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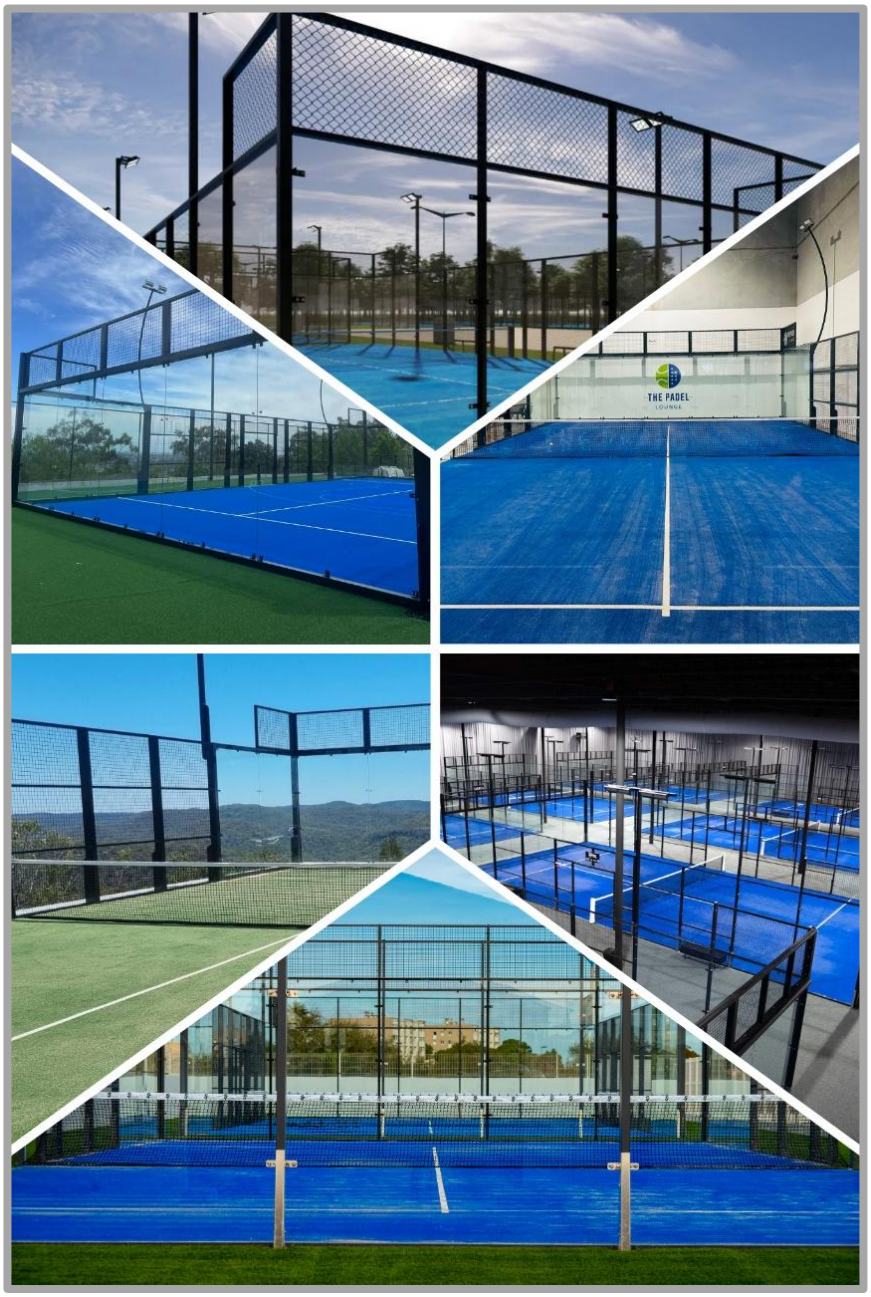

FOR THE CONSTRUCTION OF PADEL COURTS

FIRST EDITION - AUGUST 2026

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We would like to acknowledge our gratitude to the UK peak body SAPCA (www.sapca.org.uk) for giving permission to SAPIA to modify their "SAPCA Code of Practice for the Construction of Padel Courts" for use in Australasian conditions. www.sapca.org.uk

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Acknowledgements

SAPIA would like to acknowledge the assistance received from those who contributed towards the production of this Code of Practice: in particular, our UK sister association SAPCA for allowing us to adapt their Code of Practice for the Construction of Padel Courts, and, in Australia, representatives of the following SAPIA members (in alphabetical order):

Acousto-scan
APT Asia Pacific
Glooloop Surfacing
Grassports Australia (Queensland)
GreenSet Australia
MakMax Australia
Mark Edmondson Consulting
Padel 360
Synthetic Sports Group
TMK Consulting Engineers

As the recognised Australian trade association, SAPIA fosters excellence, professionalism and continuous improvement throughout the sports and play construction industry, in order to provide the high-quality facilities necessary for the success and safety of Australian sport and recreation. Customers and decision makers can partner with SAPIA in upholding the highest quality standards by ensuring that the contractors with whom they engage are SAPIA Members. A directory of current members is available on the SAPIA website www.sapia.org.au

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- To liaise closely with the governing bodies of sport, play and recreational facilities, both nationally and internationally.
- To encourage the use of new technology in the design and construction of sports and play facilities.
- To provide and support training and education for the industry's workforce.
- To provide a strong voice for the sports and play construction industry in Australasia.

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The SAPIA website provides a wealth of valuable information for anyone involved in the development of sports and play facilities. Visit www.sapia.org.au for Industry News, Technical Guidance, Exhibitions & Events, the SAPIA Membership Database and more. Visitors are invited to subscribe to the free SAPIA News Update service, for regular news bulletins.

Further Information

The Sports & Play Industry Association is a not-for-profit organisation that operates through its own full-time administration. For further information, including a list of members, please contact SAPIA at the address below.

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PREAMBLE

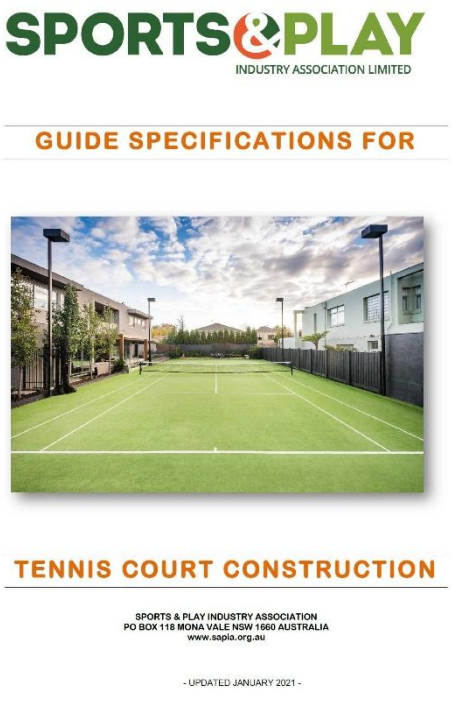
The Sports & Play Industry Association (SAPIA) has produced this document to provide prospective clients, designers and specifiers with guidance on the basic construction requirements and specifications currently employed in building padel courts. The standards outlined throughout the document have been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

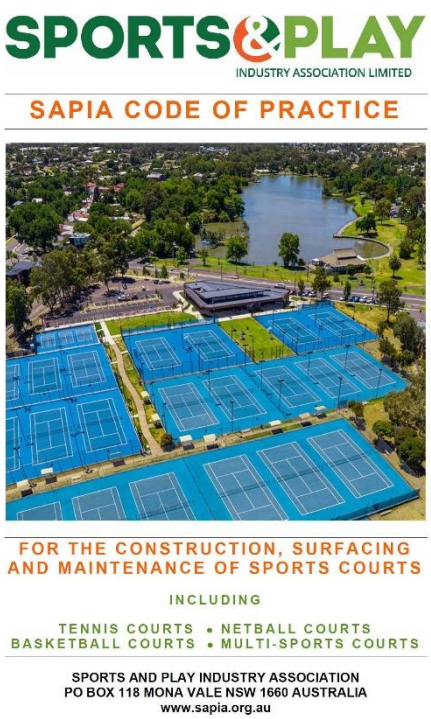
The document calls on the experience of SAPCA (UK) and SAPIA (Australia) member companies, who have constructed a wide range of installations for a variety of clients over many years. The requirements of the various sports' governing bodies and the relevant standards organisations are incorporated, where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

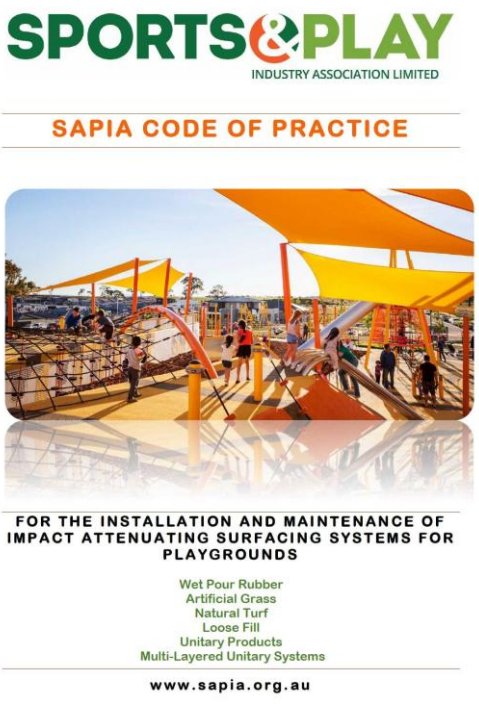
While it is not intended that this document should become part of a contract, it is believed that it will prove useful in the selection of an appropriate padel structure and playing surface and form a useful reference in the design and construction process.

SAPIA 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 Industry Association, PO Box 118, Mona Vale NSW 1660. Revisions to the Code of Practice will be made when such action is considered appropriate.

The SAPIA Code of Practice for the Construction of Padel Courts adds to our previously published Guide Specifications for Tennis Court Construction, Code of Practice for the Construction, Surfacing and Maintenance of Sports Courts and Code of Practice for the Installation and Maintenance of Impact Attenuating Surfacing Systems for Playgrounds. We provide PDF copies of these documents free of charge on our website, or hard copies may be ordered from the SAPIA Office for the cost of printing and postage.







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DEFINITION OF TERMS

The padel court	A single padel court is defined as an internal area 20.0m long x 6.5m wide, whereas a standard padel court is defined as an internal 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 6.5m (singles) or 20.0m x 10.0m (doubles) 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 for international tournaments. Variations may be acceptable for community use pending site conditions.
Technical Project	The project that determines the feasibility of implementing the padel court at the destination site, taking into account all aspects of urban planning, construction and environmental regulations of the site.
Structure Kit	Set of structural elements that make up a given model of a padel court, including the mesh and glass enclosures.
Structural Calculation Report	A set of descriptive documents which comprehensively reflect the procedures used and results obtained from the structural calculation of a given structure kit model.
Assembly Manual	Document with step-by-step details of how to install all the elements that make up the court.
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	The term "asphalt" is the internationally accepted technical name for all surfaces which are composed of a mixture of bitumen and stone.
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.
Concrete Slab	In the context of padel courts, concrete is used to form the reinforced base slab, providing a stable, level and durable platform for the installation of the playing surface system, and designed to accommodate the expected loads, environmental conditions and ground characteristics.

