabricated surfaces that can be lifted and re-used.

14. The source of padel enclosure fabricator / manufacturer should be established before an order is placed, with certificate of origin to be provided prior to completion of the project. The padel enclosure should be confirmed as being fit for purpose for use in the UK, with considerations given to both the climate and wind loading requirements that prevail.

15. Care should be taken in selecting a padel court manufacturer. In some cases, their warranties may not always cover structural failure of the enclosure, only failure of the individual components from the perspective of wear and corrosion. A minimum 10-year warranty should be established for all installations in respect of structural failure of the enclosure.

16. The maintenance requirements for padel court and the associated enclosure and court covering need to be considered. For additional information the manufacturer's guidance should be sought on the maintenance requirements for all aspects of the padel facility developed.

2 Section Two – Construction guidelines

2.1 Site considerations

2.1.1 General

Selecting the correct site for a padel court is a major factor in determining not only the costs of construction, but also the quality of the playing experience and the maintenance needs of the court. Where possible, the location of the court should be sympathetic to its surroundings and adjacent infrastructures. Ideally, it will be sited on relatively flat land that is not too close to boundaries or trees. Access should be easy for players (including disabled players) and suitable for maintenance and construction equipment (all courts will require resurfacing at some point; a factor often overlooked).

If a padel court is to be installed on an existing tennis court or hard standing area, an assessment of the sub-base construction should be made by a competent designer to ensure that the base is suitable.

Padel courts can be constructed both indoors and outdoors and can be defined into five main facility types in terms of their construction:

- Outdoor new build padel court – Where the court construction and enclosure have been constructed in an area designated for a padel court.
- Covered new build covered padel court - Where the court construction and enclosure have been constructed in an area designated for a padel court with a canopy or fully enclosed structure.
- Outdoor padel court constructed on an existing tennis court and its foundation – This could be covered or a standard court construction.
- Indoor padel court constructed within an existing building – Often constructed with multiple courts and social areas.
- Temporary padel court – Where the court is used in a temporary setting, either for an event or in some cases to assess whether there is a market for a permanent court (see previous notes on the use of temporary structures.

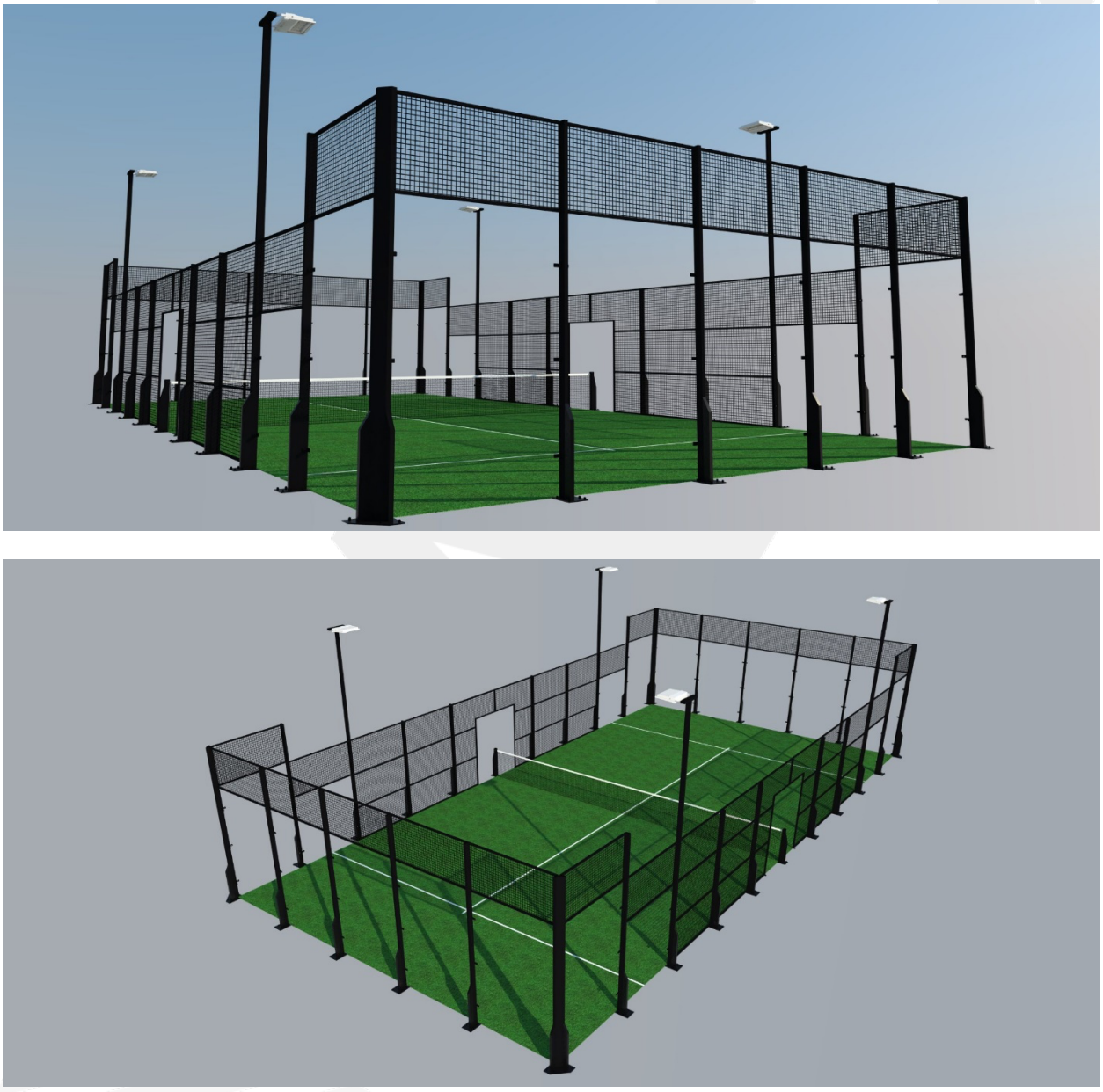
Where multiple courts are being constructed consideration needs to be given on access points to each of the padel enclosures and the impact of the access routes on the space available. Where facilities are floodlit or in some cases covered, the location of columns, roof supports, drainage channels access paths along with the perimeter supports for the enclosure need to be factored into the facility design to ensure the best use of the available space but also ensuring that the required access is available.

The other element to consider when constructing a multiple court facility is to ensure that the overall design allows the required space between courts for player access, sports wheelchair access and access to allow the required maintenance procedures. Compliance with the Equality Act (2010) is an obligation for all designers, constructors, and managers of padel facilities. Consideration should be given during the design stages of a project as to how disability players will be able to use the organisation's courts.

Where covered facilities are being constructed consideration should also be given to egress routes in order to comply with UK Building Regulations.

Due to the complexities of designing padel courts for outdoor use and the impact of wind loading on both the enclosures and any covered structure, it is essential that the structural calculations for the design of the padel court are undertaken by a competent UK structural engineer with Professional Indemnity insurance

Figure 1 - Examples of standard padel court arrangements



2.1.2 Planning

The construction of a Padel court **requires formal planning consent** to be sought from the relevant local authority. The design layout for a padel court is shown in Figure 1. The glass wall or mesh fencing (3.0m and 4.0m in height) and proposed sports lighting posts and fittings (6.0m

above the playing surface) will require planning consent prior to the commencement of the construction work. The site owner or client are responsible for obtaining planning consent and may wish to appoint a consultant to prepare and submit the application on their behalf.

