

USE & MAINTENANCE INSTRUCTION

MANUAL FOR



PADEL COURTS



JUBO TENNIS S.L.

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1. INTRODUCTION

You have chosen JUBO PADEL courts, a JUBO TENNIS, SL registered brand. Congratulations and thank you for putting your faith in us. You have chosen technological innovation, durability and the experience of over 20 years working as manufacturers, installers and padel players. These criteria behind great sporting achievements are a vocation for JUBO PADEL. Being devotees of this sport, the JUBO TENNIS, SL, company makes and installs padel courts with all the sports players, maintenance people and owners in mind.

Hence, JUBO TENNIS, SL, has become the Official Distributor for the leading brands in the market and worldwide leader in the construction of padel courts.

Each product sold under the JUBO PADEL name has been designed to respond to the most demanding of circumstances. The materials used to manufacture these products ensure outstanding durability. Special attention has been paid to the finishing. Prior to reaching the market, each new product undergoes numerous quality tests.

All the component parts of our padel courts are designed and manufactured for continuous regular use. That is the reason why the use and maintenance instructions in this manual must be followed to reap the benefits of the investment in the installation. This manual includes instructions of use and recommendations for proper maintenance.

Extend the useful life

Maximise the time your installation can be used, making it more profitable.

Prevention

It has been shown that ineffective or poor maintenance hastens the deterioration of the padel court. When maintenance is performed, all the parts of the installation are inspected. This will enable the identification of indications of pathologies which require treatment to prevent replacement or repairs. Repairs are always costlier than applying a preventive measure to correct the problem.

Optimum playing conditions

The maintenance of an artificial turf surface is essential to achieve the optimum properties when playing the sport throughout the life cycle of the flooring. Regular upkeep is vital for reasons such as safety, quality of play, durability and the aesthetics of the surface.

Minimise injuries

A highly compacted turf or one with irregular additions of silica sand is the source of injuries for players. Slips and muscle damage need to be minimised.

Good image

The good image of the courts is the first impression client gets of your facility. Always keep in mind the image of order, cleanliness and good condition of your installations.



2. MONDO TURF

Over time and through the intense use to which the artificial turf of the padel court is exposed, the qualities of the court will change. To return the playing surface to the technical conditions envisaged, a series of maintenance tasks need to be performed.

Two types of actions are recommended to properly perform the maintenance tasks and ensure they are effective:

A) REGULAR MAINTENANCE: simply undertaken by the owner or installation manager using the appropriate means and personnel.

B) SPECIALISED MAINTENANCE: undertaken by a maintenance company that specialises in artificial grass maintenance for padel (and/or tennis) courts, with personnel who have a specific technical qualification and using suitable technical means.

A) REGULAR MAINTENANCE (easy)

Cleaning & organisation

The most obvious cleaning requirement is the removal of the rubbish left by players and spectators who use the installation daily. Good preventive practices will greatly reduce these problems.

The surface and ingress/egress areas near the padel court need to be kept clean of bits of paper, leaves, butts, food waste and organic waste in general. The installation of bins for general waste collection is thus recommended.

It is vital to remove leaves, seeds, flowers or other types of waste that may decompose and cause fungi to appear on the surface. This should be performed manually, using a sweeping brush. An air blower machine can also be used, though this must not affect the distribution of sand across the surface.

Heavy rain is the best way to clean the fibre. It refreshes and gently cleans the fibres of dust, grime and atmospheric contaminants which are otherwise difficult to clean. Furthermore, it keeps the surface drainage systems clean and in ideal conditions.

With covered padel courts, it is a good idea to regularly water the turf using a sprinkler to clean it of any possible impurities. It is advisable to do this monthly. Aside from cleaning the surface, this watering enables some compacting of the silica sand, stabilising the surface. This action is advisable to carry out monthly.

Turfsoft TS2 machine, or similar, can be used quarterly to perform these jobs, but it is not recommended to use it more often because its rotating brushes can wear the fibre of the turf.

