

[1101] INSTALLATION GUIDELINES - SPORT COURT FLOOR COVERING

This covering must be stored and installed outside ONLY in an un-enclosed environment.

1. DESCRIPTION

1.1 TILE LOCKING SYSTEM

The locking system consists of a male peg and a female loop. The peg snaps into the female loop, which holds the tiles together.



1.2 PROPER ALIGNMENT OF MALE PEGS AND FEMALE LOOPS

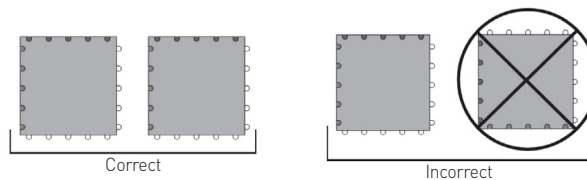
Properly align the male pegs with the female loops, and then apply foot pressure to snap into place.



1.3 CORRECT TILE ALIGNMENT

All tiles should ALWAYS HAVE THE FEMALE LOOPS GOING IN THE SAME DIRECTION.

CAUTION: if you inadvertently rotate a tile by 90°, it will snap into place, but you will not be able to complete the installation properly.



2. THERMAL EXPANSION OF OUTDOOR COURTS

OUTDOOR POWERGAME 12" X 12" X 5/8" (30.48 cm x 30.48 cm x 15.8 mm)		DIMENSIONS OF EXISTING CONCRETE SLAB in m	ADJUSTMENT FACTOR FOR THE CONCRETE SLAB DIMENSIONS	NUMBER OF TILES Length x adjustment factor	DIMENSIONS OF ASSEMBLED TILES No. tiles x 0.3048 in mm	ADJUSTMENT VARIATION CONCRETE SLAB dim " dim assembled tiles in m
40 x 20	Length in m: 40	3.32	0.9913	130.09	39.65	0.35 m
	Length in m: 20	1.65	0.9913	65.04	19.82	0.18 m
38 x 18	Length in m: 38	3.15	0.9913	123.59	37.67	0.33 m
	Length in m: 18	1.5	0.9913	58.54	17.84	0.16 m

3. INSTALLATION GUIDELINES

There are many factors to consider before installing the tiles. You must be familiar with the equipment and tools used, you must have access to the site, the site must be prepared for installation, and you must know the layout of the facility.

3.1 EQUIPMENT NEEDED

- Utility knife for trimming
- Portable circular saw
- Tape measure of at least 30 m
- Framing square
- Chalk box
- Spirit level
- Plumb bob
- Rigid putty knife or wood chisel (for disassembly)

3.2 SUBFLOOR AND WORK CONDITIONS

The Sport Court tiles must not be installed until all other trades are completely finished in the area. The concrete should have a flatness tolerance of 3 mm when measured with a 3 m straightedge. Any problems found must be corrected prior to installation. Preparation will vary depending on surrounding conditions. The more level the subfloor, the better the performance. It is important that ALL debris be removed from the surface before laying the Sports Court flooring.

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COMMON PROBLEMS WITH CONCRETE: concrete subfloors are often prone to peaks and valleys. To correct a peak, you must grind the area down using a concrete floor grinder or planer. To fill in a valley, you are advised to use a concrete patch binder.

■ 3.3 RECOMMENDED CREW FOR INSTALLATION

When installing the flooring, the ultimate crew includes one or two SPORT COURT specialists and four to six helpers.

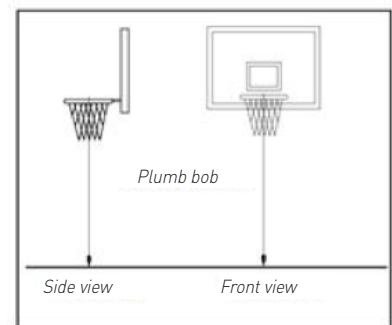
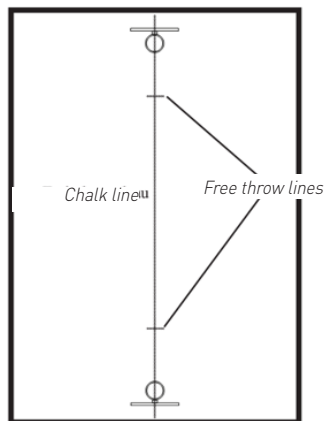
4. PUTTING DOWN THE SPORT COURT TILES

LONGITUDINAL AXIS

Chalk out the longitudinal axis.