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Membrane	Note: if an acrylic surface is to be used, a waterproof membrane must be placed beneath the concrete as part of the design. Curing time before acrylic surfacing is a minimum of 28 days.
E-layer/Shock Pad	Elastic layer/shock pad is an impact attenuated layer to help improve the properties of the court surface.
Enclosure	The above ground level part of the padel court that surrounds the court.
Artificial turf	A sand dressed, or sand filled carpet manufactured from polyethylene or polypropylene yarn, normally of tufted construction.
Acrylic surface	An acrylic sports court consists of an application of multiple layers of specialised coating materials (e.g. resin, cushion compounds and coloured surface finish) on a concrete or asphalt base. Each layer has a purpose, e.g. to improve comfort, flexibility, traction and longevity. The system typically includes: Base layer, primer coat to ensure adhesion, resurfacer to fill and smooth the base, optional cushion coats for shock absorption, coloured surface layer for grip, UV resistance and aesthetics, and finally line markings.
International Padel Federation	The world governing body for the sport of padel (FIP).
NCC	The National Construction Code is Australia's primary set of technical design and construction provisions for buildings. https://ncc.abcb.gov.au/
Manufacturer	A company that produces at least one of the different elements that make up a padel court, or has it manufactured and markets it under its name or trademark.
Distributor	A company that supplies or sells the manufacturer's products to the builder or end customer.
Builder	A company that executes the civil works necessary to implement the padel court.
Customer	A company or individual who purchases and receives the padel court from the manufacturer, distributor or builder.
Maintainer	A specialised company or individual to whom the customer entrusts the maintenance of the padel court.
Preventative Maintenance	Set of recurrent actions to maintain the different elements that make up the court in perfect condition.
Corrective Maintenance	Set of maintenance actions aimed at correcting defects in the different court components in the event of wear or tear.
Annual Maintenance Schedule	Document in the forms of an annual schedule that determines how often maintenance shall be carried out.
Inspection and Testing	Activity that requires controlled environmental conditions, use of certain test equipment and procedures, and where in general it is necessary to know the test uncertainty and relevant requirements.

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NOTES TO BE READ IN CONJUNCTION WITH THIS 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 Australia, the Sports & Play Industry 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 & Play Industry 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 & Play Industry 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 Australian structural engineer with the correct level of professional indemnity (P.I.) insurance.

This document does not apply to the construction of sports buildings or halls; its scope is limited to the padel court itself.

This document outlines the standards for padel courts, focusing on both structural integrity and user safety. It details the guidelines for manufacturing, testing, and inspecting all components of the court—including the structure, enclosure, playing surface, net and lighting—as well as the court as an integrated unit. The main goal is to protect users from potential hazards during normal use and ensure that matches can proceed without any risks caused by the court's design, construction or assembly.

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.

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OVERVIEW

A standard padel court is a rectangular, enclosed, and compact playing area that could loosely be described as a hybrid of tennis and squash. It measures **20 metres in length and 10 metres in width**.

- **Size Comparison:** A padel court is roughly one-third the size of a full tennis court, and a single tennis court can often fit two to three padel courts.
- **Enclosure and Walls:** The court is surrounded by walls, typically 3 to 4 metres high, made of tempered glass on the ends and a combination of glass and wire mesh on the sides. These, along with the floor, are part of the active game, allowing the ball to be played off them.
- **Surface:** The court surface is typically synthetic turf or artificial grass with a layer of sand which allows for consistent, controlled ball bounces and sliding.
- **Net and Lines:** A net divides the court in half, measuring 88 cm high in the centre and 92 cm at the posts. Service lines are located 6.95 metres from the net.
- **Construction:** Courts are generally designed and sold as pre-fabricated kits, usually consisting of galvanized steel structures, tempered glass panels, and synthetic turf, assembled on-site by specialists.
- **Variations:** While not standard, some outdoor courts may use concrete block walls, and new materials like fiberglass are being tested for construction.

Padel is exclusively played in doubles, with the smaller court size and enclosed structure leading to faster, more strategic, and rally-focused play compared to tennis.

PLAYER RESPONSIBILITY

Whilst designers and contractors do their best to construct a safe playing environment, the game is not without risks. Padel is a fast-paced, physically demanding sport played within an enclosed court with elements composed of steel, glass, wire mesh fencing, net and posts. Players may be injured by being struck by a paddle or racquet, slipping on the surface or falling. Collisions with the fence, glass, net post, other fixed obstacles, or even other players are possible. The risk can be heightened when athletes attempt difficult moves, such as running outside the court to retrieve the ball. It is the responsibility of each player to participate only when they are physically and mentally prepared, and when they have determined that the court and weather conditions are suitable for safe play. Players should not take part if there are concerns about the safety of the facility, nor should they participate if they are physically injured or otherwise impaired, as this could increase the risk of harm to themselves or others.

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INTRODUCTION

From the first considerations regarding the construction of a padel court through to its completion, a clear understanding is required of the processes and decisions to be made. Although it may be appealing to immediately begin installing a court, the real success of the project hinges on the attention given to the planning and design phases. These crucial stages determine the quality of the final outcome and can mean the difference between a project that runs smoothly and one that is plagued by ongoing problems.

It is strongly recommended that a detailed budget is drawn up, especially if there are parties investing in the project. All costs should be included, from feasibility studies, purchase or lease of premises, engineering and other professional design services, council fees, earthworks and drainage, purchase of kit, construction of base, surface, walls, net and net posts, lighting, site fencing, ancillaries.

This Code is divided into the following sections:

- **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.

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STAGES IN CONSTRUCTION OF A PADEL COURT	
Project Brief	This phase reviews the project brief and considers factors such as location, usage, funding, budget, procurement and project management.
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.
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.
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. The final completion will require engineering certification in line with local regulatory requirements.
Aftercare	A maintenance regimen should be provided by the installer, including the ongoing maintenance program and warranty period of the installation. If required, performance tests are undertaken to monitor surface behaviour.

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1. SECTION ONE — CONSIDERATIONS FOR DEVELOPING A PROJECT

1.1 PROJECT CHECKLIST

1.1.1 Engineering considerations when developing a padel court project

It is essential that the padel court/s is designed specifically for each site by an Australian-qualified and experienced structural engineer who holds Professional Indemnity (P.I.) insurance. Elements that require engineering expertise include:

- The foundations and concrete ring beams, the exact dimensions of which must be calculated to match local ground conditions and wind loads, as these factors can vary significantly depending on the location within Australia.

- The use of second-hand padel enclosures, which should only be considered if existing ground conditions have been appropriately assessed and structural calculations made. Non-galvanised metal may not be appropriate for outdoor use in Australia's climate, resulting in rust or failure.

- 'Steel plate' padel enclosures rely on the weight of the steel plate, bolted to the foundation below, to provide stability, so structural calculations need to cover both the enclosure and the substrate.

- Similarly, 'platform' padel enclosures which can be used when the ground is uneven, such as in car parks or on other hard stands, use the structure's weight for stability.

- To summarise, the Australian-licensed and experienced structural engineer must sign off on the following aspects of the padel court project:

    - The padel enclosure is fit for purpose for the specific site, with considerations given to both the climate and wind loading requirements that prevail;

    - The structural design calculations of the concrete foundations for the padel court and/or the covered structure or canopy;

    - The glass forming the padel enclosure, which must be a minimum of 12mm thick for all outdoor courts (depending on certification for particular sites), and10mm thick for indoor facilities.

1.1.2 Planning considerations before proceeding with a padel court project

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 future 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 players with a disability) and suitable for maintenance and construction equipment (all courts will require resurfacing at some point; a factor often overlooked). In many areas of Australia, highly reactive soils are found which may preclude the use of that site or require changes to the foundation's structural design.

Planning consent for the construction and installation of a padel court and/or covered structure will be required. This would be necessary for a material 'change of use' and may require a zoning variance if the

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site is not currently zoned for recreational use. Planning consent may be needed for the new court, for new or replacement outdoor sports lighting, changes to the playing surface, site access, site levels, sound attenuation, as well as new build or refurbishment to a clubhouse.

Even temporary padel structures—such as those installed for special events—may need planning approval, depending on their noise impact on the surrounding area. It is important to seek guidance from a specialist consultant, the local planning authority, and the manufacturer of the chosen enclosure. Temporary structures typically require more frequent structural maintenance than permanent ones.

The 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 may be required as part any planning application for the construction of padel courts. 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. If the location of the proposed court(s) is adjacent to residential properties (30.0 – 50.0 m away) then it is likely that a noise assessment report will also be required. SAPIA recommends that these reports are produced for a planning application for the construction of padel courts in isolation. (In instances where padel courts are being developed along with pickleball courts as part of a larger racquet hub, the pickleball courts are likely to be the generator of higher noise and the subject of greater planning scrutiny.)

Planners should assess how the completed facility and its drainage capacity will affect the nearby urban environment.

If the facility includes court canopies or a roof structure, and the design fixes sides and ends to the ground, the structure is classified as a building. This means it must comply with the National Construction Code (NCC) and may need to be installed by a licensed builder (requirements vary according to State or Territory). For further information, see https://ncc.abcb.gov.au/faq/general-ncc

Where facilities are being developed with multiple court numbers, consideration should be given to the layout and spacings between courts to ensure disabled and sports wheelchairs' safe access and movement, compliance with statutory regulations, and room for the required future maintenance procedures including eventual resurfacing. Access to the court for players with a disability (on one side or both) could be by the use of hinged access points. Compliance with the Disability Discrimination Act is an obligation for all designers, constructors and managers of padel facilities. Also see Tennis Australia's Facility Planning Guide, Section 3.

The orientation recommendation for the longitudinal axis of the court in outdoor facilities is North-South, admitting a variation between NNE and NNW.

An 'out of court' or 'outside-the-cage' play area for padel is a specialised, optional design feature allowing players to run through exit doors, typically located on both sides of the 20m x 10m court, to return balls that have bounced out after a smash. The area is usually 2 metres on each side for safety. The 'out of court' play area and the potential need to include it needs to be considered in the design, e.g whether there is sufficient space. The requirements for the 'out of court' play area may well be impacted by the standard of play at the facility or the need for specific levels of competition (e.g. tournaments).

For out-of-court play each side of the court must have 2 access points. There cannot be any obstacles outside the court within an area of no less than 3 metres wide (4 metres are recommended) and 4 metres long on either side and a minimum of 3 metres high. The access must be protected in its three sides: lateral and upper sides, as well as the net post, with a product to cushion against player contact (i.e.: spongy rubber, rubber, neoprene, etc.) with a thickness not less than 2 cm. These protections must be firmly fixed to the metal structure and to the posts, with enough fastening or Velcro to guarantee the efficiency of the antishock cushion and also to reduce as much as possible the interference to the game due to its projection to the court inner space.

The possibility of covering the padel court in the future should be considered, as the need for additional footprint and access to the area may become challenging once the project has been completed. There

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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.

The padel enclosure fabricator / manufacturer should be sourced before an order is placed, with certificate of origin to be provided prior to completion of the project.

The court surfacing product should be a product designed specifically 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.

All metalwork components used in the padel enclosure and/or covered structure should be designed and manufactured for the Australian climate to the NCC with sufficient warranty from the manufacturer in place. Manufacturers' warranties should be compared for all installations in respect of structural failure of the enclosure. Installer warranties should be in line with the NCC, subject to local compliance.

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.

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2. SECTION TWO — CONSTRUCTION GUIDELINES

2.1 SITE CONSIDERATIONS

2.1.1 General

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.



Figure 1 - Outdoor Padel Court (Synthetic Sports Group)

- Outdoor 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.

  Reminder: 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 Australian structural engineer with Professional Indemnity (P.I.) insurance.

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- Indoor padel court constructed within an existing building — often constructed with multiple courts and social areas.



Figure 2 - Indoor Padel (Synthetic Sports Group)



Figure 3 - Multiple court facility (GreenSet)

- 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).