A certain percentage of humidity is useful. Keeping the courts clean may prevent the build-up of silica sand dust around the grass drainage holes, preventing sand slipping through the holes while enhancing drainage. Additionally, this also prevents possible slippage of the turf across the concrete slabs. Indoor padel courts with MONDO turf STX model require to be regularly watered to enhance the cleaning and prevent this problem; this is not necessary with MONDO turf SUPERCOURT indoor because this model has NO drain holes

Sand redistribution

The player-surface and ball-surface sports interaction is achieved through the synergy of several of the parts which comprise the artificial grass system. One key factor is the sand filling, and that is why the choice of sand type (shape, grading and quantity) is vital.

The movement of players around the court during a match causes the displacement of the sand on the surface. This displacement is more noticeable in the areas where it is stepped on most frequently. It is advisable to regularly brush the surface to redistribute the silica sand. The artificial grass surface is a system that is in motion and the sand is displaced while match is ongoing.

The more intense the usage, the more the sand is displaced. Therefore, the regular spreading and refilling shall be based on the needs of each individual court.

Remember that the displacement of the silica sand may vary depending on the type of artificial grass. Hence, it is more complicated to displace the silica sand on artificial grass systems which use higher density monofilament



fibres like MONDO STX model, features which are commonly known as the "fibre weight per m²" and the "number of stitches per m²", and even more difficult if the fibre is also texturized (curled) like the MONDO SUPERCOURT model

This brushing and redistributing of the sand should be done using a standard JUBO PADEL brush (or sweeping brush with medium-strength nylon fibres), sweeping in the opposite direction to the fibre. The accumulated sand in the corners or near the walls and padel net will be redistributed regularly and uniformly towards the emptiest areas of the court. This action improves the uniformity of the technical and sports characteristics of the artificial turf, reducing the uncertainty factor for irregular bounces or the grip for the players.

The artificial grass in indoor courts is not affected by rainwater. This means the silica sand does not compact and any possible powder does not disappear. This factor may cause the silica sand to slide into the drainage holes in the grass and down to the concrete slabs. This may lead to the MONDO turf STX model sliding across the slab, causing furrows in the surface (MONDO turf SUPERCOURT indoor model has NO drain holes). It is advisable to water the turf regularly to enable a slight compacting of the silica sand, and also use a Turfsoft TS2 machine, or similar, in order to clean and remove the dust of the turf, but it is not recommended to use it more than once every three months because its rotating brushes can wear the fibre of the turf.

Sand refilling

Should notable silica sand losses occur, then the turf needs to be refill it with more sand and redistributed around the surface as described above.

The sporting performance of the turf may be altered by poor choice in silica sand, incorrect amount of sand used, or sand badly/not properly spread across the surface.

Weed removal

Seeds from weeds that are dispersed by wind, birds, etc. may germinate in the silica sand.

These weeds must be removed as soon as possible. If the specific conditions of the installation (shady and humid area) aggravate this problem, a foliar absorption herbicide should be used on time, in addition to an anti-germination product in the affected area.

Prevention: No dirtying = no cleaning

Provision of bins, restricted access, limiting the consumption of certain shelled foods, etc. as ways to keep the surface free of organic waste, nutshells, bits of paper, etc.

B) SPECIALISED MAINTENANCE (professional)

Inspection of the seams

The seams must be inspected as they are the most sensitive areas of the surface; as soon as possible, repairs and replacements should be made for those parts which are in bad conditions.

Scarifying the surface

In MONDO STX model the silica sand filling is scarified and aerated by means of specialist maintenance equipment like Turfsoft TS2 machine, or similar, which has a specific spinning brush which penetrates between the filaments of the artificial grass system. This type of machine is also useful to clean and remove the dust of all kinds of artificial grass for padel, but it is not recommended to use it more than once every three months because its rotating brushes can wear the fibre of the turf..

Once the surface has been scarified, it needs to be swept using a soft brush. This allows the playing surface to regain the sporting performance qualities for which the flooring was intended.



3. JUBO PADEL METALLIC STRUCTURE

Our padel courts are designed and constructed using top quality materials by experts with more than 20 years of experience as manufacturers, installers and padel players. All of them meet the very highest standards for the industry.

