

MAINTENANCE MANUAL

1. INTRODUCTION

You have chosen the JUBOpadel courts, a brand of the company JUBOPADEL INTERNATIONAL, SL. We congratulate you on your choice and thank you for your trust. You have opted for technological innovation, durability, and the expertise gained as manufacturers, installers, and padel players since 1998.

These defining criteria of great sporting achievements represent the mission of JUBOpadel. We are passionate about this sport, working with great dedication and effort, always striving for continuous improvement in all design, production, and installation processes of our padel courts, keeping athletes, maintenance staff, and owners alike in mind.

Accordingly, all components of our padel courts have been designed and manufactured for continuous, long-term use. Every product marketed under the JUBOpadel brand has been engineered to meet the highest demands. The materials used in their manufacture guarantee exceptional strength, with special attention paid to their finish, and have undergone extensive quality testing prior to commercialization.

By following the instructions for use and proper maintenance in this manual, combined with the support of our audiovisual maintenance manual series published on our YouTube channel (<https://www.youtube.com/@JuboPadel>), you will achieve:

A) Extended Lifespan

Maximize the uptime of your facility, making your investment more profitable.

B) Prevention

It is proven that poor or inadequate maintenance causes the premature deterioration of a padel court. While performing maintenance, all elements of your facility are also inspected. This allows for the early detection of issues that must be addressed to prevent costly replacements or repairs, as preventive measures are always more cost-effective than corrective repairs.

C) Optimal playing conditions

Padel court maintenance is essential to ensure optimal properties for sports practice. Regular care is fundamental for safety, quality of play, durability, and aesthetic appearance.

D) Injury Minimization

A lack of preventive maintenance on the glass panels could lead to breakage following a player's impact during a padel match. Similarly, highly compacted turf or irregular distribution of silica sand increases the risk of injury for users. Simple, regular maintenance will minimize accidents, falls, and muscle injuries for players.

E) Excellent Brand Image

The condition of your courts reflects the club's image to its clients. Always project an image of order, cleanliness, and excellent facility condition.



MAINTENANCE MANUAL

2. ARTIFICIAL TURF

Over time and due to the intensive use to which the padel court's artificial turf is subjected, its properties become altered. In order to restore the playing surface to the technical conditions for which it was designed, a series of maintenance tasks must be carried out

2.1. TIDINESS AND CLEANING: daily frequency

The most obvious cleaning requirement is the removal of waste left behind by players and spectators who use the facility daily.

In any case, the courts must be kept free of small papers, leaves, food scraps, and organic waste in general on a daily basis, as these can decompose and promote the growth of fungi on the surface.

This can be done manually using a standard yard broom or even a professional leaf blower, provided it does not affect the correct and homogeneous distribution of the sand across the artificial turf surface.

Good preventive practice will reduce these tasks; therefore, it is recommended to install bins near the court to encourage users to maintain tidiness and cleanliness themselves. In this proactive way, cost savings, prevention, and an improved brand image are achieved.

2.2. SAND REDISTRIBUTION: weekly frequency

The sporting interaction between turf-player and turf-ball is achieved through the synergy of all components making up the artificial turf system. A key factor is the silica sand infill. Both its grain size must be considered—so it is neither too fine, which would clog drainage, nor too coarse, making the surface slippery. It is important for the sand to be washed and dry, free of dust particles that could cause respiratory issues and general dirt.

The movement of players around the padel court during a match causes the displacement of sand across the surface. This displacement is more noticeable in areas with higher foot traffic. The greater the intensity of use, the more the sand shifts. Therefore, regular distribution and topping up will depend on the needs of each individual court.

It is important to note that the displacement of silica sand can also vary depending on the type of artificial turf. Sand shifts with greater difficulty in artificial turf systems with textured (monofilament/curled) fibers compared to straight fibers. As a general rule, sand displacement is also more difficult in turf with a higher fiber density.

In any case, the correct distribution of the infill is performed by gently brushing with a standard yard broom. Sand accumulations in corners, near the walls, and by the padel net must be redistributed toward the inside of the court where there is visibly less sand. This regularizes the surface homogeneously, eliminating the uncertainty factor both in the bounce of the ball and in the rotational and longitudinal traction of the players.

During these tasks, you can take the opportunity to remove surface dirt that usually collects around the perimeter of the court. This maintains a clean and tidy image of the facilities while ensuring safety for the players. For sports clubs with a usage frequency exceeding 4 hours per day, a weekly maintenance frequency is recommended.

2.3. INSPECTION OF THE JOINTS: weekly frequency

Artificial turf is the most recommended playing surface for padel; it cushions and provides the necessary grip for intense and comfortable sports practice. It is also a prefabricated flooring supplied in rolls of different sizes, and depending on the manufacturer, the installation layout or scheme may vary.

Artificial turf is installed as a floating system, meaning it is not glued directly to the base. Instead, the different turf rolls are joined together using jointing tapes. The process is simple:



MAINTENANCE MANUAL

1. The rolls are rolled out, trimming and cleaning the seams, removing the side flaps, and adjusting them to cover the entire surface according to the manufacturer's layout.
2. The turf is folded back along the areas to be joined, the jointing tape is centered on the seams, and the polyurethane adhesive is spread over it without overflowing. Once the glue is spread along the entire jointing tape, the turf is carefully folded back down and pressure is applied to ensure it is thoroughly coated with adhesive.
3. Finally, it is ballasted with the amount of sand specified by the manufacturer.

As with almost all prefabricated flooring, joints are a weak point, and with intensive use, some may come unstuck. The joints must be visually inspected weekly to ensure they are in perfect condition. If a raised or misaligned joint is visually detected, you must immediately check that it is properly adhered. Otherwise, proceed as follows:

1. Ensure you have the following tools: a vacuum cleaner, a utility knife, a 290ml cartridge of polyurethane adhesive for artificial turf, a caulking gun, and a putty knife.
2. Vacuum the existing sand from the open joint.
3. Use a utility knife to cut and clean any detached elements.
4. Fill with polyurethane adhesive for artificial turf, applying it with a caulking gun and spreading it with a putty knife.
5. Carefully lower the turf flaps and apply pressure to ensure the turf is thoroughly coated with adhesive.
6. Replenish the silica sand, place weights on top, and wait between 12 and 24 hours before using the court again.