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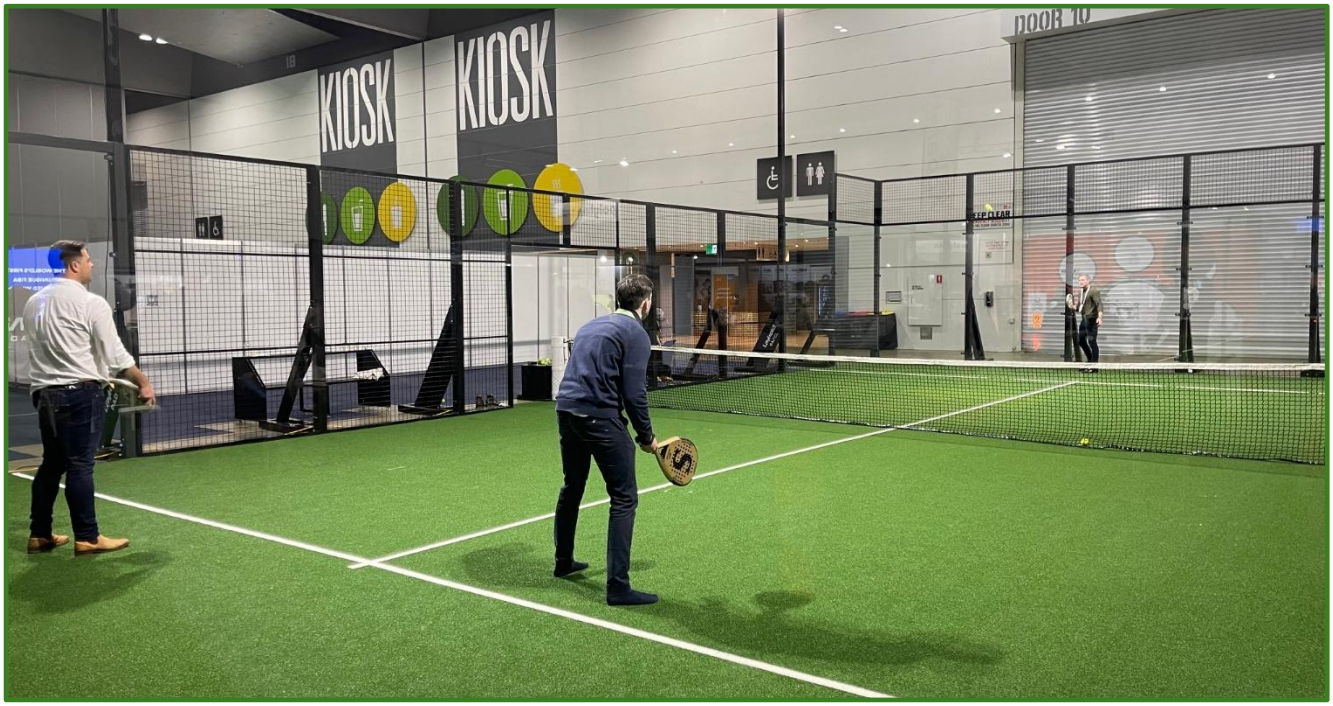

Figure 4 - Temporary Padel Court Installation (APT Asia Pacific / NSC 2025)

2.1.2 Planning

The design layout for a padel court is shown in Figures 5 and 6 below. 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. Based on the findings of this application, 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.



Figure 5 - Example of standard padel court arrangement (SAPCA)

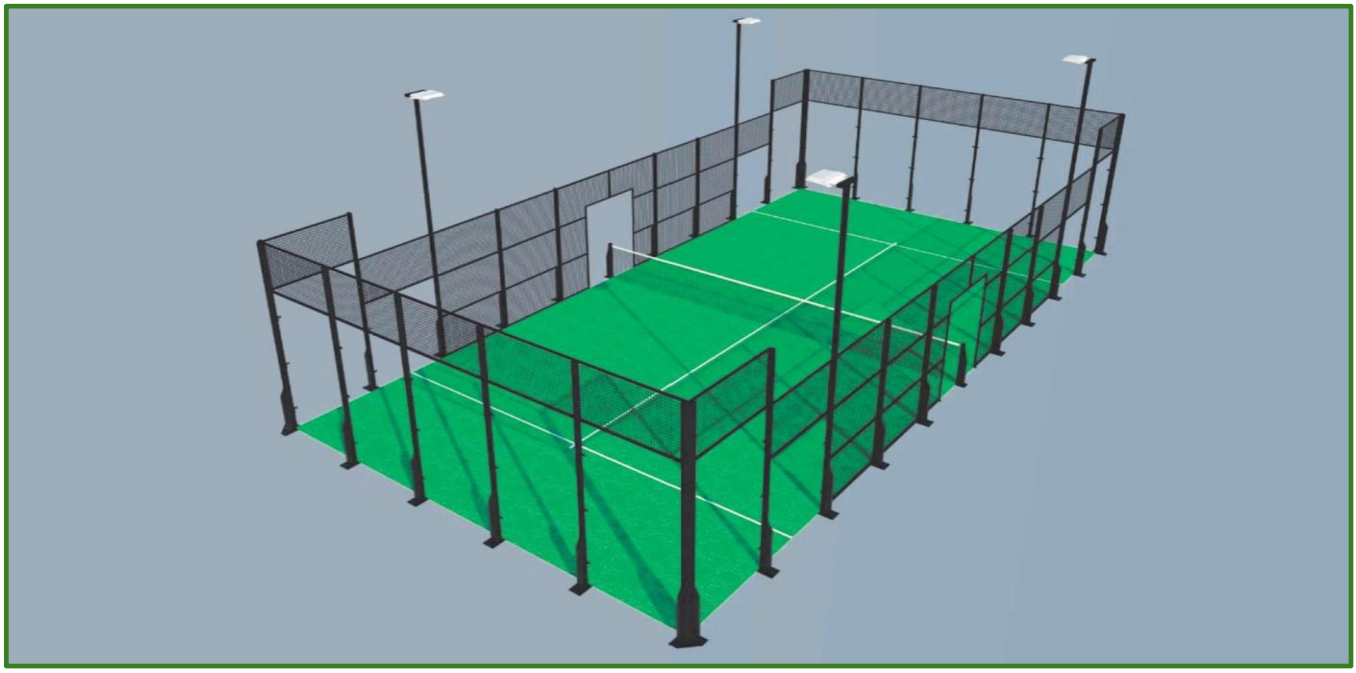

Figure 6 - Example of standard padel court arrangement (SAPCA)

2.1.3 Ground conditions

It should be recognised that some sites are not cost-effective to develop; factors to consider when choosing a location include topography, access, soil reactivity, site drainage and trees. Once a potential site is identified, a geotechnical survey should be completed to ensure a full understanding of the site and is a useful investment.

2.1.4 Trees

Trees and their roots can constitute a threat to the court itself (by distorting or cracking of the surface). 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 and bat 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 program.

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. Prior consent will need to be obtained from the local authority before any branches or roots are cut if the tree is protected 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. Dial Before You Dig (now renamed as the national body Before You Dig Australia) aims to provide Australian communities with free safety tools in order to identify and avoid above and below ground utility services. These tools include the BYDA referral service to obtain underground utility information and the Look up and Live app to obtain overhead powerline information. BYDA can be reached nationwide by calling 1100 or by lodging a request via www.byda.com.au

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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 an available 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, so ideally the court(s) will be located 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 to the need for a three-phase electrical supply.

2.1.6 Corrosion Protection of Steel Components

All structural steel components used in padel court enclosures, including posts, frames, fixings and associated elements, shall be protected against corrosion appropriate to the environmental conditions of the site. The required level of corrosion protection shall be determined with consideration to:

- Whether the structure is installed indoors or outdoors
- Proximity to marine environments (including surf coasts and sheltered bays)
- Exposure to industrial or aggressive atmospheric conditions
- Local climatic factors including humidity and rainfall

Corrosivity classification of the site should be assessed in accordance with AS 4312.

Protective systems for steelwork shall be selected in accordance with:

- AS/NZS 2312.2 for galvanized steel systems
- AS 2312.1 for paint systems

As a general guide:

- Indoor environments (dry, enclosed):
  Light protective coatings or painted systems may be adequate

- Outdoor environments (non-coastal):
  Hot-dip galvanizing is typically required as a minimum level of protection

- Coastal or aggressive environments:
  Enhanced protection systems such as duplex coatings (galvanizing plus paint) are recommended

Steelwork durability, coating selection and detailing shall be designed to achieve an appropriate service life and maintenance interval.

2.2 DIMENSIONS AND ARRANGEMENT

The standard padel court's internal playing area is a rectangle 10 metres wide by 20 metres long (interior measurements) with a 0.5% tolerance. This rectangle is divided in half by a net. On either side of and parallel to the net at a distance of 6.95 m are the service lines.

The area between the net and the service lines is divided in half by a perpendicular line called the central service line. The central service line will extend for minimum 20 cm beyond the service line. When referring to surface and line layout, the two halves of the court must be absolutely symmetrical. All lines must have a width of 5 cm. The colour of the lines is preferably white or black, for better contrast with the colour of floor surface.

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It is recommended that there should be a clear unobstructed height above the playing surface of a minimum of 8.0m, including to the underside of any sports lighting overhanging the playing area.

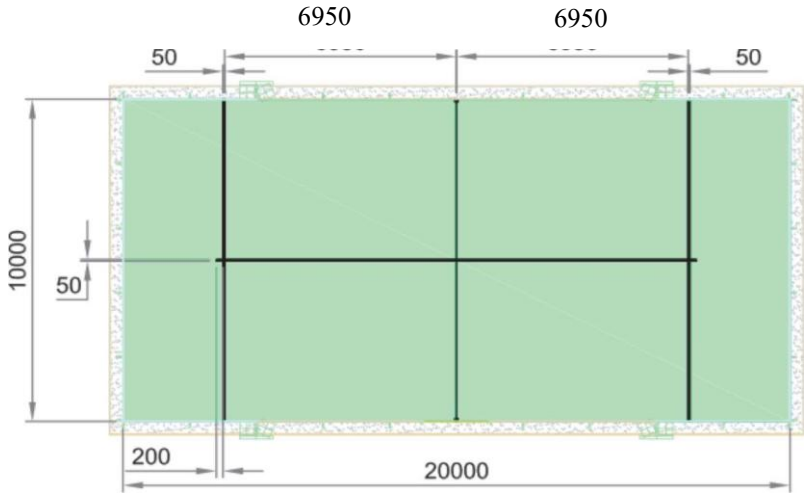

Figure 7 - Padel court dimensions [out of court area not included] (SAPCA)

It is likely that most padel courts will be constructed using the layout in Figure 7, 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 1.35m 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.

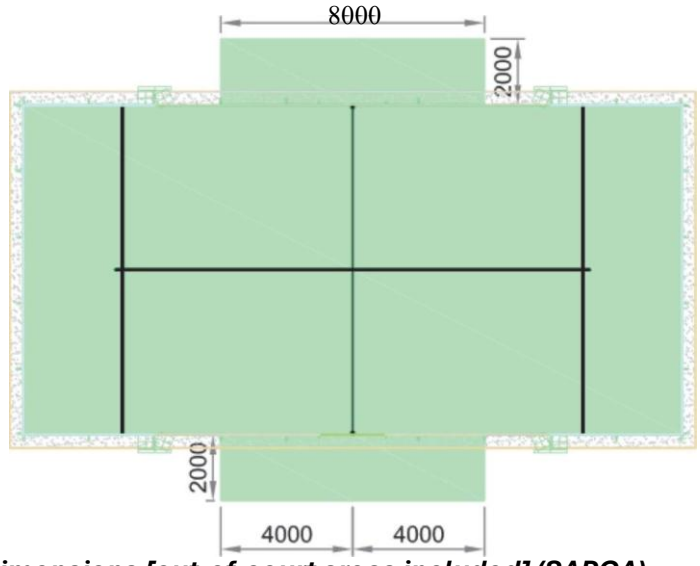

Figure 8 - Padel court dimensions [out-of-court areas included] (SAPCA)

For out-of-court play, as shown in Figure 8, 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 (i.e. 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.