Careful consideration for the proposed location of the padel court should be given in relation to the impact of noise on adjacent residential properties. If a residential property is within 30.0m – 50.0m of the padel court, then it is often considered **essential** that a formal noise assessment is undertaken by a specialist consultant prior to making a planning application. Based on the findings of this report, mitigation measures may be required within the scheme design, such as acoustic fencing or barriers to reduce the travel of sound down to an acceptable level. It may even be a requirement from the Planning Authority to move the court to a more appropriate location. In some contentious locations adjacent to residential properties, planning authorities may stipulate a planning condition that a further noise assessment is carried out once the court is in use.

The impact of sports lighting, drainage, environmental disturbance and the need to consider Biodiversity Net Gain requirements on the area being developed also need to be considered for all padel court planning applications. If this information is not provided as part of the planning application then there is a risk that the application will be rejected.

2.1.3 Ground conditions

The cost of constructing a padel court can be greatly influenced by site conditions. Costs will be much higher for engineering a difficult site (e.g. poor ground conditions, high clay content or historical landfill) and it should be recognised that some sites are not cost effective to develop. A designer should consider several factors, including topography, access, site drainage, trees when choosing a location.

Before commencing with a detailed design, the designer will require as much information as possible about the site and its surroundings. Allowing sufficient resources for initial information gathering greatly reduces the risk of unforeseen problems (and increased costs) during construction or post construction. While on many sites an experienced contractor will be able to assess the requirements of the ground, on more complex projects a specialist geotechnical survey is the best way of ensuring a full understanding of the site.

2.1.4 Trees

Trees and their roots can constitute a threat to the court itself (by distorting or cracking of the surface), especially strong-rooted varieties such as poplar, sycamore, and willow. Where such a threat exists, preventative action will be necessary, such as tree surgery and/or the construction of a root barrier to inhibit the ingress of tree roots onto the padel court site. This is usually done by digging a trench, cutting any roots in the process, and removing them as far as possible to a depth of at least 500mm, but more commonly 1.0m or more. The wall of the trench is then lined with suitable material, such as root control sheeting before backfilling. Alternatively, the trench can be filled with concrete and the excavated material removed.

Branches that overhang a padel court are usually a cause of various problems, such as the continuous dripping of water, secretions, and bird droppings. It is strongly recommended that overhanging branches be pruned back beyond the court fence line and kept trimmed back as part of the maintenance programme.

HOWEVER: Before cutting any tree roots it is important to check that this is not going to destabilise the tree such that it might fall. **And** prior consent will need to be obtained from the

local authority before any branches or roots are cut if the tree is protected (TPO) or within a Conservation Area. It is illegal to undertake any works to a tree, its branches or roots without first obtaining such consent in these circumstances.

2.1.5 Services

When selecting the location for a court, consideration should be given to the existing services around or under the court area and the utility services that will be required for the court.

Many sites will require some form of drainage, and the design should consider if the ground is suitable for a soakaway or if there is a suitable storm water sewer, ditch or other outlet that can be used. For an area the size of a padel court perimeter drainage, would normally be considered acceptable and be preferable to a series of lateral drains. Typically, the perimeter drain would run at or below formation level along the lowest long side of the court and discharge through the foundation or ring beam for the enclosure in a pipe to a suitable outfall.

The LED sports lighting for a padel court will require a single-phase electrical supply and ideally the location of the court(s) will be as close to the supply as possible. Dependent on the system of lighting installed, the power requirements will typically range from 1.2 – 2.4kW per court. For multiple court layouts, consideration maybe need to be given for the need of a three-phase electrical supply.

2.1.6 Other design considerations

Based on the experience of padel court designers, constructors, and users the following points should be considered when installing a padel court or a padel centre.

- It is key that site specific designs for the concrete foundations need to be developed for each project by a suitably qualified UK structural engineer with Professional Indemnity insurance. Specific concrete foundations and concrete ring beam dimensions need to be calculated to suit the local ground conditions and wind loadings.

- The impact of the facility on drainage and the surrounding area should be considered in line with planning requirements and the need for sustainable urban designs. Planners are now considering the impact of the constructed facility and its drainage capacity on the surrounding urban area and often the constructed area will need to have a positive drainage capacity uplift in the area the facility is constructed.

- The use of temporary structures can be considered, if they are planned to be used for a temporary period of time based on the recommendations set out by the relevant enclosure manufacturer. It is likely that temporary structures will require more regular structural maintenance than permanent installs.

- The use of temporary structures beyond a specific timeframe is questionable. The legal definition of temporary is a 12-month period. Temporary structures also need to adhere to the relevant UK structural engineer design requirements to ensure that enclosure failures do not occur.

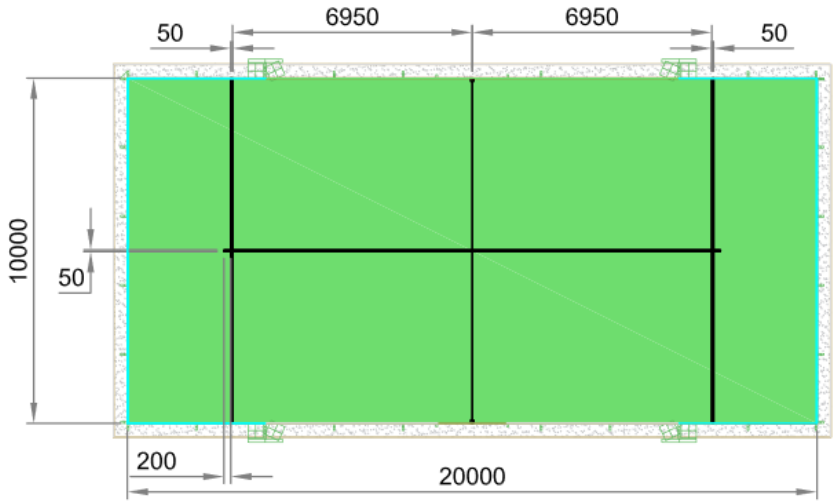
- **The use of structures adopting a steel base plate fixed to an existing tennis court or hard standing area can be used, however, this type of design should not be considered without the required structural calculations being designed and met**.

- **The use of weighted platform systems are also feasible as a padel court design, however, they should not be considered without the required structural calculations being designed and met**.
- **The use of second-hand structures and enclosures should not be considered without the required structural calculations being designed and met**.
- Where facilities are being developed with multiple court numbers, consideration should be given to the layout and spacings between courts to ensure safe access and movement and Equality Act (2010) compliance.
- Different playing surfaces can be considered for temporary venues for more sustainable working practices.

2.2 Dimensions & arrangement

The padel court's internal playing area is 20.0m long x 10.0m wide and should be marked with two service lines and a centre line that crosses over the service line by 200mm, as indicated in Figures 2 and 3 below and on the following page. The two halves of the court should be symmetrical. All line markings should be 50mm in width and should be coloured white.

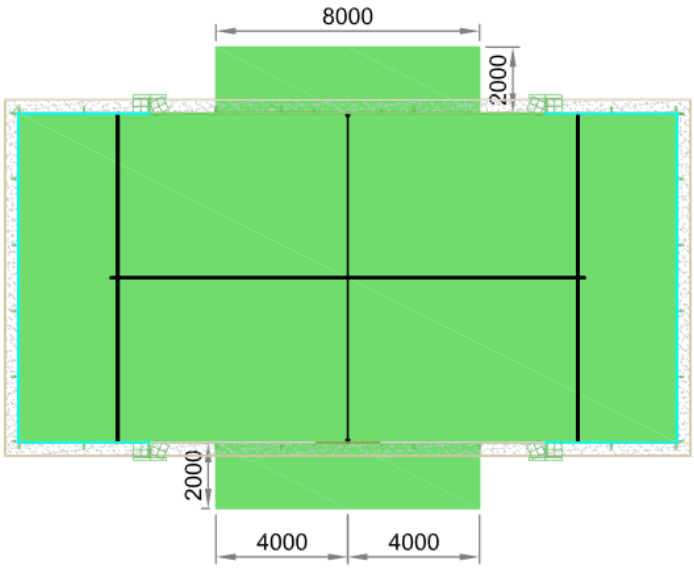
Figure 2 - Padel court dimensions (out of court area not included)



It is likely that most padel courts will be constructed using the layout in Figure 2, where out-of-court areas are not included in the court layout. Access points to the court can either be on both sides or a single side adjacent to the net. Consideration should be given regarding sports wheelchair access to the court. To facilitate sports wheelchair access there should be a minimum distance of 1.20m between the net post and the enclosure.