All the pillars, tubes and mesh used to produce the metallic structure of our padel courts are hot dip galvanized in continuous process, DX51D steel grade, according to EN 10219 material, EN 10204/2.2 certificate, and the anchor plates are hot-dip galvanized in baths of molten zinc, at a temperature of 440-460°. We shape the material in our factory, taking all details into account, in a flow production system featuring specialised storage, cutting, drilling, assembly and rack packaging processes.

All screws are A4 stainless steel and M10 metric; additionally, UV-resistant nylon protective washers are used with the glass. The expansive metallic anchors bolts are certified and homologated by the EU, measures M12/Ø16x110

For especially damp, salty or corrosive environments, extra ZINC protection is applied via heat-sealed lacquer (ISO 12944 – C4), casting a ZINC-rich primer (made from highly corrosion-resistant epoxy resins) directly onto the steel of the metallic structure. This protection forms a super-resistant film which also improves the adherence of the polyester lacquer in the colour chosen.

9 stage painting process: (1) degreasing; (2, 3 y 4) triple wash using osmotic water; (5) nano-ceramic passivation; (6) wash again; (7) drying; (8) application of electrostatic coating (**in the colour of your choice, any RAL chart colour**) using thermosetting polyester paint; and (9) polymerisation tunnel at 200-230°C.

Protecting the metallic structure

The lacquer or paint layer is the protective element for the metallic structure. Any little knocks, scratches or flaking which occur through the daily use of the courts should be checked. A scratch may lead to rust starting, which means a monthly check needs to be made of the component parts of the structure.

If the problem found has not started to rust, simply cover with the same RAL paint used before on the metallic structure using a paintbrush; do not use an aerosol as these are less sun-resistant and cover the parts less thickly.

If there is already rusting in the scratch, sand the surface to remove the damaged section; apply a passivator (metal-specific) to stop the oxidation process; then cover with the same RAL paint used before on the metallic structure using a paintbrush; do not use an aerosol as these are less sun-resistant and cover the parts less thickly.

By protecting these areas whenever is necessary, we ensure that all parts have the useful life for which they are designed.

Clean the metallic structure with a damp cloth (no chemical products) every month to remove any organic or fatty waste or general dirt; take particular care with bird excreta as this must be cleaned as soon as it is found.

In any case, avoid (except agreement with JUBO PADEL):

- Using any type of chemical product close by or which dampens the metallic structure, as it may damage the metal or the heat-lacquer polyester paint.
- The presence of water sprinklers or diffusers, particularly if the water has a high mineral, grey water or regenerated content.
- Welding on the metallic structure.
- Gardens, plants or trees of any sort which involve irrigation or moisture at 1 metre or less from the court.
- Any modification to the metallic structure, particularly any cutting, welding or drilling.
- Any use other than the one for which it is designed.



Inspection of the anchorage

Padel court structure is anchored to the concrete base using sleeve anchor bolts. After weather events with extremely high gusts of wind, inspect:

A) The sleeve anchor bolts; check they have not loosened (quite unlikely). If they are loose, they need tightening as quickly as possible; but first check that the metallic structure in the affected area is still in good conditions and still in alignment.

If the metallic structure is misaligned, this need correcting by chocking the anchor plate with resistant elements (such as stainless-steel washers or nuts) before tightening the sleeve anchor bolts. These little misalignments can cause the glass to break or, even, the whole structure to collapse.

B) The concrete base; check that it has not shattered due to the excess pressure from the sleeve anchor bolts. If the concrete base has shattered (very unlikely), proceed as follows:

- 1st - Restrict access to the court using safety barriers; allow access to professional workers only.
- 2nd - Uninstall the glass and metallic structure of the affected area.
- 3rd - Rebuild the damaged concrete foundation to ensure structural stability.
- 4th - Wait until the repaired foundation has dried and hardened.
- 5th - Reinstall the glass and metallic structure of the padel court.