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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 40mm x 40mm (50mm diagonal) 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 9 - Padel court end wall example (SAPCA)



Figure 10 - Padel court end wall example - panoramic (SAPCA)

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2.3 CONSTRUCTION GUIDELINES

The standard padel court is an area 20.0m long x 10.0m wide (however a +/- 5% tolerance is acceptable), 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 should be porous on all outdoor courts.
- Concrete base: concrete pads in accordance with manufacturer's and local geotechnical requirements.
- 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 may be considered especially for temporary courts where prefabricated surfaces are sometimes used.

2.4 EXCAVATIONS

Turf, vegetation and topsoil should be removed to a stable foundation, according to geotechnical investigation and structural engineering design.

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.

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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.

Subject to an arborist's report and recommendation, 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.

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. Consultation with a civil or hydraulic engineer may be required.

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 between 1:50 and 1:100 established to the formation level. This should ensure that surface water runoff 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.

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2.6.2 Sub-court drainage

For permeable bases, a sub-soil drainage system with an outlet through the ring beam may be necessary on poorly draining sites. Where necessary, porous foundations can be constructed to allow egress of water into the perimeter drain. The sub-soil drainage system should be connected to the existing stormwater system.

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.

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.

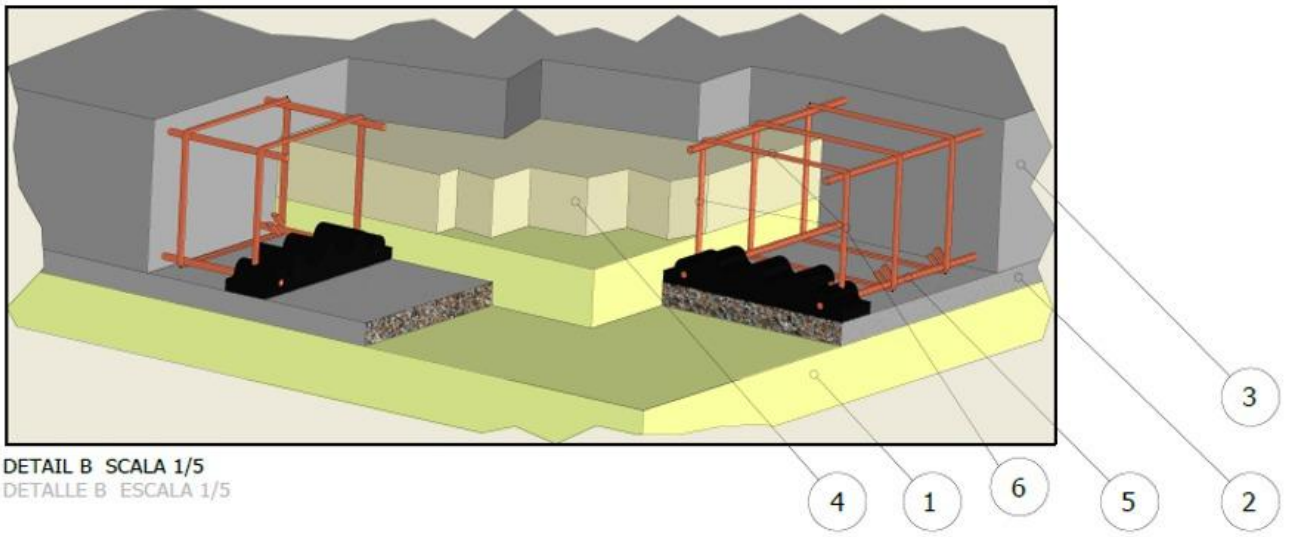
2.7 DESIGN OF THE FOUNDATIONS FOR THE COURT ENCLOSURE AND PERIMETER EDGING

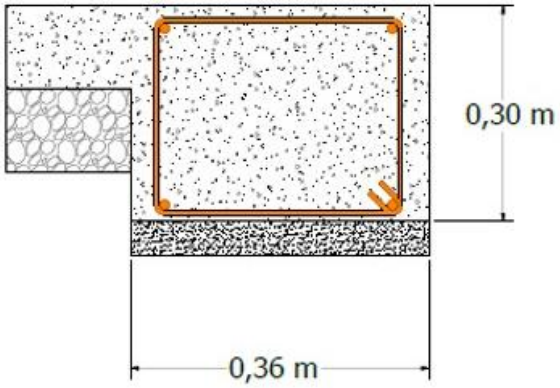
The foundations for the court enclosure (with a suitable cross section profile) must be designed by a licensed Australian structural engineer with due consideration given to local ground conditions and more importantly the wind loads for the locality of the site, especially in coastal environments or 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 Australian climate need to be considered when designing padel court and canopy foundations, to ensure that designs are sufficient to prevent structural damage.
The most commonly used foundation designs are:

- Perimeter in-situ formed reinforced concrete ring beam.
- Concrete slab.







SOLERA LAYERS		CAPAS DE
REF	DESCRIPTION	DES
1	GROUND	S
2	CLEANING CONCRETE H100	HORMIGÓN L
3	CONCRETE HA25	HORM
4	GRAVEL	G
5	Steel B-400 ø 12 mm	ARMADUR
6	Steel B-400 ø 6 mm.	ARMADUR

Figure 11 - Cross-section of base design [example only] (GreenSet)

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 concrete slab 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 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 slab spacings.

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 reinforcement suitable for the expected wind load calculated, and to allow the enclosure to be fixed down with suitable anchors, securing it in line with the structural engineer's calculations. The design must be backed by the 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.

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The maximum allowable wind speed for the court enclosure should be stated by the padel court manufacturer to aid selection of a suitable court model. If the site wind speed exceeds the padel court enclosure's maximum allowable wind speed, a different enclosure should be considered, or custom strengthening may be designed by a structural engineer.



Figure 12 - Relationship between the top of the foundation / perimeter edge detail, the enclosure, and the court surface (SAPCA)

2.7.1 Determination of Site Wind Speed

The wind speed of the court enclosure and any other structures including covers/canopies shall be determined based on the conditions of the specific site, in accordance with the NCC, AS 1170.2, and local regulations.

Considerations in the determination of the site specific wind speed include (but are not limited to):

- The Importance Level of the structure and the consequence of its failure
- The structure’s intended design installation life
- Its location within Australia
- The adjacent topography and shielding

Due to the unique circumstances of each site, determination of the site’s wind speed shall be calculated by a suitably qualified professional, typically the structural engineer.

For the purposes of assisting preliminary planning, the following guidance has been provided.

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Site Wind Speed Guide - Australia m/s (km/h)					
Region	**TC1**	**TC2**	**TC2.5**	**TC3**	**TC4**
A0	39 (141)	39 (141)	39 (141)	39 (141)	39 (141)
A1–A5	43 (156)	39 (141)	37 (135)	36 (128)	32 (116)
B1	53 (189)	47 (170)	45 (163)	43 (155)	39 (140)
B2	55 (199)	50 (179)	48 (171)	45 (163)	41 (147)
C	65 (233)	58 (210)	56 (201)	53 (191)	48 (173)
D	76 (275)	69 (248)	66 (237)	63 (226)	57 (204)

Notes:

- Table provided as a guide only. Site wind speed to be determined by a structural engineer.
- Wind Speed Calculation based on maximum design installation life of 25 years
- Refer to Figure 13 for Region selection
- Refer to Figure 14 for Terrain Category (TC) selection

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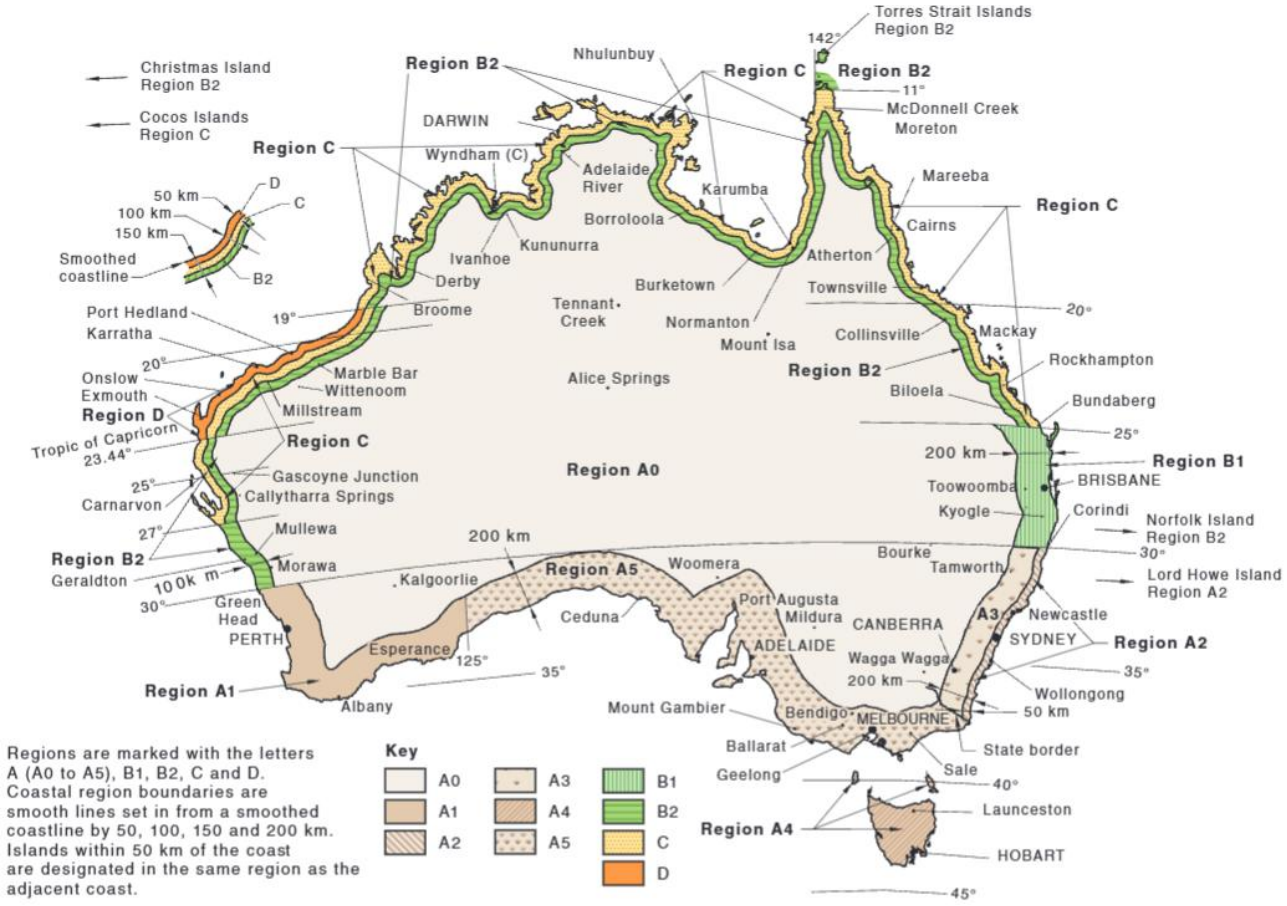

Figure 13 - Wind Regions Australia

(Source: AS1170.2: 2021)

(a) *Terrain Category 1 (TC1)* — Very exposed open terrain with very few or no obstructions, and all water surfaces (e.g. flat, treeless, poorly grassed plains; open ocean, rivers, canals, bays and lakes).