The use of hinged gates should be considered and where applicable used to ensure that access for sports wheelchairs is possible.

Figure 3 - Padel court dimensions (out of court areas included)



For out-of-court play, as shown in Figure 3, each side of the court should have two central access points (one to each side of the court). There should not be any obstacles outside the court within a distance of 2.0m wide and 4.0m long on either side of the court and a minimum of 4.0m high.

Where there are shared side runs, the distance between the courts should allow for the required space for the out-of-court play areas for each court. (ie 2.0m wide out-of-court areas for both sides of each court, giving a total side run of 4.0m as a minimum between each court).

Again, the use of hinged gates should be considered and where applicable used to ensure that access for sports wheelchairs is possible.

There should be a clear unobstructed height above the enclosed playing area of a minimum of 6.0m, including to the underside of any sports lighting overhanging the playing area.

A secondary option is a total unobstructed height above the enclosed playing area of 8.0m, which can also be considered if this is a feasible option from the perspective of both planning approval and cost. Subject to any restrictions within the space above a court, it is recommended that unobstructed height is maximised wherever possible, in particular above the net line.

All padel courts have a requirement for the inclusion of rebound ends at either end of the court to a total height of 4.0m. The first 3.0m, from playing surface level, can comprise any transparent or solid material (glass, bricks, etc.) which does not affect ball rebound, with the upper 1.0m comprising weldmesh fencing 50mm x 50mm mesh with the inner face being the horizontal mesh. The mesh should be either 3mm or 4mm diameter for consistent rebound properties. The transition between the glass internal surface and the metal fencing should finish flush and neither surface should protrude further than the other to prevent irregular ball rebound response and minimise risk of injury to players.

Figure 4 - Padel court end wall example

Figure 5 – Padel court end wall example (panoramic)

2.3 Construction guidelines

The padel court is an area 20.0m long x 10.0m wide, enclosed above ground with either solid rebound walls and mesh panels, or more commonly a combination of glass and weld mesh rebound wall and fence panels, supported on steel or aluminium posts fixed to a concrete foundation with a synthetic turf playing surface. In a community setting such as a public park, consideration could be given to constructing the enclosure using rendered block work. The dimensions and arrangement noted in section 1.2 would remain the same whatever the enclosure material(s) were.

The construction of a new padel court, up to and including the playing surface, follows the methodology of the construction of a tennis court, built in defined stages from the formation layer through to the playing surface. For a padel court, the construction of the concrete foundation to the enclosure and the erection of the enclosure needs to be factored into the construction stages.

These various stages can be outlined through the following reference points:

- the formation: this is the prepared natural ground on which the court is built.
- the enclosure foundation: this is the in-situ reinforced concrete ring beam or suitably designed alternative (like the use of concrete pads), that the padel enclosure is secured to. This also forms the perimeter of the padel court construction.
- the sub-base: carefully graded aggregates which are laid to provide load bearing and stability for the playing surface and to protect, as far as possible, the formation from the effects of rain and frost.

- asphalt base: bitumen bound aggregate that forms the base on which the playing surface is laid or in the case of an asphalt court, forms the playing surface. Asphalt to be porous on all outdoor courts.

- padel enclosure formed by the erection of support posts with glass and weld mesh infill panels (normally) or a rendered block work structure.

- playing surface is sand-dressed or sand filled synthetic turf. Note: other surfaces maybe considered especially for temporary courts where prefabricated surfaces are sometimes used

2.4 Excavations

Turf, vegetation and topsoil should be removed to a depth of at least 75mm. If greater depth of topsoil is present, containing significant quantities of vegetable or organic matter, then all such soil should be removed.

Excavations to achieve the required gradients (if any at formation level) are normally carried out on the “cut and fill” principle, i.e., excavating in the higher areas and using the resulting excavated material to fill the lower areas. When using this method, all filling should be carried out in layers not exceeding 150mm, each layer being thoroughly compacted.

When excavating the site by “cutting to the solid”, excavated material is removed from the area of the works and not reused. Any filling that may be necessary should be achieved using selected, suitable material, which can be readily compacted and will not be subject to future settlement.

The formation should be fully compacted and accurately levelled to a tolerance of +25mm/-50mm and should provide a stable base for the foundation layer. Any soft spots that are evident should be removed and backfilled with appropriate compacted material as described above.

It will be necessary to excavate and remove additional material (or add a subbase of suitable aggregate) when there is a requirement for the playing surface to be at a specific level. In such circumstances the formation level (top of subbase) will be the playing surface level, less the combined depth of the court construction. This may be lower (or higher) than the level resulting from a simple topsoil strip and subsoil levelling exercise.

Tree roots should be removed during excavation and the resulting holes from these or other underground obstructions should be carefully backfilled with suitable material, as described above.

The gradient of excavated or filled banks should not exceed the angle of slope suitable for the excavated material (rarely more than 1:2). Should limitations of space dictate steeper angles, and/or reduced shoulders at the top of banks, then suitable support should be provided such as retaining walls or buttressing.

2.5 Weed killing

Residual acting weed killers are no longer acceptable on environmental grounds.

Weeds visible prior to excavation works should be pre-treated with a systemic weed killer.

It is not possible to guarantee that all weeds have been killed, nor that re-growth will not occur after construction. Some weed growth may occur, but this usually represents little more than a temporary inconvenience.

Wind-blown seeds can land on any tennis or padel court surface, wash into the porous construction and then germinate. If weeds appear on finished surfaces, they should not be pulled out if they have penetrated the asphalt surface, but treated immediately with weed killer, allowed to die, and then removed.

2.6 Surface drainage

In general, drainage from an outdoor court's playing surface is provided by percolation through the porous construction (artificial grass/ asphalt/ aggregate base). Where a non-porous construction is used, this should be set to a suitable fall to allow surface drainage. Where canopies or enclosed structures are being used, consideration needs to be given to the collection and disposal of surface water from the roof. The drainage system for the court surface and the roof should ideally be integrated to ensure that the water can be removed into a collection system so as to not impact on the use of the padel court.

2.6.1 Surface gradients

When constructing a new court(s) the playing surface and enclosure foundation (ring beam) should be constructed level (flat). This ensures that the bottom of the glass panels can finish flush with the ring beam asphalt layer with no requirement to step the panels.

To assist the drainage of the area, if required, new build padel courts may be constructed to level with a gradient of 1:100 established to the formation level. This should ensure that water percolating through the surface will find the perimeter drainage outfall.

Where a padel court is being constructed over an existing tennis court, careful consideration of the existing gradients, surface tolerance of the existing surface and the accurate positioning of the new padel court is required. As such, a detailed gradient survey of the existing tennis court would be required prior to proceeding with the project.