The chalk line divides the court into two equal halves.

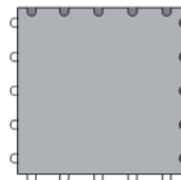
If installing a two-colour basketball court, mark the two free throw lines to determine where the tile colour change takes place.



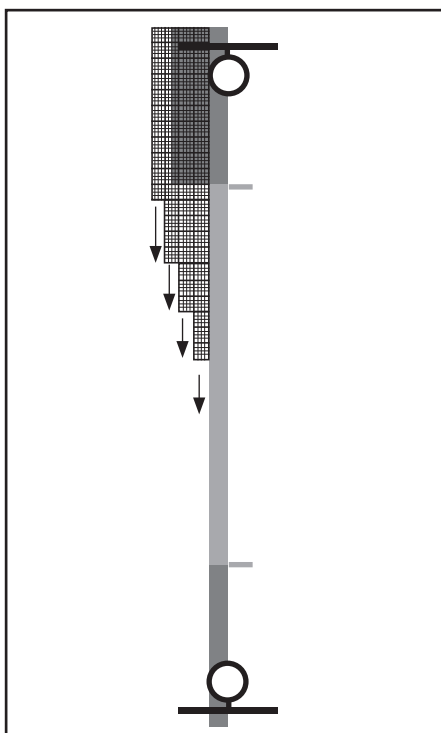
Use the plumb bob to define the longitudinal axis.

■ 4.1 LAYING THE TILES

Start laying the tiles from one end of the court and work along the longitudinal axis.



Point the female loops in the directions where the additional tiles will be added.



Start laying the row of tiles by placing the male pegs on the chalk line.

Lay the male pegs of the second sheet of floor covering on top of the loops of the first sheet laid down.

Carefully walk on the tiles to lock them into place.

Continue along the longitudinal axis until you reach the end of the court. Once you have installed the first row, place full boxes on top to prevent the floor from sliding around. Full boxes will keep the tiles in place until you have installed three quarters of the court.

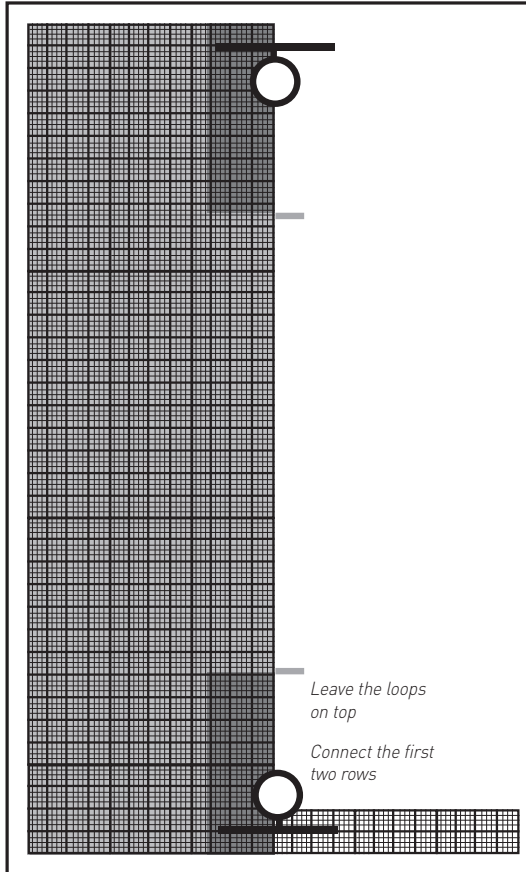
Start the next row of tiles in the same manner as before. Helpers can now begin assisting you, and you can use the stair-step method to speed up installation. Remember to keep working from the centre in a lengthwise direction.