(b) *Terrain Category 2 (TC2)* — Open terrain, including grassland, with well-scattered obstructions having heights generally from 1.5 m to 5 m, with no more than two obstructions per hectare (e.g. farmland and cleared subdivisions with isolated trees and uncut grass).

(c) *Terrain Category 2.5 (TC2.5)* — Terrain with some trees or isolated obstructions, terrain in developing outer urban areas with scattered houses, or large acreage developments with more than two and less than 10 buildings per hectare.

(d) *Terrain Category 3 (TC3)* — Terrain with numerous closely spaced obstructions having heights generally from 3 m to 10 m. The minimum density of obstructions shall be at least the equivalent of 10 house-size obstructions per hectare (e.g. suburban housing, light industrial estates or dense forests).

(e) *Terrain Category 4 (TC4)* — Terrain with numerous large, high (10 m to 30 m tall) and closely-spaced constructions, such as large city centres and well-developed industrial complexes.

Selection of the terrain category shall be made with due regard to the permanence of the obstructions that constitute the surface roughness.

Figure 14 - Terrain Category Definitions

(Source: AS1170.2: 2021)

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. Reactive and unstable ground conditions are the main causes of serious problems 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 such as DGB20. The designer or contractor should be requested to provide a 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 by a geotechnical engineer and be site-specific.

2.9 GEOTEXTILES

Geotextiles are recommended when installing new porous based 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 subsoil
- increasing of the load-bearing and structural strength of the foundation
- the provision of a "slip sheet" to help prevent cracks from transmitting from the sub-soil to the surface
- Inhibiting, but not eliminating, possible weed growth from the sub-soil zone

Vapour barriers are recommended when installing new concrete slab padel courts. A vapour barrier must be 0.2mm minimum thickness polyethylene film and medium impact resistant. A vapour barrier must be branded continuously “AS 2870 Concrete underlay, 0.2mm medium impact resistance”. It must be installed as follows: a) lap not less than 200mm at all joints, b) tape or seal with a close-fitting sleeve around all service penetrations, c) fully seal where punctured *unless for service penetrations) with additional polyethylene film and tape. The vapour barrier must be placed beneath the slab so that the bottom surface of the slab is entirely underlaid and must extend under internal and edge beams to finish at ground level.

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 standalone 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 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.

Note: check the Australian National Construction Code (NCC) for ducting requirements.

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2.11 BASE CONSTRUCTION

Surface preparation requirements may vary depending on local soil conditions, drainage characteristics, climate, and intended extra use beyond padel; consult a qualified local contractor or engineer to determine the most appropriate sub-base design for your site.

2.11.1 General

Typically, in Australia, concrete is the most commonly used base, however, alternatives such as porous substrates are sometimes used.

2.11.2 Reinforced Concrete Slab

Slab is typically in the order of 125mm thick with a thickened edge beam, pending a geotechnical investigation and licensed structural engineering design.

- **Preparation of Sub Base**
  A layer of crushed rock or packing sand shall be used to present a uniform sub base to line and level within a tolerance of +/- 10mm. It is recommended that a laser controlled grader or land plane is used to achieve this tolerance.

- **Polythene / Vapour Barrier**
  Black or Orange grade Polythene of 200 micron thickness shall be used under all acrylic slabs. This shall be held in place with 50mm plastic adhesive tape.

- **Installation of Reinforcement**
  The reinforcing fabric shall be overlapped to minimum of one square in each direction and securely tied at 1.5m centres. Where possible, consecutive rows of fabric should be "offset" to avoid clusters of welded mesh. A minimum SL92 welded reinforcing mesh should be used, subject to engineers' designs. All mesh should be clean and free of oil, mud or loose rust and placed accurately in the concrete to ensure a minimum cover of 30mm, unless otherwise advised by the structural engineer.



Figure 15 - Installation of reinforcement (SAPIA)

- **Installation of Concrete**
  All concrete shall be pumped into place by means of a "squeeze" type pump. Sufficient labour shall be on hand to roughly place the concrete to desired line and level. A minimum of two "screed hands" shall be on the site to quickly screed an accurate finish to the slab and avoid overworking and segregation of concrete. The final tolerance on the finished concrete shall be +/-3mm such that no

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point on the court shall vary greater than 3 mm under a 3.0m straight edge when placed on any two points on the court. Surface tolerances should be checked within 30 days of the pavement installation and prior to the installation of any surfacing onto the pavement.



Figure 16 - Installation of concrete (SAPIA)

It is imperative to arrange for a constant supply of concrete to avoid cold joints in slab. No additives are to be placed in concrete mix when synthetic acrylic surfacing is intended to be used.

The concrete is to have a dense steel trowelled finish when synthetic grass is the choice of surface, and wood float or broom finish if an acrylic surface is chosen. The concrete should be:

(a) N20 grade (min);
(b) 80mm slump (max); and
(c) 20mm max size aggregate.

2.11.3 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. 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 an 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.

If the asphalt is in poor condition, an asphalt correction layer or major patching may 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.

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2.11.4 Permeable base

When building outdoor padel courts, a permeable system should be considered as an option, as it provides a durable playing surface whilst supporting more sustainable water management and creating cooler, more resilient outdoor environments. Advantages of permeable systems:

- recharges groundwater and the water table; OR
- capture rainwater for alternative use;
- reduces stormwater and contaminate runoff;
- decreases erosion and flooding;
- helps cool the surrounding environment through evaporative cooling.

Permeable surfaces can be categorised into two main types:

1. **Groundwater recharge** allows water to infiltrate into the soil to replenish underground aquifer
2. **Rainwater harvesting** captures and stores water for later use.

2.11.4.1 Type 1: **Groundwater recharge system** or **Water-sensitive permeable surfacing**

Appropriate in the context of Water Sensitive Urban Design (WSUD) where the goal is to install synthetic surfaces that are equivalent to other soft landscape surface or finish such as natural turf, clay, soil or aggregate.

This type of permeable surfacing is important because it allows rainwater to soak into the ground instead of running off into stormwater drains or tanks. This helps replenish the water table by allowing groundwater supplies to be naturally recharged. In addition, permeable surfaces help reduce the urban heat island effect because they absorb less heat than traditional materials such as concrete and asphalt. The moisture stored in the ground also cools the surrounding area through evaporation, creating a more comfortable environment and improving the sustainability of urban landscapes and reduction of the heat island effect

A typical permeable sub-base is built for a type 1 permeable surface is as follows (from the ground up):

1. **Prepare the subgrade**

    a. Remove all vegetation, topsoil, and organic material.
    b. Grade the area to the desired level with a gentle slope (0.5–1%) if required.
    c. Lightly compact the natural foundation – rock, soil, sand or clay so it is firm but not overly compressed, as excessive compaction reduces infiltration.

2. **Install a geotextile fabric (optional)**

    a. Place a non-woven, permeable geotextile over the foundation. This prevents the aggregate from mixing with the soil while still allowing water to pass through.

3. **Construct the permeable aggregate sub-base**

    a. Use clean, washed crushed rock or recycled concrete with little or no fine particles ("5mm minus" material should be avoided because the fines clog the voids).
    b. 100–150mm of 20–40mm clean crushed stone for drainage and structural support.
    c. Optional 25–50mm of 5–10mm clean crushed aggregate as a bedding layer.
    d. Compact each layer with a vibrating plate compactor. The angular stone locks together while maintaining interconnected void spaces for water flow.

4. **Construction of structural layer**

    a. Plastic gravel cell (also called a gravel stabilisation grid or geocell) filled with compacted 10-20mm aggregate OR

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b. No fines concrete OR
c. Permeable asphaltic concrete OR
d. Resin bound aggregate and recycled SBR wear layer

5. **Install Padel court impact attention layer**

   a. Use either wetpoured or preformed systems (refer to specification)

6. **Install perforated synthetic grass**

   a. Roll out the turf and join the seams according to the manufacturer's instructions.

7. **Apply permeable infill**

   a. Brush kiln-dried silica sand or another permeable infill into the grass fibres.
   b. The infill helps support the fibres, improves durability, and allows water to pass through the backing.

8. Design considerations

The effectiveness of a permeable sub-base depends on the site's soil. Sandy soils generally allow rapid infiltration, while clay soils drain much more slowly and may require an underdrain connected to a stormwater system to prevent water from pooling. For areas that receive vehicle traffic, the aggregate layers may need to be thicker (200–300mm or more) to provide adequate structural support while maintaining permeability. Using clean, open-graded aggregates instead of dense road-base materials is the most important factor in ensuring the sub-base remains permeable over its service life.

2.11.4.2 Type 2: Rainwater harvesting system or Rainwater capture system

A rainwater harvesting system or rainwater capture system collects, stores, and reuses rainfall instead of allowing it to become stormwater runoff. It is designed to allow rainfall to pass through the synthetic turf into a permeable sub-base, where it is temporarily stored before being conveyed to a storage tank or retention system. The sub-base therefore performs both a structural function and a water management function.

This type of rainwater collection reduces demand on potable water supplies by providing an alternative source of water for irrigation, toilet flushing, cleaning, and, where permitted and treated, other non-potable uses. It also reduces stormwater runoff, helping to minimise flooding, erosion, and pressure on drainage infrastructure during heavy rainfall. Other benefits include:

- Conserves water, particularly during droughts or periods of water restrictions, by making use of a free natural resource.
- Lowers water costs by reducing reliance on mains water for landscape irrigation and facility maintenance.
- Can improve water quality by reducing the volume of polluted runoff entering rivers, lakes, and coastal waters.

1. **Prepare the subgrade**

   a. Remove all vegetation, topsoil, and organic material.
   b. Grade the area to the desired level with a gentle slope (0.5–1%) if required.
   c. Lightly compact the natural foundation – rock, soil, sand or clay so it is firm but not overly compressed, as excessive compaction reduces infiltration.

2. **Install a geotextile fabric (optional)**

   a. Place a non-woven, permeable geotextile over the foundation. This prevents the aggregate from mixing with the soil while still allowing water to pass through.

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3. **Construct the water storage sub-base**

    a. Install 150–300mm of clean, open-graded crushed aggregate (typically 20–40mm stone).
    b. The interconnected voids between the stones create a storage reservoir capable of temporarily holding significant volumes of rainwater.
    c. Compact the aggregate using a vibrating plate to achieve stability while maintaining the void spaces required for water storage.

4. **Install drainage collection pipework**

    a. Place perforated drainage pipes within or at the base of the aggregate layer. The pipes collect stored water and convey it to either:
        i. a rainwater storage tank or underground cistern for reuse, or
        ii. an overflow infiltration trench, rain garden, or stormwater system if the storage tank reaches capacity.
    b. Provide inspection points to allow future maintenance and cleaning.

5. **Construction of structural layer**

    a. Plastic gravel cell (also called a gravel stabilisation grid or geocell) filled with compacted 10-20mm aggregate OR
    b. No fines concrete OR
    c. Permeable asphaltic concrete OR
    d. Resin bound aggregate and recycled SBR wear layer

6. **Install padel court impact attention layer**

    a. Use either wetpoured or preformed systems (refer to specification)

7. **Install perforated synthetic grass**

    a. Roll out the turf and join the seams according to the manufacturer's instructions.

8. **Apply permeable infill**

    a. Brush kiln-dried silica sand or another permeable infill into the grass fibres.
    b. The infill helps support the fibres, improves durability, and allows water to pass through the backing.

9. **Design considerations**

The depth of the aggregate reservoir, drainage layout, storage tank capacity, and overflow arrangements should be designed by a qualified engineer to suit the site's soil conditions, rainfall intensity, intended court use, and local regulatory requirements.

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

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the above, the surface should be laid to a tolerance of ±3mm as a maximum permitted undulation under 3m straight edge.