To aid the construction of the enclosure and the potential change in levels between the existing court construction, the enclosure foundations, and the new playing surface, where applicable, the enclosure foundation and new playing surface should be constructed level. Where this is not possible, very minor stepping of the enclosure panels may be achievable but is not a desired solution. The contractor should highlight the impact of any potential gradient issues with the existing court at the time the design is being developed, therefore ensuring that the client is prepared to accept the consequences of this compromise.

2.6.2 Sub-court drainage

Perimeter drains located inside a perimeter ring beam (if this is the enclosure foundation design) with an outlet through the ring beam are necessary on poorly draining sites.

Porous foundations should be constructed to allow egress of water into the perimeter drain. UK outdoor padel courts should be constructed with porous sub-base construction. The perimeter drain should be connected to an outfall pipe running through the concrete ring beam to ensure that water can pass away from the padel court and not be retained within the confines of the ring beam.

The impact of the facility on drainage and the surrounding area should be considered in line with planning requirements and the need for sustainable urban designs. Planners are now considering the impact of the constructed facility and its drainage capacity on the surrounding urban area and often the constructed area will need to have a positive drainage capacity uplift in the area the facility is constructed.

Permanently covered courts with side protection, to prevent ingress of driven rain (so not to include open sided canopies), may be constructed with non-porous sub-base construction.

Catchwater drains should always be installed wherever there is a danger of water flowing onto the court from surrounding areas. They are particularly important for canopies and at the foot of cut banks formed during the levelling operation.

Drains should consist of perforated plastic pipes, laid in the bottom of well-formed trenches, backfilled with clean, graded stone aggregate or similar suitable material. Drains should be laid to falls of not less than 1:200 and be connected to soakaways or other suitable drainage system.

The drainage trenches should be lined with a geotextile membrane.

Catchwater drain trenches should be filled with clean stone to the surface.

2.7 Design of the foundations for the court enclosure and perimeter edging

The foundations for the court enclosure must be designed by a UK structural engineer (with a suitable cross section profile) with due consideration given to local ground conditions and more importantly the wind loads for the locality of the site, especially in coastal environments or exposed locations. Any other relevant localised site conditions that may impact on the potential loads should also be considered in the design.

Weather extremes specific to the UK climate need to be considered when designing padel court and court covering foundations, to ensure that designs are sufficient to prevent structural damage.

The need for the foundation to have a site-specific design from a UK structural engineer with the relevant level of Professional Indemnity insurance is a requirement whatever foundation design is chosen. The most commonly used are:

- Perimeter in-situ formed reinforced concrete ring beam.
- Concrete pad post foundations.

Where a perimeter in-situ formed reinforced concrete ring beam is used it provides a solid surface for securing the base plates of the enclosure's support posts for the glass panels, weldmesh fencing and the net posts. The ring beam will also act as the retainer for the court construction, with the porous asphalt surface course finishing flush with the ring beam, allowing the synthetic turf playing surface to be confined within the glass and mesh panels.

The use of concrete pad foundations to secure the base plates of the enclosure can also be an option. If this design is adopted, consideration should be given to retention of the sub-base material and the synthetic turf playing surface between the pad spacings.

Concrete slabs formed with a reinforced concrete ring beam can also be used as a foundation, however, this is not a design often seen in the UK. If this is the design, then consideration then needs to be given to the drainage solution. If impervious concrete is used, the slab should be set

to a suitable fall to ensure that the area suitably drains as water will not be able to pass through the impervious concrete layer.

The foundation should be designed with suitable reinforcing incorporated, to exceed the expected wind load calculated, and to allow the enclosure to be fixed down with bolts using suitable anchors, securing it in line with the UK structural engineer's calculations. The design must be backed by the UK structural engineers' professional indemnity insurance.

If a client employs a contractor for both the design and construction (or where this is implied), then the contractor should also carry their own professional indemnity insurance in relation to the design foundation.

Maximum wind loadings applicable to the surrounding enclosure should be stated by the padel court manufacturer to aid the design of the foundations.

Figure 6 - Relationship between the top of the foundation / perimeter edge detail, the enclosure, and the court surface.

2.8 Court surface foundations

A correctly designed and well-engineered sub-base is essential for the performance and durability of a padel court. Failure to provide a suitable foundation layer may result in severe undulations, cracking or premature breakup of the playing surface.

Certain sub-soils are far more prone to the two main causes of serious problems – frost heave and clay shrinkage – and clearly it is important to determine site conditions before designing the construction.

The stone foundation layer should be constructed using hard, clean, well-rounded, non-frost-susceptible aggregates. These are typically a reduced-fines grading of the MOT Type 1 aggregate mix or a 28mm - 50mm clean stone material, capped with a 10mm chipping as a blinding layer. If recycled material or other variations in the stone foundation material are to be considered the designer or contractor should be requested to provide technical reasoning for this choice and ensure the material is both suitable and free of contaminants.

The depth of the stone foundation layer should be determined using the guidance defined in Clause 2.12 of the SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts (4th Edition, July 2023). If site-specific geotechnical information is available, then this should be considered when designing the depth of the base. If this information is not available, the 'soil type' table in clause 2.12 can be used as a guideline.

2.9 Geotextiles

Geotextiles are recommended when installing new padel courts. These are water-permeable fabrics that are laid in sheet form beneath the foundation to provide several benefits, including:

- isolating the foundation and preventing infiltration and contamination by a silt or clay sub-soil.
- increasing of the load-bearing and structural strength of the foundation.
- the provision of a "slip sheet" to help to prevent cracks from transmitting from the sub-soil to the surface.
- Inhibiting, but not eliminating, possible weed growth from the sub-soil zone.

2.10 Sports lighting ducts

Ducting should take the form of either a partial or fully ducted system, depending on the layout of the padel court(s) and any surrounding structures.

Sports lighting to padel courts would usually be facilitated by extended support posts from the enclosure. In some cases, however, there will be a need to erect the sports lighting on stand-alone columns located outside the perimeter of the enclosure. In both cases the structural design of the foundation for the enclosure or columns should be carried out by a UK structural engineer or an expert in padel court design.

Padel court lighting should be cabled on the basis of one or two looped circuits, with the ducting either positioned totally outside the perimeter foundations or cast into the ring beam and run under the playing surface depending on the circuit arrangement.

Ducting should be formed from plastic pipework with consideration given to installing the ducts at a depth of at least 450mm beneath the court surface to avoid damage if drainage holes are installed during subsequent resurfacing work.

Draw-pits may be required to allow the future cabling and re-cabling of the lighting posts. If required, they should comprise prefabricated plastic sections that link together to form the chamber with the cover of the draw-pit finishing flush with its surrounding surface level.

2.11 Porous base

2.11.1 General

Typically, in the UK, asphalt is the most commonly used porous base, however, alternatives such as porous concrete are sometimes used, however, they are not commonly used in the UK, where there is a general preference given to the use of porous bases.

2.11.2 Porous asphalt base

Asphalt is laid over the stone foundation layer. This will form the platform base on which the synthetic surface will be laid. For new build padel courts the asphalt should be laid in two courses, a binder course followed by a surface course. If a padel court is being constructed over an existing tennis court or hard standing with a suitable base, a single surface layer may be sufficient, although two layers will almost always be preferable. Open graded porous asphalt should be used.

Asphalt Binder and surface course

The asphalt binder and surface courses should be produced, transported and laid in accordance with clause 2.14 of the SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts.

The binder course should be laid to a compacted depth of 40mm and the surface course laid to a compacted depth of 25mm.

If the padel court is a new construction (on virgin ground) it should be built with two asphalt layers to satisfy the necessary drainage, stability and regularity requirements for artificial grass playing surface in full accordance with this Code of Practice.