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Second half

Once the first half of the floor is down, start laying the other half.

The installation method is different.

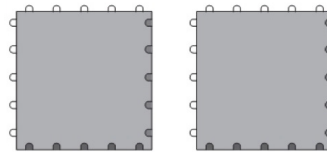


When installing the second half of the surface, you will always be working along the width.

- Assemble the PowerGame tiles together.
- Line them up with the sideline.
- Line up three to five rows by three to five rows.
- Attach these sheets to the half of the floor already installed.
- Continue in a similar manner down the whole length of the court.

TIPS:

1. Leave the loops of the three to five rows on top of the first half of the surface already installed.
2. Gently lift up the first half.
3. Slide the sheets beneath.
4. Ensure that they are properly lined up before snapping together.



Locking together

5. FINISHING

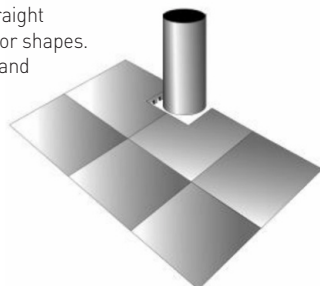
5.1 RAMP EDGING

Ramp edging is used to finish installations in doorways or areas where people will be moving on and off the floor, or where disabled access is necessary.



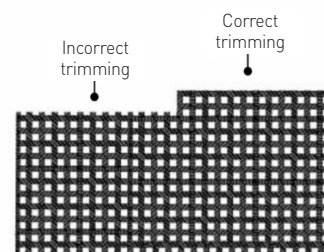
5.2 TRIMMING AROUND OBSTACLES

When trimming around shapes or obstacles, such as poles or slam systems, straight lines are easier to cut than circles or shapes. Remember to allow for expansion and contraction of the floor.



5.3 TRIMMING

The cut should be flush with the rib to eliminate sharp protrusions. If ramp edging is not used, you are advised to trim the female loops off the border tiles of completed installations to improve the appearance.



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6. INSTALLING ANCHORING SYSTEMS

In most cases, Sport Court flooring does not need to be anchored.

Exceptions to this rule are areas with a dramatic slope, where the Sport Court flooring may creep downhill over time. Anchor the high side of the area concerned.

6.1. ANCHORING TIPS

Anchoring is only required when the Sport Court modular surfacing is experiencing movement or buckling. Depending on the method used, anchors are placed 2.4 to 3 metres apart, beginning two to three tiles in from the edge of the court.

Several anchoring methods may be used to secure a court to the subfloor construction. Various methods may be chosen depending on the conditions and subfloor construction, and to address specific court needs. Example:

- **Method A** is recommended because of its versatility in most situations.
- **Method B** offers a means of anchoring only the short side of the covering.

- **Method C** offers a solution for areas with wide variations in temperature over the year.
- **Method D** helps retain more of the natural movement of Sport Court athletic flooring, while preventing floor creep and reducing buckling.
- **Method E** offers a solution for outdoor asphalt substrates.

NOTE: anchoring is a way to address certain specific problems of court and tile movement, but it may not resolve all court movement and/or buckling issues.








6.2. TOOLS

The tools needed may change, depending on the anchoring method used.

- Utility knife
- Drill / hammer drill
- Masonry drill bit conforming to the dimensions of the anchoring method selected
- Hammer
- Concrete power nailer
- Electric screwdrivers / bits

6.3.6.3. SUPPLIES

Review all the anchoring methods before choosing from the following supply list.

METHOD	ANCHORS (DEPENDING ON THE METHOD SELECTED)	
METHOD A	Concrete anchors and flat washers, 2.5 cm to 3.2 cm (Tapcon)	
METHOD B	Power-driver nails and flat washers, 5 cm to 10 cm	
METHOD C	Nail-driven anchors, 5 cm (Zamac Nailin®)	
METHOD D	T-nuts, 0.64 cm	
METHOD D	Machine screws, 0.64 cm	
METHOD D	Plumber's strap	
METHOD E	Framing stakes and washers, 20 cm (asphalt only)	

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■ 6.4. PREPARING THE TILES FOR ANCHORING

Tiles can be modified, so that the anchor is hidden underneath the playing surface. This will provide a more aesthetically pleasing court with a smoother, more consistent playing surface.