2.4. SAND FILLING: quarterly frequency

In the event of significant losses of silica sand infill, the turf should be topped up with more sand and evenly redistributed, as described above. On outdoor or semi-indoor padel courts, it will be necessary to replace silica sand more frequently due to losses caused by strong wind gusts and rain, with a minimum frequency of every four months.

Poor selection of silica sand, incorrect dosage, or an inhomogeneous distribution on the court can alter the sporting performance and function of the surface.

It is very important to take into account that on newly installed turf—even if it has been initially filled with the sand recommended by the manufacturer—the sand settles after the first few days of use due to the players' footfall and/or potential rain in the case of outdoor courts. As the sand settles and penetrates deeper into the turf fibers, certain areas may become uneven or lack the correct amount of sand. Therefore, it will be necessary to carry out a homogeneous topdressing and brushing of sand over the entire surface.

The procedure is as follows:

1º Ensure you have the necessary equipment to do the job:

- **Wheelbarrow** (for transporting small quantities from the warehouse to the court).
- **Shovel** (for scooping or pouring).
- **Yard broom** (for distribution).
- **Abundant silica sand (0.3–0.8 mm), dry** (protected from rain and humidity, as wet sand clumps together, can become contaminated with fungi, and is impossible to use).

2º Refer to the visual references shown in our maintenance videos (<https://www.youtube.com/@JuboPadel>) to determine the appropriate amount of sand, and proceed according to the following scenarios:

- A) **If a large amount of sand needs to be replenished (the ball bounce is uneven):** fill the wheelbarrow with sand, pour it onto the court areas requiring topdressing, and distribute it with the broom by brushing vigorously to cover the entire surface evenly. Remove any sand accumulations using the shovel, broom, and wheelbarrow.
- B) **If only a small amount needs to be replenished:** in this case, we recommend doing the work directly by shoveling the sand straight onto the specific area, using the broom to redistribute it and the shovel to remove any build-up.
- C) **If replenishment is not needed:** turf with the correct amount of sand will not have sand accumulations anywhere, the player's footing will feel firm, and the ball will bounce perfectly and evenly across the entire artificial turf area.



MAINTENANCE MANUAL

2.5. TURF REPOSITIONING: if needed

Artificial turf is normally installed as a floating system by specialized professionals, meaning it is not glued directly to the base. Instead, the different turf rolls are joined together using jointing tapes. This allows the turf to contract and expand as a single block across the entire surface, preventing air pockets or wrinkles, while facilitating rapid stormwater drainage, installation, maintenance, and future renovation.

Some outdoor courts are particularly exposed to drafts, and during adverse or extreme weather events, a strong gust of wind could shift part of the turf mat. In this case, repositioning will require the assistance of two or three people to grip the edge of the turf and pull it firmly to spread it back into its original position.

Wrinkles will likely remain; these wrinkles can be removed by dragging them vigorously, rubbing with your feet toward the outer edge. If they return, you can assist the process by pouring boiling water to soften the artificial turf, or you can place any heavy, flat object on top of them to flatten them out. Leave the weight for 12 to 24 hours, and repeat as many times as necessary to achieve the desired result.

It is important to emphasize that a lack of sand will allow the turf to lift more easily because, without sand, the turf has less dimensional stability and essentially weighs less. Likewise, a lack of sand is a direct cause of wrinkles, meaning that topdressing can both eliminate and prevent them.

Generally, turf may lack sand due to two main reasons: either because the recommended maintenance was not performed, or because it is too worn out to hold enough sand to provide the required dimensional stability and weight.

2.6. WRINKLES IN THE TURF: if needed

Given that the turf is installed as a floating system, wrinkles can appear for several reasons. The three most common causes and their possible solutions are detailed below:

A) Perimeter wrinkles

The artificial turf has expanded or shifted on the base and is pressing against the court walls. The simplest solution is to trim the edge just enough to allow room for the turf to expand, preventing these wrinkles or air pockets from forming.

B) Wrinkles in the center of the court, usually near and parallel to the padel net.

These are usually due to a lack of sand, meaning the turf lacks the necessary weight to maintain dimensional stability. The issue can worsen if the base on which the turf was installed is very smooth, fine, or slippery. To fix these wrinkles, you will need the help of 3 or 4 people aligned with each other to drag the wrinkles with their feet, rubbing vigorously toward the outer edges of the court. If the wrinkles reappear, you can repeat the action, placing weights and securing the area as you progress.

C) Wrinkles near the seams

These usually occur because adhesive has overflowed from the jointing tape, causing the turf to glue directly to the base. This blocks its natural movement (expansion and contraction) and generates wrinkles right at that spot. The solution is to lift the turf and mechanically detach it carefully to avoid ripping or tearing it.

The three cases described above are the most common and can almost always be avoided if the turf contains the correct amount of sand.



MAINTENANCE MANUAL

3. METALLIC STRUCTURE

JUBOpadel courts are designed and manufactured using the most advanced techniques and the best possible materials, incorporating the expertise developed over 30 years as manufacturers, installers, and padel players.

At JUBOpadel, we manufacture the metallic structures of our padel courts in compliance with the UNE 147201:2024 standard (future ISO 25808), which establishes the quality and safety standards for padel court manufacturing. This standard also requires us to comply with numerous other rules and regulations to guarantee:

- Structural resistance defined by Eurocodes UNE-EN 1993.
- Steel quality according to UNE-EN 10025-1 & UNE-EN 10204 type 2.1.
- In-factory welding process certified under UNE EN ISO 15614, using qualified and certified welders according to UNE-EN-ISO 9606, with weld inspection acceptance matching UNE-EN-ISO 5817 level C.
- Process traceability according to UNE-EN 1090-2.
- Corrosion protection according to UNE-EN-ISO 12944-2:2018 level C4 & C5.

However, quality and experience do not exempt the facility from maintenance, which is a mandatory requirement to ensure the structure retains the original qualities for which it was designed. Therefore, strict compliance with the following maintenance tasks is compulsory to preserve the original JUBOpadel warranty:

3.1. PREVENTIVE CLEANING: quarterly frequency for C3/C4 and monthly frequency for C5

The metallic structure of JUBOpadel courts is manufactured from high-strength steel and protected by an advanced dual-layer coating: a galvanized steel / Magnelis® base (with an optional zinc primer for environments with a C5 corrosion classification according to ISO 12944) and a final oven-baked epoxy-polyester powder coating finish.