If an existing tennis court is being converted to locate a padel court some preparatory works are likely to be required. The base on which the padel court is to be laid should be checked for regularity and drainage. To aid the drainage of the new surface, the existing asphalt tennis surface will need piercing to improve drainage for the padel playing surface. Piercing involves punching holes through the asphalt surface to form a drainage link to the sub-base and underlying ground. The holes, typically 25mm diameter, are back filled with chippings or pea gravel. The surface should be pierced at 450mm centres across the total area of the padel court.

Piercing the base will, however, result in small holes and there is a possibility that these holes will reflect through to the new playing surface. If this occurs, the aesthetics of the court can be damaged and, more importantly, ball rebound may be unpredictable as a result of the ball striking the edges of holes.

As a minimum scope of works, a new single layer surface course would be required as a suitable base to lay the new padel court synthetic turf surface with the enclosure constructed on the engineer designed foundation set into the surrounding court surface.

2.11.3 Porous concrete base

A mixture of small grade gravel (typically ranging from 2mm to 6mm) and cement, based on the cement manufacturer's recommendation, can be used in certain circumstances to replace the asphalt binder and surface courses. Expansion gaps should be incorporated if this construction is used. The depth and the composition of the porous concrete layer needs to be designed by a structural engineer in accordance with the requirements stated in Clause 2.7.

2.12 Playing surface – general requirements

The correct installation of the playing surface is essential if a court is to provide a satisfactory playing environment and meet players' expectations.

2.12.1 Regularity or evenness

The surface regularity of a new or resurfaced padel court should conform to the following:

At no point on the court area should there be any bump, hollow, ridge, joint or textural variation sufficient to cause reasonable expectation that a ball in play might be deflected from its true path; or expose a player to a significantly increased risk of injury within the perimeter of the court. Subject to the above, the surface should be laid to a tolerance of ±6mm as a maximum permitted undulation under 3m straight edge.

Ideally there should be no undulations greater than 6mm at any point on the court area. If two layers of asphalt form the sub-base, however, then two permitted deviations are allowed and on a single asphalt later up to four deviations are allowed. Undulations more than 1000mm in length are considered to be multiple deviations (e.g., a 1.8m long ridge is considered to be two deviations – one of 1m length and one of 0.8m length).

Notes:

Regularity should be measured in accordance with BS EN 13036 Part 7 by placing a 3m straightedge at any position on the surface of the court (excluding and the area around court fittings such as net posts) and measuring the gap at any place between the points at which the straightedge is in contact with the surface.

The variation in allowable tolerances reflects the relative difficulty of achieving superior surface levels with certain types of surfaces and construction, such as single layer asphalt.

2.12.2 Water permeability

Porous surfaces when newly laid (but after an initial period of weathering) should be free draining and can be expected to be clear of surface ponding within fifteen minutes of rain ceasing. BS EN 12616 defines a method of test for assessing the in-situ water infiltration rate of sports surfaces. Suppliers will typically design and test around laboratory values for vertical permeability as in EN13108.1.13.

2.13 Artificial grass

2.13.1 General

Padel can be played on any hard surface, however, the majority of installations and tournaments are played on artificial grass both in the UK and around the world

Generally speaking, the padel court playing surface should comprise a single tone sand-dressed or sand filled artificial grass (with a preference for monofilament yarn) loose laid onto the asphalt base and dressed/filled with silica sand in accordance with the manufacturer's guidance. The artificial grass surface should be designed specifically for padel and should have the following product specification or similar.

Product Specification	
Characteristic	**Property**
Pile Height	10 mm – 15 mm
dtex	≥ 8,000
Yarn Type	Monofilament (preferred), Texturised, Fibrillated (acceptable)
Infill Material	Silica Sand
Stitch rate	35,000 – 60,000
Primary backing	Polypropylene
Secondary backing	Latex or Polyurethane

The playing surface should comply with *UNE 147301: 2018 Sports surfaces for the practice of padel (Requirements)* for the sports performance requirements shown in the table below. This standard is a Spanish National Standard, and the requirements have been adopted by the International Padel Federation. Padel surfacing products should be tested in the laboratory for these requirements to ensure compliance with the standard in both dry and wet conditions. It would not normally be considered a requirement to carry out these tests on an installation unless specified within a tender document.

Property	Test Method	Requirement
Shock Absorbency (Force Reduction)	EN 14808	15 – 25%
Rotational Resistance	EN 15301-1	25 – 50Nm
Ball Rebound	EN 12235	≥80%
Water Permeability	EN 12616	≥500mm/hr

2.13.2 Weather considerations

Artificial grass surfaces can only be laid in certain weather conditions. This is because the adhesives used to join the rolls of carpet may not fully bond if laid in very cold or wet conditions and the need for the carpet and sand infill to be dry to allow the sand to flow into the pile of the carpet. Surfaces should only be laid when conditions satisfy those stipulated by the adhesive and carpet manufacturers. This is very much a case of the experienced contractor knowing best and they should not be pressurised to lay a surface in less-than-ideal conditions just to complete the work on time.

2.13.3 Carpet installation

Prior to laying out the artificial grass carpet the base should be swept to ensure there are no loose stones or other debris lying on it. The artificial grass carpet should then be rolled out in the configuration shown on the seaming plan and the rolls checked for any signs of damage or defects.

Following the checking of the roll, the edges should be overlapped by an amount sufficient to allow trimming and the edges trimmed to produce a good butt joint. After trimming, the gap between the edges should be no more than the distance between each tuft row.

The carpet should then be turned back from the trimmed joint and a carrier tape positioned on the joint line. The tape should be positioned centrally to give a bond width in accordance with the manufacturer's instructions. A water-based "tacky" adhesive may be used under the tape to prevent movement.

2.13.4 Sand application

The surface will not perform, and its durability will be compromised, if the carpet is not correctly sand dressed or filled prior to play. This part of the installation is, therefore, crucial.

Before infilling, it is recommended that the entire surface is brushed to aid the turf fibre to stand upright.

The correct grade of sand should be applied evenly in stages, ensuring that the sand is brushed into the pile in such a way that the pile remains upright. Extreme care and attention should be taken when applying the sand. The dressing must be finished to a constant depth within the base of the pile. Experience has shown that some grades of sand used in continental Europe would be considered too fine for the UK climate. Therefore, suppliers and installers should ensure that a suitable grade of sand infill is used for the UK climate.

If using a wheeled vehicle to transport sand across the surface, make sure that the tyres are smooth – tyres with treads, such as herring bone tyres, will permanently mark the playing surface. The recommended ground pressure of tyre to turf surface is between 8 and 11 pounds per square inch. Drive with care over previously sanded areas and do not make sharp turns or stop suddenly.

It may be necessary to return to site to top up sand levels after installation. The amount needed for top dressing can only be determined on an individual basis.

2.14 Other playing surfaces

Other playing surfaces can be considered, especially where temporary courts are being used. For installation guidance for these surfaces please consult the SAPCA Code of Practice for the Construction of Outdoor Multi-Use Games Areas, (1st Edition, September 2021).

2.15 Surrounding enclosure and rebound walls

The surrounding enclosure and rebound walls to a padel court should be formed of a combination of a transparent or solid material (glass, rendered blockwork) which does not affect ball rebound. The transition between the glass (solid) internal surface and the metal panels should finish flush and neither surface should protrude further than the other to prevent irregular ball rebound response and minimise risk of injury to players.

2.15.1 Supporting posts

The enclosure should be supported using steel or aluminium posts. The UK experiences higher corrosion rates than in Continental Europe and in some areas, this can be considered severe. In addition, prevailing wind conditions vary significantly across the UK. Selection of the padel court enclosure should therefore be made on a site-specific basis to ensure that the structure is suitable to meet anticipated corrosion rates and wind loadings.