1. Select your method of anchoring below and prepare the tiles according to the spacing guideline for each method.
2. Fix every two or three tiles depending on the selected method.
3. Using a utility knife, trim out a notch in the side of the loop from the edge of the flooring.

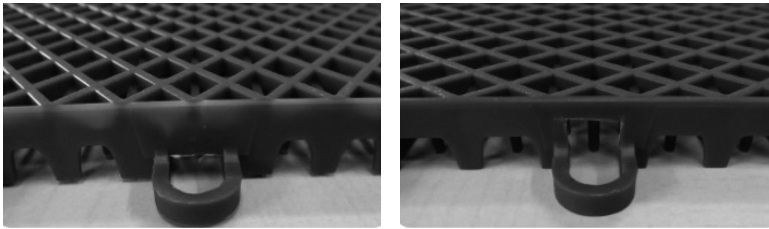


Figure 1. Notch out the loop on the tile.

4. Trim off the corresponding lock on the connecting tile.

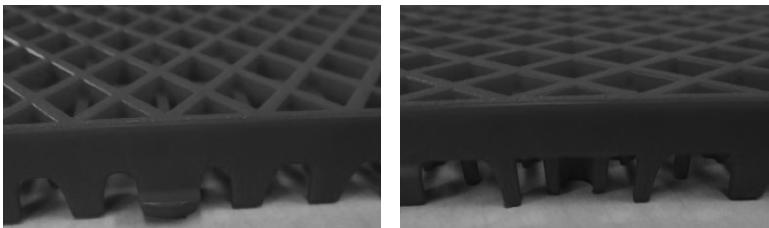


Figure 2. Trimmed lock.

5. If you are securing the tiles to a concrete floor, drill a hole in the concrete and insert the anchor. This will vary according to the anchoring method, as shown below.

6. Place the notched tile over the drilled hole and secure with the anchor (and washer, if applicable). The tile must be free to move around the anchor, so **do not over-tighten!** Over-tightening may cause the flooring to buckle.

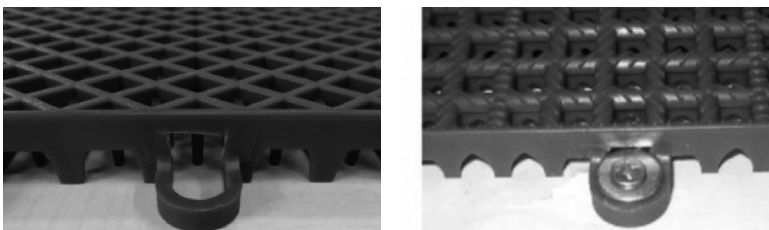


Figure 3. Anchor (and washer) not over-tightened, so that the floor can still move.

7. Once installed, the anchors are invisible.



Figure 4. Smooth playing surface.

6.5. ANCHORING METHODS

Even if rated for extreme temperatures, anchors should not be installed during extremely hot or cold weather conditions. For best results, anchoring should be completed at a moderate temperature range (between 18°C and 27°C) to provide a long-lasting solution.

6.5.1. Method A - Tapcon® concrete anchors

This is the preferred anchoring method, since it works well in most situations. It can be used for concrete applications and is ideal for outdoor courts.

1. Place the first anchor two to three tiles in from the edge of the court.
 - a. Locate the second or third loop in the tile to be anchored.
 - b. For each anchor, drill a hole in the concrete ¼ inch (0.64 cm) deeper than the length of the anchor.

NOTE: Tapcon anchors must be embedded between 2.5 cm and 4.5 cm in the concrete.

- c. Place the anchor and washer in the prepared tile loop as shown in Figure 3.
- d. Using the appropriate bit, screw the Tapcon anchor into the pre-drilled hole until the anchor is flush with the loop.

CAUTION: do not over-tighten! Over-tightening on the loop may cause the court to buckle. See Figure 3).