To preserve the anti-corrosive properties, adhesion, and gloss of the paint against rust and atmospheric agents, the following cleaning and preservation protocol must be strictly followed.

1. Environment Classification and Minimum Frequency

The accumulation of dirt, industrial pollution particles, player sweat residues, and especially salt spray deposits in coastal areas accelerates the degradation of the coating. The following mandatory preventive maintenance intervals are established:

Classification	Location / Conditions	Minimum Frequency
C3/C4	Indoor or outdoor courts located far from the coast (> 5 km) with low pollution.	Every 3 months (Quarterly)
C5	Coastal areas (< 5 km), high tropical humidity, or industrial zones.	Every 1 month (Monthly)

During episodes of intense sea winds, storms, sea spray, muddy rain, or visible salinity build-up, the frequency must be increased based on observed needs.

2. Step-by-Step Technical Cleaning Protocol

The cleaning process must always be executed during hours of low solar radiation (early morning or late afternoon) to prevent cleaning solutions from evaporating rapidly on hot metal, which generates unsightly stains. Follow these steps:

1. **General pre-rinsing:** Spray the structure with clean, warm or cold water to wash away airborne dust, loose sand, or surface salt deposits. This prevents scratching the paint during the scrubbing phase.
2. **Main Wash:** Apply a solution of water mixed with a pH-neutral liquid soap (between 6 and 8) using a soft sponge, a microfiber cloth, or an extremely soft plastic-bristled brush. Scrub gently and evenly, paying special attention to bolted joints, welds, and post bases where condensation moisture tends to accumulate.
3. **Deep Rinsing:** Completely remove all soap residues using abundant clean water from the general mains supply. No traces of foam or surfactants should remain on the paint.
4. **Operational Drying:** In indoor environments or areas with high lime/calcium content in the water, it is recommended to dry critical areas with a clean microfiber cloth to prevent surface limescale deposits.



MAINTENANCE MANUAL

3. Critical Restrictions and Prohibited Products

Failure to comply with any of the following restrictions will automatically void the structural and finish warranty provided by JUBOpadel:

- **Lack of cleaning:** Partial, total, or at a lower frequency than required; non-professional cleaning, or the inability to prove that cleaning has been performed according to the guidelines stipulated by JUBOpadel.
- **Hydraulic Pressure Limit:** The use of commercial high-pressure washers is strictly prohibited. If pressure washing equipment is used for rinsing, the maximum allowable pressure at the nozzle is 60 bar (870 PSI), always maintaining a minimum distance of 40 cm from the surface and using a wide fan nozzle (minimum 25°). Never apply direct concentrated "turbo" or needle-jet streams.
- **Banned Chemical Agents:** The use of products containing chlorine (bleach), strong acids (hydrochloric, nitric, phosphoric), alkaline cleaners (caustic soda), pure organic solvents (acetone, paint thinners, turpentine), or concentrated alcohols is strictly prohibited.
- **Abrasive Elements:** Never use metallic scouring pads, wire brushes, sandpaper, or abrasive cleaning powders. These elements destroy the surface seal of the epoxy-polyester resin, accelerating gloss loss and permeability to rust.

3.2. ANTI-CORROSION COATING AND PAINT INSPECTION: quarterly frequency for C3/C4 and monthly frequency for C5

Accidental impacts from rackets, players' footwear, external agents, lack of preventive cleaning, or improper maintenance and use can cause scratches or chipping in the paintwork. If the damage is deep enough to expose the base steel (Magnelis® / galvanized), immediate action is critical. Prolonged exposure of the steel accelerates galvanic corrosion and can compromise the adhesion of the surrounding perimeter paint to the affected area.

Preferably during the monthly (C5) or quarterly (C3/C4) cleaning processes, a thorough visual inspection must be conducted to verify if the coating of the metallic structure is in perfect condition or if it requires repair. If necessary, the repair process should be performed with the structure completely dry, in the shade, and at a recommended ambient temperature between 15°C and 25°C (59°F–77°F) to ensure proper curing of the polymers.

Step 1: Surface Preparation

1. **Delineation:** Protect the sound perimeter surrounding the scratch using masking or painter's tape.
2. **Perimeter sanding:** Using fine wet P800/P1200 grit sandpaper, gently sand the edges of the chipped area. The objective is to eliminate loose paint micro-flakes and smooth out the transition between the healthy paint and exposed metal, enhancing adhesion.
3. **Technical cleaning:** Apply the kit's degreaser to a clean microfiber cloth and rub the area to remove traces of sanding dust, body oils, or moisture. Allow it to dry completely (approximately 2 minutes).

C4 Environments (according to ISO 12944)

Step 2-C4: Application of the Passivating Technical Enamel (Integrated RAL Color)

1. Shake the passivating enamel container vigorously for at least 2 minutes to ensure proper dispersion of pigments and oxide-passivating agents.
2. Using the precision micro-brush, apply a thin first coat covering both the exposed steel and the edge of the sanded healthy paint. The passivating agents will chemically react with the metal to seal it and halt any latent galvanic micro-corrosion.
3. Allow to dry for 30 to 45 minutes (depending on room temperature).
4. Apply a second finish coat to match the thickness (microns) of the original factory paint and ensure total waterproofing of the patch.

C5 Environments (according to ISO 12944)

Step 2.1-C5: Anti-Corrosion Coating Restoration (Zinc Primer)

This step is mandatory only if the base steel is visible, and applies to structures featuring the extra layer of zinc primer optionally applied for C5 Environments (according to ISO 12944).

1. Shake the zinc primer container vigorously for at least 1 minute.
2. Using the micro-brush, apply a thin, even layer exclusively to the exposed steel, avoiding any overflow onto the original healthy paint.
3. Allow to dry for the time specified by the manufacturer (usually between 15 and 30 minutes) until the surface is completely dry to the touch before proceeding with the finish.