- Ideally there should be no undulations greater than ±3mm 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 layer up to four deviations are allowed. Undulations more than 1m 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).

Note: 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 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 Australia 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 SPECTIFICATION	
CHARACTERISTIC	PROPERTY
Pile Height	10mm – 15mm
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.

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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 12606	≥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 pressured 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 seaming tape positioned on the joint line. The tape should be positioned centrally to give a bond width in accordance with the manufacturer's instructions. An adhesive as recommended by the manufacturer 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.

It is recommended to return to site to top up sand levels approximately 4-6 weeks after installation. The amount needed for top dressing can only be determined on an individual basis. This ensures optimal playability and longevity of the installation.

2.14 OTHER PLAYING SURFACES

Other playing surfaces can be considered, especially where temporary courts are being used.

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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



Figure 17 - Indoor padel construction (Synthetic Sports Group)

The enclosure should be supported using steel or aluminium posts. Selection of the padel court enclosure should 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 thicknesses 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 engineer's design.

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. These should be verified by a licensed Australian structural engineer.

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

The manufacturer's warranty for the materials used in the supporting posts should be carefully considered when selecting a product. A minimum design life of 15 years should be expected.

Materials are often powder coated, however, during delivery and installation, powder coating can be scratched. 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.

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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. On indoor courts 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 kitemarked in accordance with the relevant Australian Standard (AS 1288-2006). 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.



Figure 18 - Glass panel installation (Synthetic Sports Group)

2.15.3 Weldmesh fencing

The weld mesh sections of the surround walls should comprise weldmesh fencing 40mm x 40mm (50mm diagonal) mesh with the inner face being the horizontal mesh within the mesh. The mesh should be either

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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.

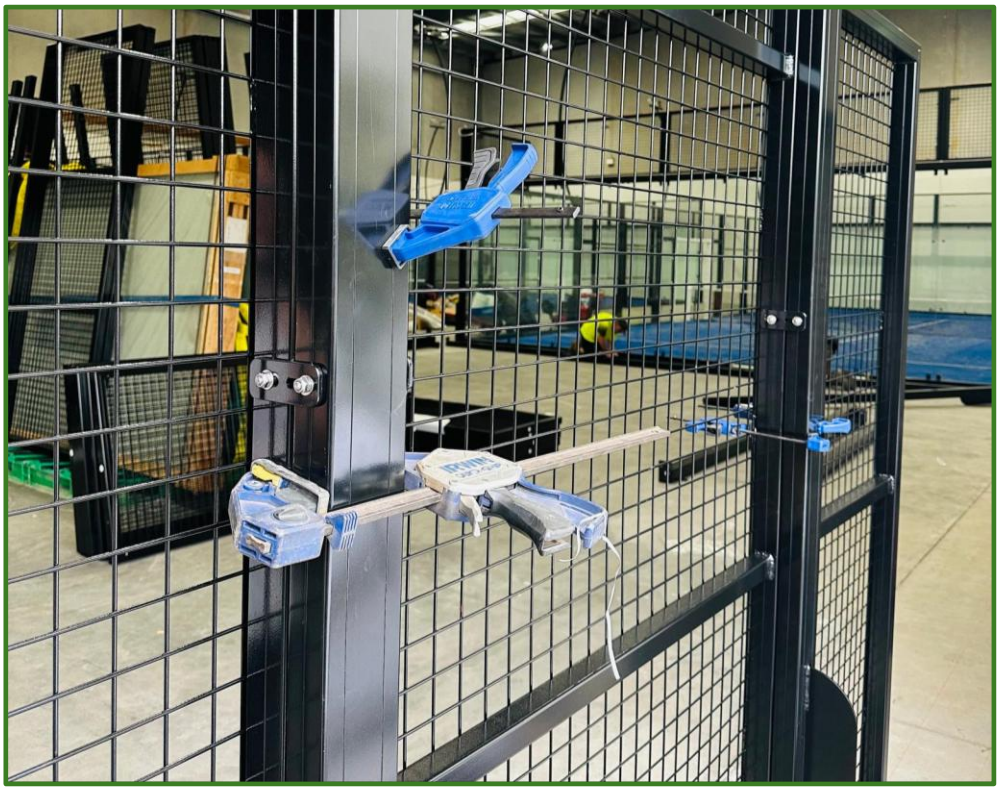

Figure 19 – Fencing (Synthetic Sports Group)

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 1.35m on either side of the net and court. Alternatively, hinged gate access points could be considered to ensure compliance for sports wheelchair users at all access points.

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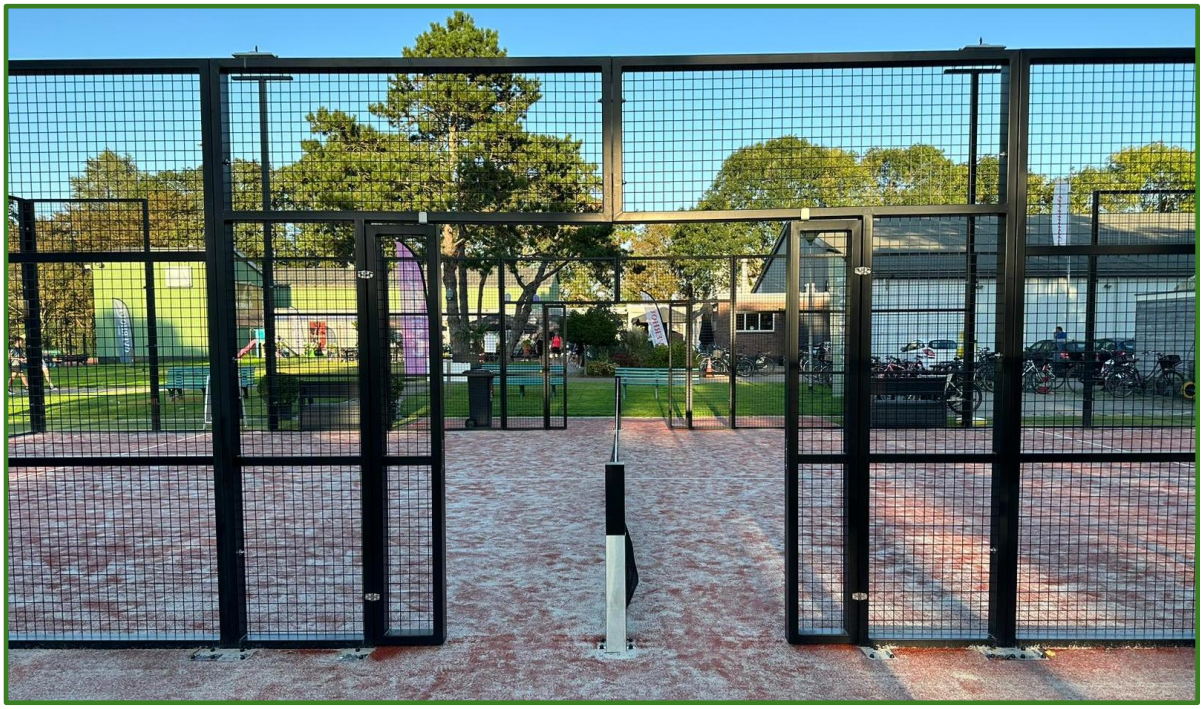

Figure 20 - Court access gates (GreenSet)

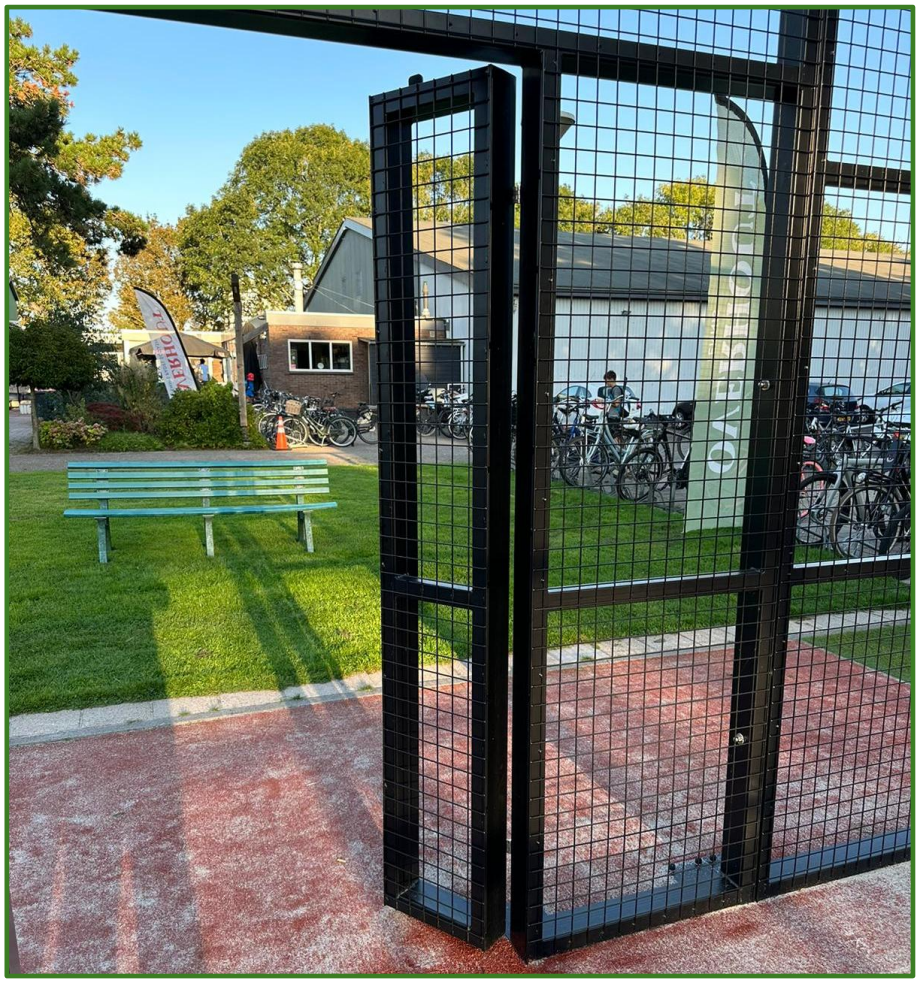

Figure 21 - Hinged gate access (GreenSet)

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2.15.5 Nets and net 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 with a maximum height of 1.05m.

Care should be taken not to overtighten the net, as snapping or loosening unexpectedly could constitute a risk to players. The net should comply with BS EN 1510. The net must be capped with a white strip measuring between 5.0 and 6.3cm once in place, with the tension cable beneath. An additional strip with advertisement insertions, of any colour, that must not interfere with the course of play, may be incorporated. The strip cannot be higher than 11.0 cm.

The net must be fully extended so that it fills the space between the two net posts and the court surface, there may be no spaces between the extremes of the net and the posts. However, it should not be tense. The net mesh must be made of synthetic fibre and the weave sufficiently narrow so that the ball cannot pass through the net.

Most padel court designs will use base plated posts rather than using the enclosure to support the net. Net posts may be circular or square but must have rounded edges.

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3. SECTION THREE — SPORTS LIGHTING

3.1 LAYOUT AND DESIGN

Padel court lighting should be designed to Australia Standard AS 2560. 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 Australian standards. 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

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layouts, consideration may need to be given for the need of a three-phase electrical supply. Flicker should be also investigated if any slow-motion video or camera work is required.