Inspection of the screws

Given its size, the padel structure is split into metallic panels (normally 2 metres wide), which are assembled using stainless steel screws. The torque of all the screws should be checked every six months; do not tighten unless the screws are loose.

Checking the net and its tensioning mechanism

Padel net and its tensioning mechanism need to be checked monthly. Verify the net is at 88 cm high at the centre and 92 cm high at the net posts (tolerance of 5 mm). Always keep the tensioning mechanism lubricated.

Checking the protection nets (optional accessory)

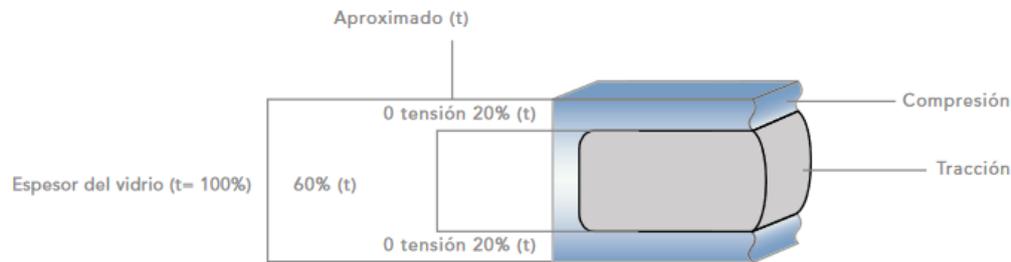
Protection nets (or ball stop nets) are placed around the perimeter of the padel court to prevent balls being lost during a match. Cable ties used to tie the net to the structure should be checked and the necessary ones replaced. After weather events with extremely high gusts of wind, check that the metal pillars and steel cables remain in perfect conditions.

Checking doors & locks (optional accessory)

Doors should be checked monthly to ensure they work properly. If necessary, recalibrate the doors and lubricate hinges (hinged doors), trolleys (sliding doors) and locks.

4. TEMPERED GLASS

Heat-tempered glass is about four times more resistant than annealed glass of the same thickness and configuration. It meets the requirements of EN 12150: Parts 1 & 2. If it breaks, it does so into relatively small pieces which will not cause serious injuries. The process by which heat-tempered glass is made requires heating the glass to over 600°C before rapidly cooling it, which seals the glass surfaces in a state of compression and the middle in a state of traction (see diagram).



Tempered glass is typically called 'safety glass' because it fulfils the requirements of the various European laws and construction regulations that establish the standards for safety glass. This type of glass is generally used for glazing and other uses that require greater resistance and safety.

Tempered glass cannot be transformed, i.e. it cannot be cut, drilled or bevelled once it has been tempered, nor can it be, for example, polished by sand blasting or acid etched as this could weaken it and cause damage to the glass.

Handling and Storage

Generally speaking, this is a durable material which, if correctly handled, can last virtually forever. However, even though it is a tough material, the glass may be scratched. One of the most dangerous materials for this glass is, in fact, glass itself.

When stored, the panels need to be separated using air spacers, suitable dividers or card.

When handled, avoid bumping the edge of the glass against any toughened material, as it may break easily. Prevent each glass sliding against another, as this contact could scratch or mark the glass. It is advisable to hire professional workers for this type of work.

Cleaning the glass

Glasses should be properly cleaned once a month using suitable cleaning products and tools. The glass needs to be cleaned for more than just aesthetic reasons: cleaning will reduce the adherence of dust particles and organic matter, which increase the condensation of water on the glass.

Equally, cleaning prevents stains from appearing. The sodium in the glass leaves marks when it reacts with moisture in the air. Sodium combined with very small quantities of water may create sodium hydroxide (caustic soda), which is highly corrosive to the glass. If sodium hydroxide is left on the surface for too long, the glass may suffer irreversible damage. Sodium hydroxide can be easily cleaned with water and a normal glass-cleaning product, e.g. water with alcohol or ammonia. Glass installed in outdoor courts is less likely to suffer damage through sodium hydroxide given the natural cleaning of the surface by rainwater.