MAINTENANCE MANUAL

Step 2.2-C5: Application of the Finishing Lacquer (RAL Color)

1. Mix and shake the epoxy-polyester finish enamel in the corresponding RAL color thoroughly.
2. Apply a thin first coat over the dry primer using the precision applicator. Make uniform, single-direction strokes.
3. Allow to dry for 20–30 minutes and apply a second coat if needed to level the thickness with the factory paint. The goal is to seal the patch completely.

Step 3: Operational Curing

1. **Surface drying:** The court can be reopened for play **4 hours** after application (dry to the touch).
2. **Total curing:** The compound will reach its maximum mechanical hardness and weather resistance after **24 to 48 hours**. It is highly recommended to avoid pressure washing or impacts on the repaired area during this period.

Limitations and Subsequent Inspections

- **Prohibited tools:** Under no circumstances use generic hardware store paint sprays, unless they are certified professional-grade sprays. Generic sprays lack the technical thickness, required micron level, and UV resistance, which will lead to discoloration and peeling within a few months.
- **Follow-up:** The repaired area must be prioritized during the next scheduled quarterly or monthly review to verify that there are no signs of lifting or re-emergence of perimeter rust.
- **General Prohibitions:** In any case, unless explicitly agreed upon with JUBOpadel, the following practices must be avoided:
 - **A)** Using or exposing the metallic structure to any type of chemical product.
 - **B)** The presence of water sprinklers, misters, or diffusers directed at the structure.
 - **C)** Welding, cutting, or drilling into the metallic structure.
 - **D)** Positioning gardens, plants, or trees less than 1 meter away from the structure.
 - **E)** Any use of the facility other than the sport for which it was strictly designed.
 - **F)** Placing any element on the electro-welded mesh that creates wind resistance, such as advertising banners or windscreens

3.3. ANCHOR AND FOUNDATION INSPECTION: monthly frequency

Padel court structures are anchored to the concrete base using metallic anchors. The type of anchor used at JUBOpadel is a heavy-duty direct fastening anchor, suitable for both cracked and non-cracked concrete, and is both removable and reusable.

Despite being the most resistant type of anchor and the one upon which our structural calculations are verified, the concrete could break occasionally following extreme weather events, improper use of the padel court, subsoil erosion, or other factors beyond our control. Therefore, we recommend inspecting both the anchors and the foundations on a monthly basis, and especially after weather events with extremely strong wind gusts, checking the following:

A) Metallic Anchors: Verify that they have not loosened (which is highly improbable). If they are loose, they must be tightened as soon as possible, first checking that the padel enclosure in the affected area remains in good condition and aligned. If the enclosure is misaligned, it must be corrected by shimming the anchor plate with a compression-resistant material and retightening the anchors as soon as possible. Such misalignments can cause unexpected glass breakage or even the collapse of the structure itself.

B) Concrete Base: Inspect for any fissures or cracks. In the event that the concrete base has cracked or fissured, causing any type of issue or risk to the structure, proceed as follows:

1. Limit access to the court using safety fencing, allowing access exclusively to workers.
2. Dismantle the section of the metallic enclosure in the affected area (including the glass if necessary).
3. Reconstruct the damaged concrete foundation to guarantee its structural stability, preferably using an ultra-rapid-setting, fiber-reinforced dry concrete designed for jobs requiring high initial strength and commissioning within a few hours (such as Paviland Ultra Rapido).
4. Wait for the completely cured reconstruction area to set (if using Paviland Ultra Rápido, wait 24 hours).
5. Reinstall the metallic structure (and the glass if necessary) of the padel court.



MAINTENANCE MANUAL

3.4. BOLT AND FASTENER REVIEW: Indoor or Moderate Use - Quarterly Frequency Outdoor or Intensive Use - Monthly Frequency

To facilitate transport and handling, JUBOpadel manufactures court structures in 2 to 3-meter sections, articulated or assembled together using stainless steel hardware, avoiding welds whenever possible.

Fasteners are the key element ensuring the rigidity, stability, and structural safety of the padel court. Due to the constant vibrations from ball impacts, players hitting the glass panels, and thermal expansion (especially on outdoor courts), regular scheduled reviews are mandatory.

1. Inspection Frequency

- **Outdoor or intensive-use courts:** Full monthly review.
- **Indoor or moderate-use courts:** Full quarterly review.

2. Critical Control Points

Special attention must be paid to the following joints:

- **Ground anchors:** Fasteners securing the pillar base plates to the concrete slab.
- **Pillar-to-mesh/frame joints:** Bolts connecting the electro-welded mesh frames to the structural pillars.
- **Glass panel fasteners:** Hardware for the brackets and connectors holding the tempered glass (Warning: excessive pressure can break the glass; see Section 4.2.).
- **Net post anchors:** Tension mechanism and fixing system securing the post to the ground.

3. Visual and Mechanical Inspection Protocol

1. **Pre-cleaning:** Remove dust, sand, or accumulated moisture around the bolt heads and nuts.
2. **Visual inspection:** Identify signs of oxidation, deformation, visible loosening, or missing protective caps.
3. **Manual check:** Use hand tools (open-ended or socket wrenches) to check for loose parts. The use of pneumatic or electric impact wrenches without torque control is not recommended, to avoid stripping the threads.

4. Tightening Torque and Adjustment

- Tightening must always be performed according to JUBOpadel's technical specifications. If you do not have a torque measuring tool, you can manually replicate the tightening feel of adjacent similar bolts that are correctly secured. In any case, avoid overtightening to prevent the fastened metal from sinking or denting, and ensure the bolt does not remain loose.
- **Metal-to-metal joints:** If you have a torque measuring tool, the theoretical maximum values recommended by hardware manufacturers are:

Metric	Bolt Diameter	Torque	Standard Wrench / Tool
M5	5 mm	4.2 Nm	8 mm open-ended/socket wrench / 4 mm Allen key
M6	6 mm	7.2 Nm	10 mm open-ended/socket wrench / 5 mm Allen key
M8	8 mm	17.5 Nm	13 mm open-ended/socket wrench / 6 mm Allen key
M10	10 mm	35.0 Nm	17 mm open-ended/socket wrench / 8 mm Allen key
M12	12 mm	60.0 Nm	19 mm open-ended/socket wrench / 10 mm Allen key

- **Metal-to-glass joints:** It is critical to verify the presence of insulating neoprene or EPDM washers/gaskets. There must never be direct contact between the metal bolt and the glass. Tightening on glass panels must be moderate—always adjusted manually to a firm-touch feel to absorb glass flex without creating static stress points. Never tighten them using power tools.