Supporting posts come in different designs and can be constructed using different thickness of materials with or without additional reinforcing features to withstand different windspeeds.

Reinforced post sections should be considered to give enhanced wind loadings in coastal or exposed locations in accordance with the structural engineers design.

SAPCA recommends a minimum thickness of 3mm for any steel profiles.

The court manufacturer should advise what maximum windspeed the court is built to withstand. The court should be selected based on the specific location and site conditions where it will be installed.

Similarly, different finishes and treatment of materials can be selected for steelwork according to the corrosion rate of a specific location.

As a minimum requirement for the UK market, SAPCA recommends steelwork should be pre galvanised with subsequent zinc electro plating after fabrication and an anticorrosive epoxy primer resin treatment should be applied. For areas with particularly high corrosion rates such as a C5M category as defined in ISO 12944-1 the use of non-ferrous metals, such as aluminium, should be considered or when using steelwork, a hot dipped galvanisation to BS EN ISO 1461:2009 should be used. The galvanising process MUST BE applied after all the steel posts, panels etc have been fabricated, holed, and welded. If any onsite adaptation is required, a suitable zinc-based paint should be applied to the affected area.

The warranty for the materials used in the supporting posts should be for a minimum of 15 years.

For aesthetics and additional longevity, materials are often powder coated to a suitable RAL colour in accordance with BS EN 13438. During delivery and installation, powder coating can be scratched, therefore any affected area needs to be painted or sprayed with a suitable colour matched paint. If zinc rich powder coating is used instead of galvanising and powder coating, it is important to ensure all scratches and pin holes are over painted with the same zinc rich paint to prevent corrosion.

The posts should be fabricated with suitable base plates to allow the posts and the subsequent enclosure to be fixed to the concrete (ring beam) foundation using fixing bolts, with consideration also given to the use of resin secured bolts.

When designing the concrete foundation detail, the design needs to ensure that the size (width) of the foundation is sufficient to house the base plates for the enclosure. Where canopies or other court covering structures are also being constructed, consideration should also be given to the required sizes of those base plates.

2.15.2 Glass rebound panels

Glass rebound panels should comprise 12mm toughened glass to give a solid structure with high quality ball rebound characteristics on outdoor courts or those covered by a canopy structure. For the UK wind loading requirements which are substantially different to mainland Europe the use of 10mm thick glass should not be considered. On indoor court the use of 10mm thick glass can be considered.

Glass rebound panels should incorporate counter sunk fixings to prevent irregular ball responses. Toughened (or tempered) glass panels should be used as the glass is treated so it will break into small blunt pieces under pressure making it much safer than shards of normal glass.

All glass panels should be individually kite marked to the relevant European Standard. Glass manifestations should be included at the bottom of the panels and at a height of between 850mm

and 1000mm for health and safety reasons. The manifestations should take the form of small spots or balls and should not take the form of larger stickers or advertisements which may compromise the toughened glass shattering.

If further information is required, please refer to Part K of the building regulations.

2.15.3 Weldmesh fencing

The weld mesh sections of the surround walls should comprise weldmesh fencing 50mm x 50mm mesh with the inner face being the horizontal mesh within the mesh. The mesh should be either 3mm or 4mm diameter for consistent rebound properties. The fabrication of the weldmesh should also follow the principles specified in section 2.15.1 for corrosion protection.

2.15.4 Openings (court entry point)

The side elevation(s) should incorporate a central opening for player access on one or both sides of the padel court with access to both ends of the court from the central location. For competition courts the 'out of court play area' 4.0m x 2.0m (or 4.0m x 3.0m) either side of the net (8.0m x 2.0m or 3.0m overall) should be incorporated into the design of the enclosure on both sides of the court and the playing surface should be the same as the actual playing area of the court.

Sports wheelchair access is required to either side of the court. The spacing between the net post and the padel enclosure should be a minimum of 1.20m on either side of the net and court.

Hinged gate access points should be considered to ensure Equality Act compliance for sports wheelchair users at all access points.

2.15.5 Nets and posts

The net should be 10.0m in length, 0.88m high at the centre, rising to 0.92m at the ends, with a maximum tolerance of 5mm.

The net should be suspended by a metal cable with a maximum diameter of 10mm and the ends attached to net posts. It is considered the norm that most padel court designs will use base plated posts rather than using the enclosure to support the net. The net should comply with BS EN 1510.

3 Section Three – Sports lighting

3.1 Layout and Design

Padel courts should be floodlit using one of three methods to support the required luminaires to light the court. On outdoor courts the luminaires can either be fitted to an extended part of the padel enclosure (common) or housed on stand-alone lighting columns, a method more frequently used on tennis courts and sports pitches. If the courts are being covered then the luminaires can also be fitted to the frame of the roof support structure, however, this would be dependant of the type of structure and location of the roof support trusses.

When developing the lighting design, considerations should be given to the number of padel courts to be lit, the complexities of the site and whether there are residential properties near the court location. These site-specific requirements can often dictate which luminaires can be used in the design to potentially control lux level spillage or reduce glare.

All light fittings should be manufactured to the relevant British and European standards with the associated CE marking. If the padel court is being supplied as a 'package kit' from the manufacturer of the enclosure, then all the electrical components should be detailed with a compliant lighting design prior to placing any order for the works.

All light fittings should be installed ensuring a 6.0m high clear space above the padel court playing area.

Padel court lighting designs should be produced using dedicated software by competent persons (designers, consultants, manufacturers, or contractors) with relevant experience in lighting designs and local authority planning policy.

3.1.1 Extending the padel enclosure to support the luminaires

The posts supporting the court enclosure are extended from the enclosure and a bracket is fitted to the top of the post to mount either one or two luminaires depending on the lighting design. The extended posts should be configured such that the luminaires are located 4.0m from the back wall of the padel enclosure into the side elevations to give a side lit lighting arrangement.

This is the preferred option for lighting padel courts as the lighting layout and design becomes an integrated part of the enclosure and allows the cabling to be attached and housed within the supporting posts for the enclosure. It also means that where multiple courts are being lit there is no need for additional columns located within the walkways between courts.

3.1.2 Stand-alone lighting columns to support the luminaires

The stand-alone floodlight columns should be located outside of the padel court enclosure to mount the luminaires, adopting a more traditional sports lighting layout. The columns should be located 4.0m from the back wall of the padel enclosure into the side elevations to give a side lit lighting arrangement.

3.1.3 Using the roof support structure to support the luminaires

The luminaires should be located at the 6.0m eaves height, attached to the roof support structure 4.0m from the back wall of the padel enclosure above the side elevations to give a side lit lighting

arrangement. It should be noted that where clear span covered structures (see Clause 4.1.2) are used to cover multiple numbers of courts this design solution may be feasible.

3.2 Power Supply

The LED sports lighting for a padel court will require a single-phase electrical supply and preferably the location of the court(s) will be as close to the supply as possible. Depending on the system of lighting installed, the power requirements will typically range from 1.2 – 2.4kW per court. For multiple court layouts, consideration may need to be given for the need of a three-phase electrical supply.

3.3 Lighting Performance Requirements

The lighting performance standards for padel courts in the horizontal plane at ground level are defined below.