Recommended cleaning solution:

- Use a clean cloth soaked in water.
- Use appropriate glass cleaners and follow the manufacturer's instructions. Immediately wipe off the cleaning product used with a cloth that is dry, soft and clean.
- For encrusted marks or stains, use a mix of 50% alcohol and water or ammonia and water; then, rinse with warm water. Use a soft, dry cloth to dry the glass or a chamois and a cellulose sponge.
- Clean in an orderly way, moving from one glass to the next, checking that the surface and the space between glasses are corrects



- For the best results, clean the glass while it is in the shade. Avoid cleaning in direct sunlight or while the glass is hot.

Precautions:

- Avoid using abrasive or highly alkaline cleaning products.
- Do not use oil derivatives, e.g. gasoline or combustible liquids.
- Do not use hydrofluoric or phosphoric acids: they will corrode the surface of the glass.
- Protect the glass surface from possible splashes from acids or cleaning products used on the metal frame, bricks or masonry or from any welding.
- Do not use abrasive brushes, knives or other objects which may scratch the glass surface.
- Immediately remove any cement-type construction materials.

Checking the screws

Due to the constant vibrations in the padel glasses produced by the amount of blows that the glasses receive during matches and training sessions, it can cause the screws to loosen (it is unlikely). The torque of all the screws should be checked every month; do not tighten unless the screws are loose.

Checking the EPDM rubber seal strips

These rubber seals prevent the glass from touching the metal and ensure that the blows on the glass are properly distributed. Over time the EPDM rubber seals may move sideways given the natural expansion and contraction of padel court materials and they are also affected by the constant vibrations produced by the amount of blows that the glasses receive, so a monthly check is recommended to ensure they are in a good conditions.

Should the seal have slid towards the outside of the glass, the protruding part can be removed using a cutter, thus maintaining a good aesthetic.

Should the glass be heard to knock against the metal, then the glass needs to be uninstalled and the defective seal replaced (by experts).

It is not advisable to uninstall / move the glasses if the glass does not touch the metal, because the glass is likely to break during the uninstallation and installation work

Inspecting the separation between glasses

Tempered glass is a material with a high linear expansion coefficient. Using the example of a 3 x 2 metre glass from a padel court and a temperature increase of +30°C (from night-time to midday), each glass will expand by 0.81 x 0.54 mm (from night-time to midday).

Bearing this in mind, the minimum separation between two glasses should always be at least 3 mm, thus preventing them knocking into each other and breaking unexpectedly.

However, the separation should never be greater than 6 mm, as this would affect how the ball bounces off the glass wall.

Lastly, the separation must be even along the length between the glasses.

As a preventive measure, 10 cm long silicone strands should be placed between the glasses, one in the lower and one in the upper part between the glasses. These silicone strands will be useful as a warning against lateral displacement and a protection against a significantly reduced space.

Inspecting the separation between glass and concrete base

Check the gap between the glasses and the concrete base. It should be 10 to 20 mm to enable the grass to be under the turf, which allows for the expansion and contraction of the turf as well as the drainage or dispersal of rainwater.



5. LIGHTING

There are basically two lighting systems used for padel courts: LED and metallic halogen (disused). They are normally installed in the lighting pillars of the padel court, or with covered courts, installing the floodlights directly on the ceiling.

Lighting anchorage and orientation

The floodlights anchors need to be checked if they are not properly oriented. Then it will be necessary to correct its orientation and retighten the screws.

Checking the floodlights

LED

Cutting edge floodlights show significant savings in electricity consumption, in addition to having a useful life that is much greater than halogen bulbs - 100,000 hours. LED lights barely lose its illumination in the long term (compared to halogen bulbs) and can be switched off and on again quickly without needing to wait for them to cool down. With all these advantages and the fact they do not require maintenance, they have taken over from the metallic halogen floodlights.

Metallic halogen floodlights

This light system has a useful life of 16,000 hours; after this length of time, the intensity of the light needs to be checked using a luxmeter and replaced if illumination is lost.