5. Replacement, Restrictions, and Limitations

- **Approved materials:** In case of loss or breakage, replace exclusively with stainless steel hardware (minimum A2 - AISI 304 quality; A4 - AISI 316 is recommended for coastal or high-salinity areas) or high-corrosion-resistant zinc-plated hardened steel for ground anchors.
- **Safety components:** Always use self-locking nuts (nyloc nuts with a nylon ring) to prevent loosening caused by vibration. If a worn bolt is detected, replace its corresponding washer as well.



MAINTENANCE MANUAL

- **Protection:** Immediately replace any missing plastic decorative/protective caps. These prevent water accumulation and protect users from potential scratches.
- **Stainless steel galling risk:** Stainless steel provides excellent outdoor corrosion resistance but carries a risk of galling. It tends to cold-weld due to friction during fast threading, particularly when using high-RPM impact tools.
- **Use of self-locking nuts:** For safety nuts such as DIN 985 or DIN 986 types, keep in mind that the nylon ring itself generates extra friction. Tightening must be continuous and smooth until the target torque value is reached.

3.5. NET AND TENSIONING SYSTEM REVIEW: monthly frequency

Both the net and its tensioning mechanism must be reviewed monthly, verifying that the net has a height of 88 cm at the center and 92 cm at the net posts (with an allowable tolerance of 5 mm). During this inspection, verify that the tensioning mechanism is properly greased (lithium grease type) or lubricated (WD-40 type) to prevent it from seizing.

It is important not to over-tension the net once it has reached 88 cm at the center, to avoid damaging the tensioning mechanism or breaking the steel cable fastening.

The rods built into the net posts are used to lace the net to the posts and prevent any gaps from forming. Therefore, if gaps are present, you must extract the rod and reinsert it, ensuring that it intertwines the net mesh square-by-square along the full 92 cm height. Alternatively, a small cord or heavy-duty UV-resistant cable ties can also be used.

Once installed, the net must not be pulled excessively taut, nor should it drag heavily across the artificial turf surface, to prevent accidents or player injuries in either scenario.



MAINTENANCE MANUAL

4. TEMPERED GLASS

JUBOpadel chooses tempered glass as it is the material that delivers the best performance for homogeneous ball bounce across its entire surface, offering excellent transparency to facilitate match tracking and superior player performance.

Thermally tempered glass is approximately four to five times stronger than standard glass. Our tempered glass is manufactured using the most advanced techniques and the highest possible quality, having obtained the highest certified resistance classification according to European (EN 12150-2:2004), American (ANSI Z97.1-2015(R2020)), and Australian (AS/NZS 2208:2023) standards.

4.1. GLASS CLEANING: monthly frequency

The glass panels must be properly cleaned on a monthly basis using appropriate cleaning products and tools. Glass cleaning should not only be performed for aesthetic reasons; it also reduces the adhesion of dust particles and organic matter that increase water condensation, which is highly disruptive for both players and spectators.

Furthermore, cleaning prevents the appearance of stains. Glass becomes marked when the sodium it contains reacts with moisture in the air. Sodium combined with small amounts of water can generate sodium hydroxide (caustic soda), which is highly corrosive to glass. If sodium hydroxide is left on the surface for too long, the glass can suffer permanent damage. Sodium hydroxide can be easily removed with water and a standard glass cleaning product, such as water mixed with alcohol or ammonia. Glass installed on outdoor courts is less prone to sodium hydroxide damage due to the natural rinsing of the surface by rainwater.

Recommended Cleaning Solution:

1. Use a clean cloth soaked in water.
2. Use suitable glass cleaners following the manufacturer's instructions. Immediately remove the applied cleaning product with a dry, soft, and clean cloth.
3. For stubborn marks or stains, use a 50/50 mixture of alcohol and water, or ammonia and water, and then rinse with warm water. Use a soft, dry cloth, a chamois leather, or a cellulose sponge to dry the glass.
4. Perform the cleaning systematically, one glass panel at a time, taking the opportunity to examine the surface and the gap between the glass panels.
5. For best results, clean the glass while it is in the shade. Avoid cleaning under direct sunlight or when the glass is hot.

Precautions:

1. Avoid abrasive or highly alkaline cleaning products.
2. Do not use petroleum-derived products, such as gasoline or combustible fluids.
3. Hydrofluoric and phosphoric acids are corrosive to the glass surface and must never be used.
4. Protect the glass surface from potential splashes of acids and cleaning products used to clean metal, brick, or masonry, as well as from sparks or splashes from welding processes.
5. Do not use abrasive brushes, blades, or other objects that could scratch the glass surface.
6. Immediately remove any cement-based or construction materials

4.2. BOLT AND FASTENER REVIEW: monthly frequency

Fasteners are the connection link between the rigid structure of the court and the elasticity of the tempered glass. A bolt that is too loose generates play and vibrations that damage the glass; a bolt that is too tight generates localized pressure that can cause the glass to shatter. Therefore, this process must be executed with maximum precision.

Due to the constant vibrations in the padel glass panels produced by the large number of impacts received during matches or training sessions, the fastening bolts securing the glass to the structure can loosen.



MAINTENANCE MANUAL

At JUBOpadel, we always use M10 stainless steel bolts with safety or anti-rotation nuts to anchor the glass panels; therefore, it is highly improbable for the bolts to loosen. Nevertheless, for safety reasons, we recommend that they be reviewed monthly using the following procedure:

Step 1: Visual Inspection of Components

- Verify that no parts of the assembly are missing, which consists of:
 - Countersunk stainless steel bolt, metric M10 (inside the court).
 - Insulating washer or tapered nylon sleeve, black color (inside the court).
 - Elastic rubber gasket separating the glass from the metallic structure.
 - Flat washer DIN 125 (outside the court).
 - Self-locking safety nut DIN 985 (outside the court).
- Look for signs of degradation, cracking, or drying in the rubber gaskets due to solar radiation (UV) and the weather. Rigid rubber loses its capacity to absorb vibrations.