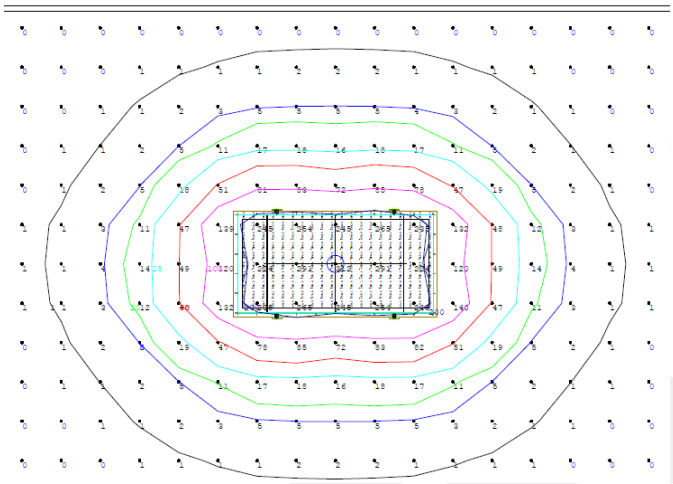
Outdoor and indoor courts requirements: Minimum illumination at ground level (Z=0)	
National and International Competition	500 lux (E av) with 0.7 uniformity
Regional competition, school & recreational use, indoor courts	300 lux (E av) with 0.5 uniformity

A 10% over-performance should be taken into consideration when undertaking the initial design (i.e. 0.9 maintenance factor).

3.4 General design points to consider

When a lighting design is being produced, the designer should use a suitable calculation grid spacing (i.e. 1.0m x 1.0m as indicated on the following page) over the playing area centred on the net line position of the court. This removes the potential for any 'dark or over lit' patchy areas to be located within the overall playing area of the court.

The calculation grid spacing for the overall area affected by the floodlighting should be at a maximum spacing of 5.0m.



A detailed lighting design using this type of software and design grid is particularly important when considering the use of low cost, low wattage LED fittings. These fittings commonly use a symmetrical (rather than asymmetric) optical distribution as they are designed for lighting general amenity areas and are not sport specific products.

Lighting designs for padel courts should provide calculations for both lux and candela when adjacent to domestic dwellings. This will ensure that the design is in accordance with the requirements of the ILP Guidance Notes for the Reduction of Obtrusive Light 2021.

On padel courts – as play involves the use of the ends and side walls – additional vertical lighting calculations may also be requested by planning authorities.

Where padel courts are to be incorporated into existing floodlit areas then consideration should be given to maximise the existing lighting provision in relation to the current positions of columns, fittings and potential conflict with underground service cabling.

3.5 Performance testing

On completion of the installation of the padel enclosure, courts and lighting system, the sports lighting system the client may request testing of the system to ensure compliance with the submitted design.

4 Section Four - Covered facilities

4.1 Structure types

There are two main types of structure used to cover padel courts, modular and clear span structures. Both types of structures come in a range of closed-sided or open-sided structures and can be used to cover padel courts at a more economical cost than a traditional building or an air inflated structure. Typically, they comprise steel, aluminium or timber frames and are constructed with a single or double skin membrane roof. Some structures come with a fully enclosed roof and walls, others as a canopy type design. The size and shape of the structure can also have an impact on their suitability for a certain venue or location.

4.1.1 Modular structure

The modular type of structure shown in the photograph below is designed to cover padel courts individually; where more than one court is being covered, columns sit between courts, creating a singular larger structure. The main advantage of this type of structure is that due to the relatively short span for the roof, the costs can often be kept lower and also the modular nature covering single court spans, allows the structure to be fitted into the tight confines of existing facilities.

Typically, these modular structures are designed with a 6.0m eaves height, across a span of 11.0m, ensuring a minimum roof height along the centre line down the length of the court of nominally 8.0m, with the roof height falling to just over 6.0m along the perimeter of the padel enclosure.

Figure 7 Example of a modular canopy structure

For covering a single court or a layout comprising a number of ‘end on end’ located padel courts, the modular structure shown on the previous page may offer the best option with a simple design.

4.1.2 Clear span structures

The clear span type of structure shown in the photograph below is designed to cover a block of padel courts in the same way that a similar structure would cover a block of tennis courts. If your project is looking to cover more than a single padel court, a clear span canopy could potentially be considered the more suitable option. The structure would typically cover the courts orientated with the highest point above the net line.

For multi-court covers, it is prudent to consider court spacing and column positioning, so as not to interfere with out of court play or restrict the provision of sports wheelchair access. Where structures are to be fully enclosed either at construction stage or at any time in the future, a minimum of 1.20m of clear unobstructed corridor space should be established between courts (which excludes padel court fixing baseplate arrangement if exposed at surface level) This ensures building control Part M compliance.

Figure 8 – Example of a clear span canopy structure

4.1.3 Dimensions of structures

The overall dimensions of structures used to cover padel courts can vary depending on the structure type noted in 4.1.1 and 4.1.2. Furthermore, the available space or the need to incorporate other ancillary facilities within the structure will have an impact on the overall size. Another consideration when designing and selecting a suitable structure to cover padel courts in whether professional competitive play is planned either at a national or international level.

Depending on the type of structure, consideration needs to be given to compliance with UK Building Regulations. If the canopy has fitted sides then the structure requires additional space for emergency egress routes and hence would need a larger footprint.

If the intent is to provide professional level competition play within the structure, it is advised to seek guidance from the specific Federation on correct building dimensions required for that level of padel. In the United Kingdom, this would be the Lawn Tennis Association.

4.2 Design criteria

It is essential that all structure types are designed by a UK structural engineer with Professional Indemnity Insurance. A supporting design calculation document should be produced which allows for site specific loading calculations, including wind and snow loadings and specific local ground conditions. Structures should be designed and constructed to building regulations requirements. This should include the foundation & drainage detail along with all structural components.

Sports lighting can be fixed to the structure as part of the design for the padel facility and if this is case it should be factored in at design stage. If the design includes fully enclosed or retractable sides on any or all elevations, emergency lighting must be installed in accordance with local building control requirements.

Planning approval will be required for the development of an indoor structure or canopy in line with UK planning laws. Building control will be required for fully enclosed indoor structures and may also be required for canopies, to sign off the design and installation of the structure and its foundations.

4.3 Conformance with Construction Product Regulation

It is advisable that structural frame components conform to CE Marking. This ensures the free movement of products that conform to the Construction Products Regulation (CPR). All steel or aluminium materials should meet all safety, health and environmental protection requirements within the European market and is a key indicator of compliance with EU legislation.

In addition to CE Marking, UKCA relates to products being placed on the market in the United Kingdom. In the case of padel canopy/building structures, UKCA ensures structural components comply with UK declaration requirements regarding the manufacture and use of products that are made and supplied into the market. It is appropriate to ensure manufacturers apply all designated standards to products from import of raw materials, right through to the export of specialist components.

4.4 Supporting posts

All steel supporting components for structures and canopies in the UK should be hot dip galvanised to specification to BS EN ISO 1461:2009 for maximum longevity and protection against the climate.

If opting for a polyester powder coated finish to steelwork, shot blasting is advised as the ideal preparatory operation for achieving the best surface adhesion for paint or thermal spray, with a recommended thermal zinc spray to ensure longevity. For coastal locations, marine grade powder coating is advised.

Further details for the use of steel supporting components can be found in Clause 2.15.1.

4.5 Roof and side cladding materials

There are a range of different cladding materials available on the market. If the design includes fully enclosed or retractable sides on any or all elevations, emergency lighting must be installed in accordance with local building control requirements.

4.5.1 Fabric membrane

Fabric covered structures involve the use of a tensioned membrane, to cover the structure with either a single or double skin typically. It is vital to have a sufficient radius on the roof to ensure suitable tension on the roof sheet. Insufficient tensioning could lead to ponding and potentially failure of the membrane.

4.5.2 Solid roof material

Hard roof structures typically adopt the use of a polycarbonate or metal profile sheet to cover the structure.