Protection & earthing systems

Usually, one individual lighting circuit per court. The power switch and line protection mechanisms are located inside a General Protection Cabinet. Is necessary to install a surge protector to protect the LED floodlights (and any other electrical device) from voltage spikes

All lighting installations must have an earthing device, with the corresponding records to perform measurements and checks. The earthing mechanism prevents electrical discharges towards players through electrical shunts. The installation is checked to ensure correct earthing and the state of the protection mechanisms (circuit breakers and differentials); if these do not work properly, they must be replaced.



6. DRAINAGE

Scarifying the turf's silica sand

Excessive compacting of the silica sand of the turf increases the accumulation of dust and organic matter over the surface. This greatly reduces the permeability of the artificial grass, allowing puddles to form and slowing down the dispersal of water from the playing surface. The turf should be checked and scarified on a regular basis per the previously noted instructions.

Cleaning the gutters and grates

When a padel court is installed on an impermeable base and the rainwater dispersal system uses a sideways slope towards a drainage gutter, it periodically needs regular cleaning and the grate clip or anchor needs checking. A large amount of dirt tends to accumulate in the gutters, including silica sand washed away from the turf. They need regular cleaning to improve the drainage and prevent the accumulation of moisture on the surface.

Cleaning the catch basins and drains

These are connection points in the dispersal network that, typically, come with a sandy base where the aggregate, leaves and other materials are deposited, preventing these materials entering the horizontal dispersal network. Regular cleaning is essential to prevent blockages in the dispersal system.

Cleaning the porous base (concrete or asphalt)

Vertical drainage system throughout the playing surface. The system comprises porous concrete or asphalt bases built on site, which are typically 6 to 8 cm thick, over an 8 to 10 cm layer of clean gravel (normally). The porous base has a large number of holes enabling water to pass through.

Over time, the drainage pores become covered or saturated with dust particles and dirt moved by the rainwater, which reduces the drainage capacity of the system. This leads to puddles forming on the playing surface as water only drains slowly. When this occurs, the artificial grass needs to be uninstalled and the porous base cleaned using a very powerful vacuum cleaner or pressurized water. Should the drainage not improve, nor the system return to its former capacity, up to 6 mm diameter holes may be drilled into the surface (to a maximum separation of 50 cm between each hole) to breach the blocked surface.

Cleaning the connection to the rainwater drainage network

Connection point for the dispersal network with the general network, normally through a primary catch basin. Check the network connection is correct and in good conditions.

7. ANNEX 1: ORDER of MEASURES

| COURT ELEMENTS | CONTROL POINTS & CONTROL-BASED ACTIONS | NUMBER OF ACTIONS |
|-------------------------------|---|--|
| MONDO GRASS | Cleaning & organisation | Daily |
| | Sand redistribution | Weekly |
| | Sand refilling | Quarterly |
| | Weed removal | Biannually (if necessary) |
| | Inspection of the seams | Quarterly |
| | Scarifying the surface | Quarterly |
| JUBO PADEL METALLIC STRUCTURE | Protecting the metallic structure | Weekly |
| | Inspection of the anchorage | After weather events with extremely high gusts of wind |
| | Inspection of the screws | Monthly |
| | Checking the net and its tensioning mechanism | Monthly |
| | Checking the protection nets | Monthly |
| | Checking doors & locks | Monthly |
| TEMPERED GLASS | Handling and Storage | - |
| | Cleaning the glass | Monthly |
| | Checking the screws | Monthly |
| | Checking the EPDM rubber seal strips | Monthly |
| | Inspecting the separation between glasses | Monthly |
| | Inspecting the separation between glass and turf | Monthly |
| LIGHTING | Lighting anchorage and orientation | (If necessary) |
| | Checking the LED floodlights | - |
| | Checking the metallic halogen floodlights | Annually |
| | Protection & earthing systems | Annually |
| DRAINAGE | Scarifying the turf's silica sand | Quarterly |
| | Cleaning the gutters and grates | Quarterly |
| | Cleaning the catch basins and drains | Annually |
| | Cleaning the porous base | Every time the artificial grass is replaced |
| | Cleaning the connection to the rainwater drainage network | Annually |