Step 2: Verification of Play and Vibrations

- Apply gentle manual pressure to the center of the glass panel and observe the anchoring points.
- If the glass shifts within the hardware or emits a rattling sound ("clack-clack"), the bolt is loose or the internal sleeve is worn out.

Step 3: Flush Verification

- Gently run your hand over the bolts on the inside face of the court. The bolt head must be perfectly flush or slightly recessed into the glass.
- A protruding bolt poses a serious risk of injury to players and can deflect the bounce of the ball.

Step 4: Tightening and Adjustment Verification (Critical)

- **Mandatory Tool:** Use hand tools in a firm and smooth manner. Never perform the tightening with electric or pneumatic impact drivers, as the vibration and excessive force will shatter the glass instantly.
- **Tightening Torque:** Adjust the bolts gently, replicating the pressure of those that are correctly tightened. If you use a calibrated torque wrench, the recommended tightening torque specified by the glass manufacturer is between 10 Nm and 12 Nm.

If any bolt or part of the assembly is found to not be in perfect condition, it must be replaced immediately.

4.3. RUBBER GASKET REVIEW: monthly frequency

JUBOpadel's EPDM rubber gaskets are defined by their long-term durability and excellent resistance to weathering, UV rays, water, and extreme temperatures. These rubber gaskets prevent the glass from touching the metal and ensure that impacts against the glass are properly distributed.

Over time, the gaskets can shift laterally due to the natural expansion and contraction of the glass and metal, as they work in opposite directions. They are also affected by the constant vibrations produced by the number of impacts the glass panels receive; therefore, a monthly check is recommended to ensure they remain in good condition.

In the event that the gasket has shifted outward from the glass, the protruding section can be trimmed with a utility knife to maintain a clean and tidy aesthetic.

If the gasket has shifted excessively and the glass is in direct contact with the metal (a sharp and clear sound of two hard materials knocking against each other is heard), the glass panel must be dismantled and the defective gasket replaced. We recommend that this task be performed exclusively by expert workers from the glass industry.

It is not recommended to dismantle the glass panels if the existing gasket still fulfills its isolation function (between the glass and the metal), as handling the glass panels could lead to breakage; specifically, during handling, there is a possibility that the edge of one glass panel could strike the edge of an adjacent glass panel.

4.4. INSPECTION OF THE GAP BETWEEN GLASS PANELS: weekly frequency

Tempered glass is a material with a high coefficient of linear thermal expansion. On padel courts, taking a 3 x 2-meter glass panel as an example in areas with a high thermal amplitude—such as a temperature swing of up to 30°C (86°F) in a single day—each glass panel will undergo an elongation of up to 1 mm.

MAINTENANCE MANUAL

At JUBOpadel, we back our work with 30 years of court manufacturing experience; we are certified installers under the UNE 147201:2024 standard, and we also enjoy playing every padel match without any inconveniences. Therefore, during design, manufacturing, and installation, we always ensure that the minimum gap between two glass panels is at least 3 mm to prevent them from striking one another and causing unexpected breakages. Conversely, the gap between the glass panels must never exceed 8 mm, as this would negatively affect the ball bounce off the glass wall. Finally, we always verify that the gap remains uniform along the entire length of the joint, that there are no step misalignments between glass panels greater than 2 mm, and no step misalignments between the glass and the mesh greater than 3 mm.

During regular padel play, the glass is hit frequently, inducing strong vibrations. This, combined with the natural expansion and contraction of materials due to temperature changes and weather inclemencies on outdoor courts, affects the dimensional stability of the glass panels over the long term. Consequently, it is a mandatory practice to check weekly that the joints maintain their safety clearance distances—ranging between 3 mm and 8 mm—and that there are no step misalignments exceeding 2 mm between glass panels, or exceeding 3 mm between the glass and the mesh.

4.5. REVIEW OF THE GAP BETWEEN GLASS AND CONCRETE: weekly frequency

Just as the clearances between glass panels are verified, it must also be checked weekly that a proper gap exists between the glass panels and the concrete base, primarily to prevent glass breakages caused by its edge striking the concrete floor.

A minimum gap of at least 3 mm must be guaranteed between the bottom edge of the glass and the concrete floor. It is always recommended to use glazing shims/setting blocks to rest the weight of the glass, while ensuring that the glass never contacts the concrete ground. Place a minimum of two shims per glass panel, positioned symmetrically to distribute the weight evenly and avoid localized stress points. The use of wood, cardboard, or temporary metal wedges is strictly prohibited.

During every review, any accumulation of sand, gravel, or trapped debris at the base of the glass must be removed. These rigid elements can act as wedges and break the glass when subjected to an impact from a padel player.

If you detect or suspect that the glass might be touching the concrete base, contact JUBOpadel or an expert professional in glass handling immediately to correct this situation, as it could cause glass breakage or player injuries. The corrective procedure is as follows:

1. **Isolation:** Cord off the court immediately and suspend all play.
2. **Controlled Loosening:** Slightly loosen the fastening bolts of the metallic structure holding the affected glass panel.
3. **Realignment:** Lift the glass using professional glass suction cups and place new glazing shims until the minimum clearance of at least 3 mm is restored.
4. **Tightening:** Retighten the bolts to their specified torque

4.6. SILICONE JOINT REVIEW BETWEEN GLASS PANELS: weekly frequency

To join our glass panels together, JUBOpadel always uses structural silicone designed for curtain walls or glazed facades. This guarantees the effective sealing of structural glass while offering high weather resistance without losing its properties. Nevertheless, and although extremely uncommon, over time, exposure to adverse weather agents, aggressive cleaning products, and the constant succession of impacts during regular padel play could cause the silicone joints to detach.

It is recommended to check the proper adhesion of the silicone weekly. In the event that detachments or open joints between glass panels are detected, the joint must be restored to its initial state immediately by proceeding as follows:

1. Limit access to the court using safety fencing, allowing access exclusively to workers.
2. Remove any remaining silicone residues using mechanical means.
3. Use a dry, soft, and clean cloth to remove any dust or dirt residues, ensuring a clean surface onto which the new silicone will be applied (a structural type for curtain walls or glazed facades is recommended).
4. If the glass panels exhibit step misalignments between each other, they can be easily leveled using tile leveling wedges.
5. Apply the silicone evenly into the joint using a battery-powered, pneumatic, or—as our installers do—a manual caulking gun, always avoiding air inclusions. Subsequently, smooth the joint with a putty knife. Important: never apply silicone



MAINTENANCE MANUAL

when exposed to direct sunlight or when the glass is hot, and always follow the installation recommendations of the silicone manufacturer, as the surface in contact with the glass will harden before you can smooth the silicone.