4.6 Warranty

Based on the types and specification of structures supplied, different structures will have different warranty periods offered by the manufacturer. A minimum structural warranty period of 15 years is recommended.

The warranties for structures range from 10 – 25 years based on those currently being supplied into the UK market.

5 Section Five - Maintenance

Overview

As with any facility type, the maintenance of a padel court, the enclosure, the lighting and where applicable the court covering is essential to ensure that the facility is maintained to the highest standard, but also that it remains **safe to use**. This section gives an overview of the maintenance regimes required to sure that your padel facility remains in good order and safe to use and outlines the specific things to do along with the frequency that they are required.

The maintenance regimes for the padel court surface, the enclosure comprising the glass and the supporting posts, the lighting and covered structures are outlined within this section of the Code of Practice.

These guidelines and maintenance regimes are based on permanently constructed padel courts and enclosures. **Where temporary court structures and base plate weighted structures are being used the maintenance guidance from the supplier should be followed.**

This Code of Practice outlines a set of minimum maintenance requirements. The site-specific requirements should be tailored to the frequency intensity of usage and local weather conditions. The correct level of maintenance will extend the lifespan of the court, the enclosure and lighting system and will deliver a better facility and the player experience.

5.1 Court surface

The synthetic turf playing surface requires a combination of general cleaning and litter picking along with periodic sand top ups and brushing.

5.1.1 Cleaning and general site management

General cleaning should comprise the collection of litter including drinks bottles and cups, along with small debris like paper and leaves. This should be performed with a sweeping brush or an air blower to remove the debris.

- This basic cleaning should be done at least weekly but at a busy venue increasing the frequency to daily.
- Special focus should be given to the corners, along the walls and around the net where debris will tend to accumulate.

5.1.2 Sand top ups and redistribution

Regular brushing of the court surface not only keeps the court clean but also redistributes the sand infill, which ensure a more consistent performance. The more intensively the court is used, the more the sand infill will require regular brushing. If required additional sand should be brushed into the carpet, however, as the glass should prevent the sand from exiting the court.

- Use a sweeping brush with medium-strength nylon fibres.

- Sweep opposite to the turf fibres' direction to lift and spread sand.
- Collect excess sand from corners and edges and redistribute.
- If there is sand loss, top up with fresh sand before redistributing.

5.2 Padel enclosure

The padel enclosure comprising the metallic structure and the glass panels requires ongoing checks for the structural integrity of the installed system. This will ensure that not only the enclosure will remain in its optimum playing condition but that it also is **safe to use**. Where fixings are allowed to loosen, the structural integrity of the enclosure cannot be guaranteed which could compromise the installed system.

5.2.1 Metallic structure

5.2.1.1 Inspection of the anchor points

The anchoring points and base plates fixing the metallic structure to the concrete foundation supporting the enclosure should be checked on a monthly basis. After a storm or severe wind, the inspection should also be undertaken.

5.2.1.2 Inspection of the fixing screws

All fixings for the metallic structure should be checked on a monthly basis with the torque of the fixings being assessed. Where screws have worked loose they should be tightened to ensure that structural integrity of the enclosure.

5.2.1.3 Protecting the metal works

The metal coating layer protects the metal work from corrosion and therefore if the metal work has been exposed, prompt touch-ups will prevent the metal from rusting.

- If the exposed metal has not started to rust then touch up the area with paint of the same RAL colour and manufacturers specification.
- If the exposed metal has started to rust then sand down the area, apply a suitable metal sealant and then touch up the area with paint of the same RAL colour and manufacturers specification.

All metal work should be clean the entire structure monthly with a damp cloth to remove dirt, grease or bird droppings, ensuring that no chemicals are used during the cleaning process.

5.2.1.4 Net and tensioning mechanism

Monthly net inspections will guarantee play with the net at the correct heigh and will also ensure that the equipment lasts longer.

- Confirm net height is 88 cm at the centre and 92 cm at the posts (± 5 mm tolerance)
- Keep the tensioning mechanism well lubricated to ensure smooth adjustments.

5.3 Glass

5.3.1 Cleaning the glass

Use glass-specific cleaning products to maintain clarity and safety.

5.3.2 Inspection of the fixings screws

All fixings for the glass panels should be checked on a monthly basis with the torque of the fixings being assessed. Where screws have worked loose they should be tightened to ensure that structural integrity of the enclosure.

5.3.3 Inspecting the glass separation

The tempered glass can expand and contract with temperature changes. Maintaining the correct gap prevents glass breakages and potential finger traps and also ensures an uninterrupted ball rebound.

- The gap must be at least 3mm to avoid panels striking each other.
- Do not exceed 6 mm, as excessive spacing can cause finger entrapment and affect ball rebound characteristics.
- Ensure the gap is uniform along the entire joint.

One preventive measure that can be done is to insert 100mm long silicone strands between each pair of panels, one at the top and one at the bottom, to warn of any lateral movement and maintain consistent spacing.

5.4 Sports Lighting

The lighting system should be tested on completion of the works to confirm that luminaire alignment and performance of the lighting system is compliant with the design. It is essential that the lighting system is maintained to ensure that the performance remains high. In order to do this the following should be considered:

- Regular (annual) cleaning of the fittings.
- Annual assessment of the orientation of the fittings and if required retightening of all mounting screws. After storms and strong winds this may require in additional checks being made.
- Where re-alignment is required the lighting system should be re-tested to ensure compliance with the design requirements.

5.5 Court covering structures

The structure covering the padel court(s) also requires the relevant maintenance regimes to ensure that the structural integrity of the covering remains in its optimum condition. Anyone carrying out maintenance of the structure needs to be aware of the requirements to maintain the structure and should be considered competent to carry out the work.

5.5.1 Structural frame

5.5.1.1 Inspection of the anchor points and fixing bolts

The anchoring points and base plates fixing the frame of the building or covering to the concrete foundation should be checked on an annual basis. After a storm or severe wind, the inspection should also be undertaken.

5.5.1.2 Cleaning and protecting the structural frame

Where powder coated steel is forming the structural frame clean with warm water and mild detergent. Do not use abrasive materials as this may scratch the coated finish. In a normal environment this should be done on an annual basis, however, in coastal areas bi-annual cleaning should be considered.

- If the exposed metal has not started to rust then touch up the area with paint of the same RAL colour and manufacturers specification.

- If the exposed metal has started to rust then sand down the area, apply a suitable metal sealant and then touch up the area with paint of the same RAL colour and manufacturers specification.

Where galvanised steel is used then the finish is generally maintenance free.

5.5.2 Roofing materials

A maintenance inspection should be carried out at least annually to determine the condition of the roof or canopy. This inspection may need to be more frequent depending on the proximity of the building to trees, (gutter blockages) or environmental pollutants (air borne grit or chemicals) which could degrade materials and hence require additional maintenance.

5.5.2.1 Roof maintenance

Canopies have fragile roofs, and care should be taken working on them. Furthermore, operatives carrying out the work need to consider the ‘Work at Height Regulations 2005’. It is best practice to use a mobile elevating work platform (MEWP), for example a scissor lift or articulated boom to allow safe access to roof, by competent persons. Alternatively, a tower access scaffold could be used by competent persons.

5.5.2.2 Gutter maintenance

A maintenance inspection should be carried out at least once a year to ensure that the gutters are clear. The frequency of this task is dependent upon on the proximity of the building to tree, (gutter blockages) or environmental pollutants (air borne grit or chemicals) which could degrade materials. It is also recommended that all nuts and bolts be checked for tightness and security. A Safe System of Work must be implemented during this process.