3.3 LIGHTING PERFORMANCE REQUIREMENTS

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

Level of play	Average horizontal maintained illuminance ($\bar{E}_h$)	Minimum horizontal uniformity		Maximum glare rating (GR)	Minimum colour rendering index (R_a)
		($E_{hmin}/\bar{E}_h$) (U_1)	(E_{hmin}/E_{hmax}) (U_2)		
Recreation or training, and low-level local competition	200	0.50	0.30	50	65
Mid-level local and regional club competition, high level training	300	0.60	0.40 [a]	50	65
Professional, international and national competition	500	0.70	0.50 [a]	45	65
[a] Where two or more courts are adjacent, and with luminaires operating simultaneously, the U_2 may be reduced by an absolute value of 0.1.					

Figure 22 - LTPs for outdoor padel

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 1.75m. All padel lighting should be designed to Australia Standard AS 2560.

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 Australian Standard for Obtrusive Lighting (AS 4282 Control of Obtrusive Effects of Outdoor Lighting) which is the partner standard applied alongside AS 2560. AS 4282 dictates that light spill must be sharply cut off at the fence line to protect surrounding residential neighbours.

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, 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.

Luminaires should be installed at not less than the following heights:

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- Recreation or training, and low-level local competition, mid-level local and regional club competition, and high-level training — 6 m.

- Professional, international and national competition — 8 m.

Luminaires should be located so the least glare affects participants and spectators. By placing the light sources away from normal lines of sight, the ball is seldom viewed against the bright portions of the luminaires, thus minimizing glare. To provide modelling and vertical illumination, schemes that are single-sided, or with one pole per side, should not be used.

3.5 PERFORMANCE TESTING

On completion of the installation of the padel enclosure, courts and lighting system, the client may request testing of the sports lighting system to ensure compliance with the submitted design. See Australia Standard AS 2560 for testing requirements.

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4. SECTION FOUR - COVERED FACILITIES

Note: The following Section Four has been initially based on the SAPCA (UK) guidelines with additional input from MakMax Australia, a local sports roofing D&C contractor. As covered Padel Courts are not yet common in Australia, MakMax has provided specification for similarly covered sports courts and local building regulations.

4.1 STRUCTURE TYPES

There are three common types of structure suitable to cover padel courts:

- Modular structures,
- Tensile membrane barrel-vault structures,
- Fabric warehouse-style structures.

These structures come in a range of options 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 frames and are constructed with a membrane roof. Mainly designed as an open-sided canopy structure, the addition of vertical side-panels, facades, or fully enclosed walls are an option (especially with the Fabric Warehouse-style of structure).

4.1.1 Modular Structure Kits

Modular Structures Kits are a lightweight canopy system, usually supplied in kit from an International supplier. The modular type of structure shown in the photograph below (Figure 20) 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 pre-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 23 – Example of a modular canopy structure (SAPCA)

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

Note: often supplied in kit form from an international supplier - modular roofs still require building approval, an experienced local installer and may not be suitable in wind-prone sites.

4.1.2 Tensile membrane barrel-vault structures

Tensile membrane barrel-vault structures are fully engineered structures designed and purpose-built for your Padel Court facility. Common in Australia, the tensile membrane barrel-vault structures shown in the photographs below can be designed to cover a block of padel courts in the same way that a similar structure would cover a block of tennis or basketball courts.

The advantage of engineered barrel-vault structures are that they are adaptable and customisable to your location, site conditions and court layout. If your project is looking to cover more than a single padel court, a barrel-vault canopy could potentially be considered the more suitable option. Engineered locally, they are a more robust, long-lasting option compared to the Modular Structures and have a more premium finish.

The structure would typically cover the courts orientated with the highest point above the net line for a side-by-side multi-court configuration.





Figure 24 - engineered barrel-vault membrane-roof structures, shown here over a single tennis court or multiple basketball courts

4.1.3 Fabric tent warehouse structures

For larger multi-court facilities, fully enclosed Fabric Warehouse style structures are also available in Australia. A Tent Warehouse is a tensile structure that uses a membrane stretched over a light-weight steel truss frame, designed to be built quickly and at a lower cost than traditional concrete and steel warehouse construction. Compared to conventional warehouses or system-built sheds, the Tent Warehouse offers significantly faster construction times and more economical delivery.

Customisable in length, width and height, and compatible with a variety of door, window and ventilation options, Tent Warehouses can be customised to meet your Padel centre’s operational requirements.

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Figure 25 - concept artwork for a multi-court padel warehouse-style facility (MakMax)

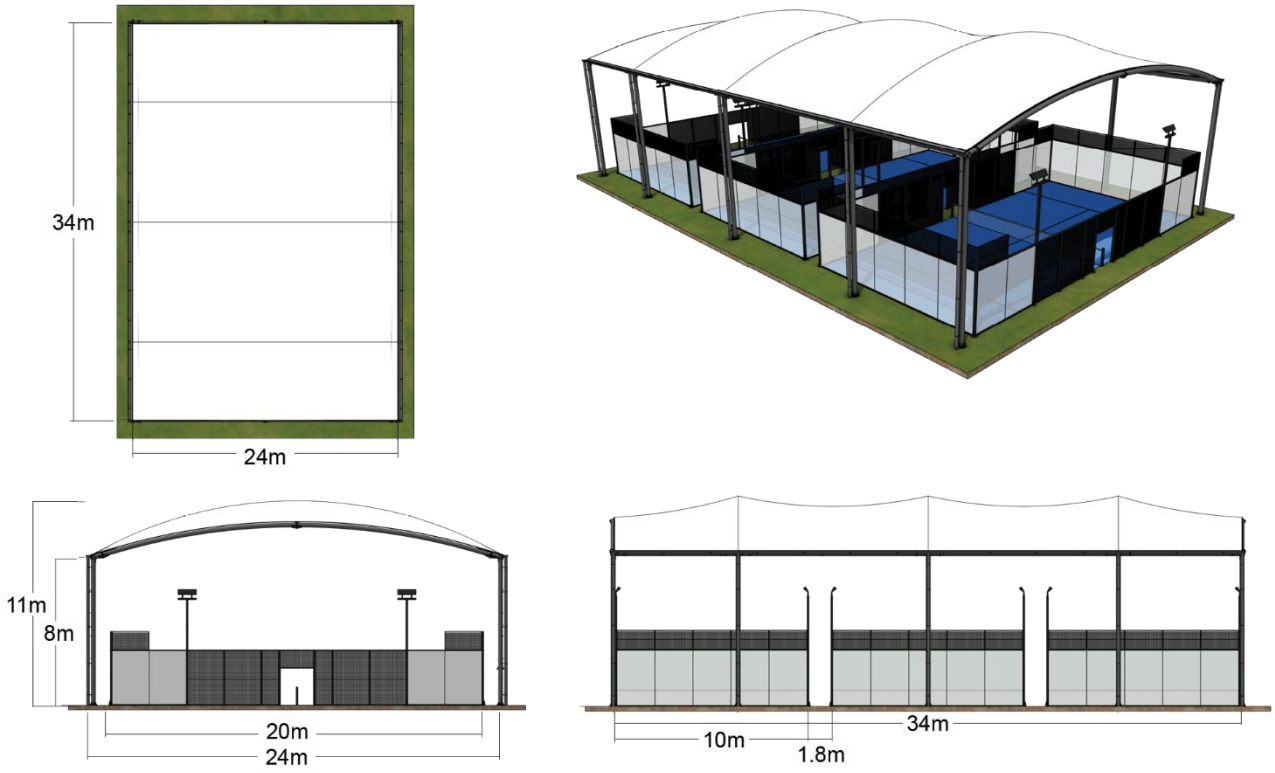
4.2 DIMENSIONS OF PADEL COURT ROOF STRUCTURES

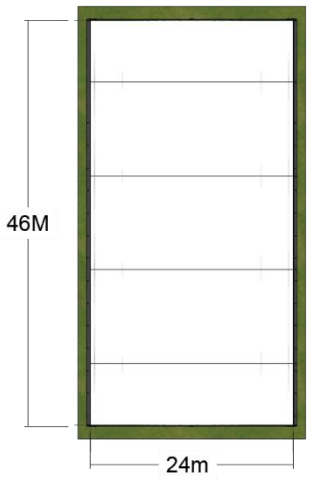
The overall dimensions of structures used to cover padel courts can vary depending on the number of courts and layout of courts to be covered. Furthermore, the available space or the need to incorporate other ancillary facilities within the structure will have an impact on the overall size.

It is recommended to have a minimum of 8.0m height at the edge beam of the structure, with minimum clearance of 9.0m over the centre of the court.

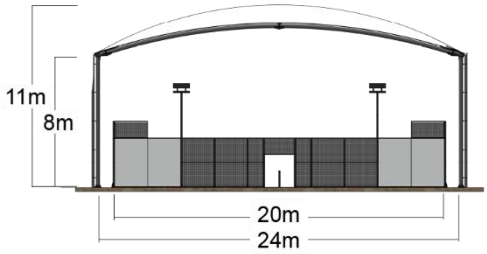
The total structure height will be based on the span of the roof.

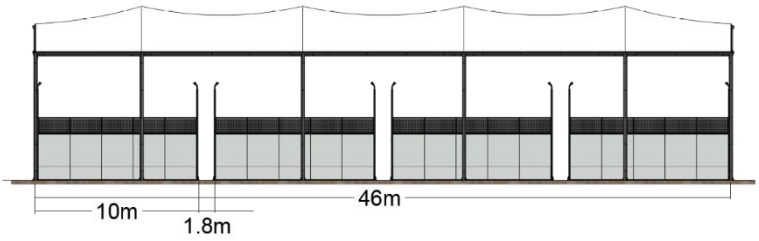
The following pages show indicative layouts based on 3, 4 and 8 Padel Courts.











4-COURT PADEL ROOF - INDICATIVE DIMENSIONS

Makmax Australia

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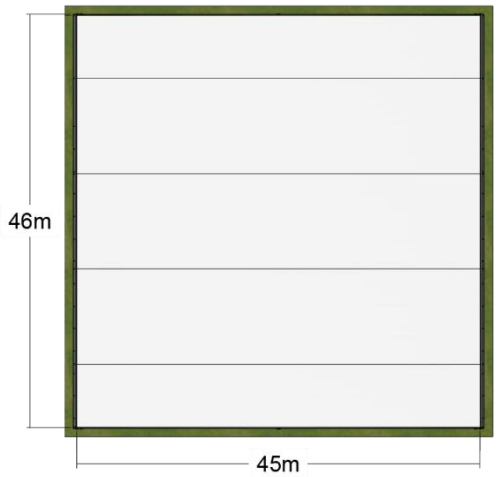

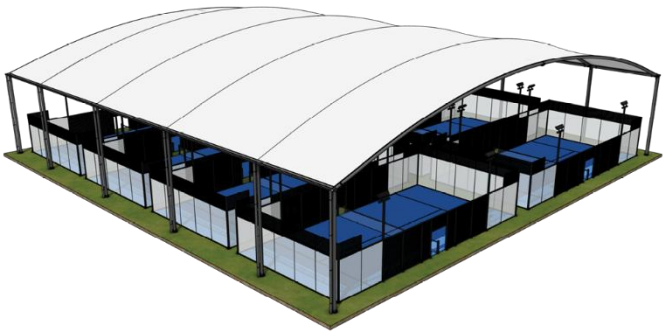

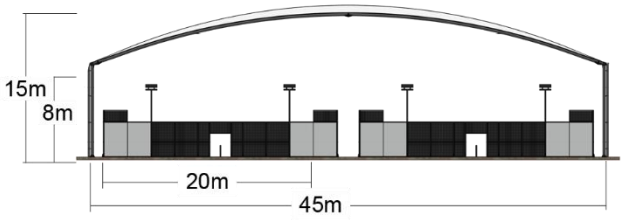

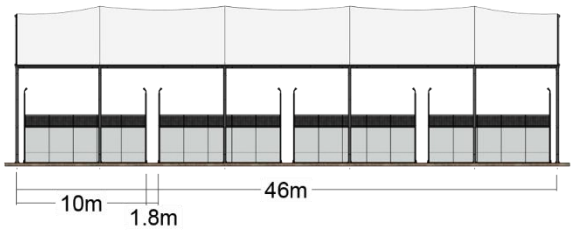

8-COURT PADEL ROOF - INDICATIVE DIMENSIONS

Makmax Australia

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Another consideration when designing and selecting a suitable structure to cover padel courts is whether professional competitive play is planned either at a national or international level. 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 Australia, this would be the Padel Australia or Tennis Australia.