6. Wait for the completely cured joint to set before using the padel court normally again, usually after 24 hours.

4.7. HANDLING: if necessary

Tempered glass possesses extremely high structural strength on its faces, but it is exceptionally sensitive to impacts on its edges and corners. For its handling, the following basic safety rules must be taken into account:

- **Edge and Corner Protection:** Never rest the glass directly on hard ground (concrete, asphalt, or stone). Always use wooden blocks, rubber, or thick cardboard as a support base.
- **Use of Suction Cups:** The use of approved load-bearing suction cups in perfect condition is mandatory for lifting and moving the glass panels.
- **Personal Protective Equipment (PPE):** Personnel must obligatorily wear cut-resistant safety gloves, safety footwear with reinforced steel toes, and protective goggles throughout the entire process.
- **Movement by Three or Four People:** Due to the heavy weight (a 12mm thick glass panel with dimensions of 3x2m weighs 180 kg / 397 lbs), manual handling must always be carried out by a minimum of three operators, preferably four.
- **Avoid Torsion:** During transport, always keep the glass in a vertical position. If moving it horizontally, do so supported on a wheeled pallet to prevent excessive twisting or torsion.
- **Avoid Large Stickers or Vinyl Decals:** Do not place large stickers or vinyl decals on the glass panels to avoid cohesively bonding large surface areas, which could be dangerous in the event of breakage during a player's impact

4.8. STORAGE: if necessary

JUBOpadel always recommends purchasing spare glass so that, in the worst-case scenario, if a court's glass panel breaks, the court does not remain out of service longer than the time required to perform the replacement work. Accordingly, the spare glass must be stored following these recommendations:

- **Storage Position:** Glass panels must always be stored on edge, in a vertical position or slightly inclined (between 3° and 5° maximum) on a suitable rack or A-frame support.
- **Separators Between Pieces:** Always place spacers (cork pads, cardboard, or protective foam) between each glass panel to prevent direct glass-to-glass contact and avoid scratches.
- **Support Surface:** The base of the A-frame or support area must be covered with rubber or soft wood to absorb mechanical impacts when depositing the pieces.
- **Environmental Protection:** Store the glass panels in a covered, dry, and well-ventilated area. Avoid moisture accumulation between the stored glass sheets, as it can cause staining due to chemical attack (glass corrosion).
- **Clear Clearance Zones:** Locate the spare parts storage in an area protected from accidental impacts caused by machinery, vehicles, or the continuous foot traffic of personnel. It should also be situated near the padel courts to avoid long transit distances for maintenance staff between the warehouse and the work site.

4.9. REINSTALLING BROKEN GLASS: if necessary

In the event that you have to replace a shattered tempered glass panel, we would first recommend hiring an expert glazier to carry out the replacement.

At JUBOpadel, we always offer spare glass to our clients, and we recommend always keeping them stored nearby so that, in the worst-case scenario, they can be replaced quickly to continue using the facility without interruptions or extra costs.

The relocation process is simple:

1. Clean the area where the glass broke by sweeping vigorously, ensuring that all shards and splinters are removed.
2. Ensure you have the suction cups and the necessary hardware to handle and bolt down the glass panel.



MAINTENANCE MANUAL

3. You will need 4 workers to very carefully carry the spare glass to the installation site, avoiding dragging or bumping the spare glass in any case to prevent it from breaking as well. For transport to the replacement site, you can also use a pallet with bolted wheels.
4. Place the glass panel on the inside face of the court, with the countersunk holes facing the side adjacent to the ground, as close as possible to the reinstallation site.
5. Hoist the glass panel by pushing from the end opposite the wall. Grip it by the edges with your hands or from the front using suction cups, and place it in the exact position where the first broken glass was previously located.
6. Adjust it carefully, first making sure it does not come into contact with the adjacent glass panels, and level it to correct its trajectory if you see that it might collide with the adjacent panels.
7. Bolt down the glass using the same pressure to which the adjacent glass panels are bolted.
8. Renew the silicone joints, preferably using structural silicone.

MAINTENANCE MANUAL

5. LIGHTING

Nowadays, the lighting system used on padel courts is always LED, typically installed on the court's lighting pillars, and occasionally on indoor courts installed directly on the ceiling or hanging rails.

Because LED floodlights are installed at a height of at least 6 meters, any intervention on them requires specific lifting equipment and strict compliance with regulations for working at heights. Therefore, technical personnel must hold an official certification for working at heights and obligatorily use personal protective equipment (a fall-arrest safety harness anchored to a secure point, helmet, and non-slip footwear), in addition to using mobile elevating work platforms (MEWPs) or approved stable scaffolding. In any case, the use of hand ladders to work on the LED floodlights is strictly prohibited.

5.1. ANCHORING AND LIGHTING ORIENTATION REVIEW: annual frequency

On an annual basis, verify that the bolts securing the LED floodlights to the metallic bracket of the light post are properly adjusted. If applicable, the hardware that locks the inclination angle of the floodlights must also be secured to achieve an optimal lighting level with minimal glare.

Impacts during play, wind action on outdoor courts, and temperature changes all take a toll over the long term and can cause the hardware to loosen.

5.2. LED FLOODLIGHT REVIEW: annual frequency

JUBOpadel floodlights are manufactured with state-of-the-art technology and use only components from leading global lighting brands. They are designed specifically for padel, offering very significant savings in electrical consumption as well as an exceptionally long lifespan.

Nevertheless, it is recommended to clean the protective glass annually with a damp microfiber cloth and neutral soap, as excessive dirt can significantly reduce lumen output. It is also recommended to clean the fins of the rear aluminum heatsink with a soft brush to remove insect nests, leaves, or accumulated dust, since this dirt hinders cooling and shortens the lifespan of the integrated driver.