4.3 DESIGN CRITERIA

A structural engineer should produce a supporting design calculation document 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. Consideration needs to be given to:

- The structural design of the padel court roof structure must be performed by a qualified structural engineer experienced in tensile architecture and in compliance all relevant AS standards.
- The design shall consider factors such as wind loads, snow loads (if applicable), seismic loads (if applicable), and any other relevant design actions specified in AS 1170 and AS/NZS standards.
- The design shall incorporate appropriate safety factors and load combinations as per the Australian standards.
- The design shall ensure adequate drainage and resistance against ponding or water accumulation on the fabric membrane.
- Internal bracing and framing should be designed to avoid interfering with play and minimising wildlife nesting opportunities.
- The structure shall have clearance to other structures, retaining walls or fences, sufficient to avoid contact through displacements under the loading conditions.
- All storm water elements (guttering and downpipes) shall be design compliant with AS3500.
- Emergency lighting and wayfinding signage may be a requirement depending on the building classification and whether sidewalls are installed.
- 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.

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 to 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 1.8m of clear unobstructed outdoor walkway space should be established between courts (which excludes padel court fixing baseplate arrangement if exposed at surface level). This ensures compliance with AS 1428.1:2021 Design for access and mobility.

4.4 CONSTRUCTION GUIDELINES

Both planning and building approvals will be required for structures of this type in Australia for most project sites. Town planning and building certification advice is recommended at an early stage to help inform project requirements and likely requirements through the design and construct process as requirements can vary between both local council and state government rules and regulations. All structures must be compliant with the National Construction Code and the requirements of the BCA.

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4.5 MATERIALS FOR ROOF STRUCTURES

4.5.1 Structural Steel

- All structural steelwork is designed and fabricated to AS4100 and AS1554 including architecturally exposed connections.
- Single-beam rafters and side gusset/support plates to be used instead of trusses/haunches to minimise bird-nesting areas.
- All steel members shall be hot-dip galvanized or coated with an AS 2312 PUR-4 or PUR-5 paint system in accordance with the specification provided by International Paints (AkzoNobel) coatings.
- All Galvanising shall comply with AS 1650.
- Where architectural paint system has been used, overall minimum dft coverage shall be 300 microns, and the topcoat colour will be white semi-gloss, or as per architectural specification.
- Powder coating is not recommended for the finished surface.
- All baseplates, grout and hold down bolts should be concealed minimum 200mm below surrounding finished floor level surface on completion, with appropriate corrosion protection applied to exposed elements.

4.5.2 Fabric Membrane

Fabric covered structures involve the use of a tensioned membrane to cover the structure with translucent weatherproof skin. For Modular Structures purchased from international suppliers, ensure the membranes used are suitable for local wind conditions and comply with appropriate design codes. For engineered barrel-vault structures, the tensile membrane must be fabricated from an engineered architectural-grade coated fabric. Acceptable materials are PVC (polyester fabric with PVC/PVDF coating) or PTFE (glass fibre fabric with PTFE coating), subject to project requirements. Final tensile membrane product grade to be selected based on minimum strength requirements determined by Structural Engineer.

4.6 SOLID ROOF STRUCTURES

In addition to the three membrane-roofed structures mentioned above, it is also possible to adopt the use of a polycarbonate or sheet metal style roofing.

4.7 DESIGN LIFE AND WARRANTY

When designed in accordance with the National Construction Code, the primary structure and foundations for a padel court will have a design life of 50 years in Australia.

A PVC tensile canopy has an expected service life of up to 25 years, and a replacement of the canopy should be factored into the total design life of the structure.

A PTFE tensile canopy should last at least 40 years and may last the entire design life of the structure.

Based on individual specifications, different structures, suppliers and even elements of each structure will have different warranty periods offered by the manufacturer.

- A minimum structural warranty period of 10 years is to be expected.
- A membrane warranty period of 10 years (PTFE) or 20 years (PVC) is to be expected
- A coating system that can achieve a minimum 5 year warranty is recommended

Most manufacturers require ongoing maintenance and care of your structure for warranties to be applicable. Note: The design life and warranty details listed above relate to tensile membrane structures that have been designed and engineered to Australian standards; Modular Structure Kits sourced from international suppliers may not meet these expectations.

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5. SECTION FIVE - MAINTENANCE

5.1 OVERVIEW

A proactive and structured maintenance regimen is essential to the safe operation, performance consistency and long-term sustainability of a padel facility. The manufacturer's guidance should be sought, but the following is offered as an example of a preventative maintenance schedule:

Maintenance Purpose and Objectives

The objectives of maintenance are to:

- Maintain consistent and safe playing conditions
- Prevent premature wear and structural deterioration
- Ensure compliance with safety and operational standards
- Reduce unplanned downtime and reactive repair costs
- Preserve the professional appearance of the club

Asset Coverage

This maintenance regimen applies to the following padel club components:

- Padel courts and playing surfaces
- Glass walls, steel structures, and fencing
- Artificial turf and infill systems
- Court lighting systems
- Drainage systems
- Clubhouse and amenities
- Ancillary equipment and furniture

Responsibilities

- Club management is responsible for implementation and oversight
- Maintenance staff or contractors shall be suitably trained
- Specialist inspections shall be undertaken by qualified professionals

These guidelines and maintenance regimens 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.

5.2 COURT SURFACE

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

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Figure 26 - Build up of sand and synthetic turf fibres – creates poor drainage and promotes algae growth

5.2.1 Cleaning and general site management

General cleaning should comprise the collection of litter such as 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.

5.2.2 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.

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5.3 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.



Figure 27 - Damage to the walls (possibly as a result of overtightening of the fittings)

5.3.1 Metallic structure

5.3.1.1 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.

5.3.1.2 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.

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

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5.3.1.4 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.

5.4 GLASS

5.4.1 Cleaning the glass

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

5.4.2 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.

5.4.3 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.

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Figure 28 - Lack of maintenance e.g. tightening of bolts can cause increased movement in glass and lead to shattering

5.5 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. Storms and strong winds may require additional checks being made.
- Where re-alignment is required the lighting system should be re-tested to ensure compliance with the design requirements.

5.6 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.

5.6.1 Structural frame

5.6.1.1 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.

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5.6.1.2 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.

5.6.2 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.

5.6.2.1 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 Health & Safety Act (See Safe Work Australia). 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.

5.6.2.2 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 Work Method Statement (SWMS**)** is required for "high-risk construction work" which includes any work involving a risk of falling more than 2 metres.

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RECOMMENDED MAINTENANCE SCHEDULE FOR PADEL CLUBS

Daily Maintenance

Daily maintenance focuses on cleanliness, safety, and immediate issue identification.

- Inspect courts for visible damage, loose fittings, or safety hazards
- Remove debris from playing surfaces using a soft broom, grooming machine or blower (do not blow sand out)
- Check glass panels for cracks, chips, or movement
- Inspect nets for correct height and tension
- Ensure gates and access doors open and close smoothly
- Check lighting operation for evening use
- Empty bins and clean high-traffic areas
- Record and report defects in the maintenance log

Weekly Maintenance

Weekly maintenance addresses surface performance and minor wear.

- Brush artificial turf evenly to redistribute infill using padel court grooming machine
- Inspect turf seams and edges for lifting or separation
- Check steel posts, frames, and fixings for looseness or corrosion
- Clean glass walls with non-abrasive cleaner to maintain visibility
- Inspect court perimeter fencing for damage or misalignment
- Test emergency lighting and safety signage visibility
- Check drainage grates and remove any blockages

Monthly Maintenance

Monthly maintenance ensures structural stability and operational reliability.

- Measure and adjust net height to regulation standards
- Inspect anchor bolts and base plates for movement
- Check lighting alignment and clean luminaires
- Inspect electrical conduits and exposed cabling
- Inspect turf infill levels and top up where required
- Review wear patterns and rotate court usage if applicable
- Inspect clubhouse fixtures, seating, and storage areas

Quarterly Maintenance (Every 3 Months)

Quarterly maintenance focuses on deeper inspections and preventative care.

- Conduct a full structural inspection of glass walls and steel frames
- Torque-check all structural bolts and fixings to manufacturers recommendation
- Perform deep cleaning of artificial turf using approved equipment
- Inspect slab edges, joints, and surface levels for cracking or movement
- Test drainage performance after heavy rainfall
- Inspect lighting poles for verticality and foundation stability
- Review maintenance records and recurring issues

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Six-Monthly Maintenance

Six-monthly maintenance addresses long-term durability and compliance.

- Engage a qualified technician to inspect lighting systems and controls
- Inspect corrosion protection coatings and touch up where required
- Check expansion joints and sealants around slabs and structures
- Conduct safety audit of courts, access points, and spectator areas
- Inspect acoustic panels or wind screens if installed
- Review spare parts inventory and critical consumables

Annual Maintenance

Annual maintenance involves professional assessments and strategic planning.

- Engage a qualified structural professional to inspect courts and frames
- Review slab performance for settlement, cracking, or drainage issues
- Conduct full electrical inspection and test-and-tag of equipment
- Inspection and cleaning of light fittings
- Deep clean or rejuvenate turf surface as per manufacturer guidance
- Inspect and service fire safety equipment and emergency systems
- Review compliance with relevant standards and insurance requirements
- Update maintenance schedules based on asset condition and usage
- Prepare a capital works and refurbishment forecast

Cleaning and Care Guidelines

- Use only manufacturer-approved cleaning products
- Avoid abrasive tools on glass, turf, or coated steel surfaces
- Prevent vehicle access to courts unless specifically designed for it
- Address spills or contaminants immediately to prevent staining

Record Keeping and Reporting

Accurate documentation supports asset management and warranty compliance.

- Maintain a digital or hardcopy maintenance log
- Record inspections, repairs, and replacements
- Photograph defects before and after rectification
- Retain supplier manuals, warranties, and service reports

Health, Safety, and Environmental Considerations

- Isolate courts during maintenance activities
- Use appropriate personal protective equipment
- Dispose of waste materials responsibly
- Minimise water and chemical use during cleaning

By following the daily through annual schedules outlined in this manual, operators can minimise downtime, protect their investment, and deliver a high-quality playing experience year-round.

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Tool Box Checklist

Marker Pen 	✓	Drill Bit Metal & Concrete 	✓	Forklift 2.5T 	✓
Spanners & Wrench Set 	✓	Laser Level & Receiver 	✓	Trucks Cranes 25T 	✓
Allen Key Set 	✓	Hammer drill 	✓	Manual Chain Block 1T 	✓
Screwdriver Set 	✓	Power tool / Impact Gun 	✓	Telescopic Fork 3T 	✓
Measuring Tape 30M 	✓	Angle Grinder 	✓	Window Packer / Shim 	✓
Level Ruler 1.5M 	✓	Suction Cup 	✓	Portable Vacuum 	✓
Mallet/Hammer 	✓	Vacuum Glass Lifter 	✓	Cementitious Grout 	✓
Chalk Line 	✓	Scissor Lifter 	✓	Caulking Gun & Silicone Transparent 	✓

Figure 29 – suggested tools

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NOTES

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