During cleaning tasks, it is recommended to visually check that there are no water droplets or fogging inside the optical glass. If internal water or moisture is present, it indicates a loss of watertightness in the LED floodlight. In that case, check the housing for signs of overheating or deformation, and verify the perfect seal of the cable gland and the power supply cable connecting to the floodlight to determine the cause of the failure. In any case, proceed to replace the LED floodlight with a new, similar unit.

5.3. PROTECTION MECHANISMS AND GROUNDING REVIEW: annual frequency

In general, an independent lighting circuit must be implemented for each court. The switching ignition and line protection mechanisms are located inside a General Protection Box. It is mandatory to install a surge protection device to protect the LED floodlights from voltage spikes. Every lighting installation must have a grounding system, along with its corresponding inspection chamber for testing and review.

The correct functioning of the electrical protections and the grounding circuit is essential to safeguard the physical integrity of players and operators. Furthermore, it protects the electronic components of JUBOpadel's LED floodlights against atmospheric discharges (lightning) and electrical grid anomalies.

On an annual basis (preferably before the thunderstorm season), the proper grounding of the installation and the condition of the protection mechanisms must be reviewed, taking into account the following 4 mandatory protocols:

→ Electrical Protection Review Protocol:

1. Court Electrical Panel (Main Distribution Board - MDB)

- **Minutature Circuit Breaker (MCB) and Residual Current Device (RCD) Protection:** Verify that each lighting line has its corresponding MCB and RCD protection (Type A or super-immunized RCDs are highly recommended for LED lighting).



MAINTENANCE MANUAL

- **RCD Test:** Press the test button ("Test") on the RCD switches. The mechanism must trip instantaneously. If it fails to trip, it must be replaced immediately.

2. Surge Protective Devices (Permanent and Transient)

- **Status Inspection:** Review the status indicators or inspection windows on the transient Surge Protective Device (SPD) cartridges.
 - **Green Color:** Protector operational.
 - **Red Color:** Cartridge degraded/burnt out (it has absorbed a voltage spike). Requires immediate replacement of the cartridge.
- **Connections:** Ensure that the connection cables to the surge protector are as short and straight as possible (maximum 50 cm / 20 inches) to guarantee their effectiveness.

→ Grounding System Review Protocol:

1. Continuity of the Metallic Structure

- The entire metallic structure of the court (lighting posts and mesh frame panels) must be electrically bonded and connected to the main grounding grid.
- **Verification:** Visually verify that the grounding copper braids or cables attached to the base of the posts and frames show no signs of cuts, sulfation, or loose bolts.

2. Ground Resistance Measurement

- A qualified technician must measure the resistance of the earth inspection pit using a ground tester (earth tester/telurometer).
- **Reference value:** To guarantee the correct discharge of surges and protect the LED drivers, the ground resistance value must be as low as possible, with the maximum acceptable limit being 20 Ohms (or a lower value if required by the local regulations of the installation country).

→ Immediate Action Protocol in Case of Detecting Anomalies:

Lighting activation must be suspended, and an authorized electrician must be contacted immediately if:

- The RCD trips randomly or repeatedly when turning on the lights (indicating a ground fault/leakage in a driver or wiring harness).
- The surge protector indicator window turns red.
- The grounding grid resistance value exceeds established safety limits.

→ Liability Delimitation and Warranty Requirements Protocol (Legal Disclaimer)

The main electrical supply connection, the Main Distribution Board (MDB), and the distribution lines up to the base of the court's lighting posts are the exclusive responsibility of the client/facility owner, and must be executed and certified by an authorized electrical installer in compliance with the electro-technical regulations in force within the destination country.

JUBOpadel disclaims all legal and financial liability for malfunctions, premature degradation, or destruction of the LED floodlights and their integrated drivers if it is proven that the root cause of the failure stems from an anomaly in the client's electrical installation.

To maintain the validity of the official warranty provided by JUBOpadel and the lighting manufacturer, the client's electrical panel must strictly comply with the following minimum mandatory requirements:

- **Mandatory Surge Protection:** It is mandatory to install a combined surge protective device (Permanent and Class II Transient SPDs) downstream of the main breaker switch. LED drivers damaged by power grid surges due to the absence or failure of this device will be automatically excluded from warranty coverage.
- **RCD Specifications:** Each LED lighting line must be protected by an independent Type A (or Super-immunized) Residual Current Device. Malfunctions resulting from the use of standard Type AC RCDs (not suitable for LED electronics) will not be covered.
- **Grounding System Certificate:** The client must provide, upon request, the official ground connection measurement certificate (with a value under 20 Ohms). A deficient ground resistance voids the effectiveness of the floodlight protections and terminates warranty coverage against atmospheric discharges.
- **Maintenance Log:** The client is required to document and log the annual reviews of the surge protection cartridges and the RCD tests specified in this manual.



MAINTENANCE MANUAL



6. ANNEX: SCHEDULE OF ACTIONS

ACTIONS OF MAINTENANCE		FREQUENCY	VERIFIED											
			E	F	M	A	M	J	J	A	S	Or	N	D
TURF	Order and cleanliness	Daily												
	Sand redistribution	Weekly												
	Inspection of the joints	Weekly												
	Sand Filling	Quarterly												
	Turf Relocation	(If necessary)												
	Wrinkles	(If necessary)												
METAL STRUCTURE	Preventive cleaning	C3/C4 - Quarterly C5 - Monthly												
	Anti-corrosion coating and paint inspection	Monthly												
	Anchor and foundation inspection	Monthly												
	Checking the screws	Outdoor or intensive monthly. Indoor or moderate quarterly.												
	Checking the network and its tensioning system	Monthly												
TEMPERED GLASS	Cleaning the windows	Monthly												
	Checking the screws	Monthly												
	Rubber gasket overhaul	Monthly												
	Glass Gap Inspection	Weekly												
	Separation between glass and concrete	Weekly												
	Checking silicone joints between panes	Weekly												
	Storage	(If necessary)												
	Handling	(If necessary)												
	Reinstall broken glass	(If necessary)												
LIGHTING	Anchoring and Orientation of Lighting	Annual												
	LED Projectors Review	Annual												
	Protection and grounding mechanisms	Annual												