2. Space additional anchors 2.4 - 3 m apart in the desired direction.

6.5.2. Method B - Power-driver nail

Using masonry power-driver nails is only recommended for anchoring on the short side of the court to keep it from creeping or sliding. It can be used on concrete subfloor constructions.

1. Place the first anchor two to three tiles in from the edge of the court.
 - a. Locate the second or third loop in the tile to be anchored.
 - b. Place a washer on the nail and place the tip of it through the loop.
 - c. Using the concrete power nailer, drive the nail into the concrete until the washer is flush with the top of the loop.

CAUTION: the nail must be fully seated, but do not compromise the flexibility of the flooring by driving the nail too tight on the loop. This may cause the court to buckle. See Figure 3).

2. Space additional anchors 2.4 - 3 m apart in the desired direction

6.5.3. Method C - Zamac Nailin® by Rawl

For anchoring into concrete in areas subject to large temperature swings, use a nail-driven anchor, such as the Zamac Nailin® by Rawl, which is made of a special alloy to withstand extreme temperatures.

1. Place the first anchor two to three tiles in from the edge of the court.
 - a. For each anchor, drill a hole 7.6 cm deep in the concrete..
 - b. Insert the anchor through the loop and into the top of the drilled hole
 - c. Use a hammer to drive the anchor into the concrete.

2. Space additional anchors 2.4 - 3 m apart in the desired direction.

CAUTION: the nail must be fully seated, but do not compromise the flexibility of the flooring by driving the nail too tight on the loop. This may cause the court to buckle. See Figure 3).

6.5.4 Method D - Machine screw, T-nuts and plumber's strap

This method creates a fixed location for the flooring to stay fastened and allow some flexibility in court movement for expansion and contraction. It also helps reduce buckling.

1. Place the first anchor two to three tiles in from the edge of the court.
2. Unroll the plumber's strap to the required length.
3. Place anchors 2.4 - 3 m apart to secure the plumber's strap to the concrete.
4. Align the T-nuts with the second or third loop of each tile to be anchored.
5. Lay the tiles back-down with the loops over the T-nuts.
6. Using a screwdriver and bit, fasten the machine screw through the hole in the plumber's strap, the loop/lock, and into the T-nut.

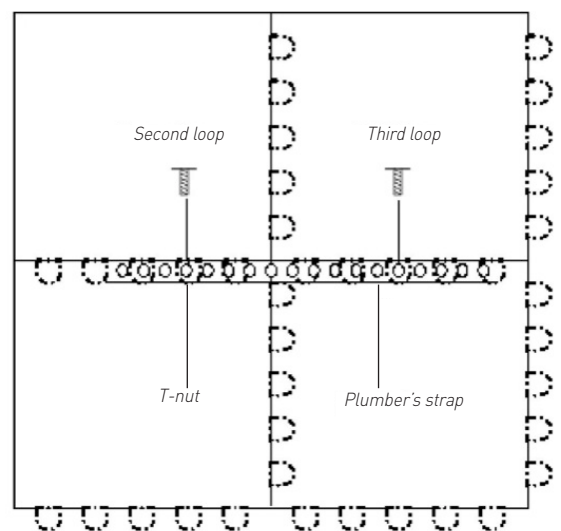


Figure 5. Machine screw through the plumber's strap, the loop/lock, and into the T-nut.

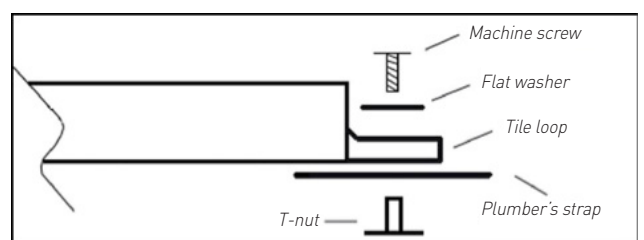


Figure 6. Plumber's strap and hardware assembly

6.5.5. Method E — Asphalt subsurface

This method is used almost exclusively for asphalt installations. It is especially suited to large installations, such as multiple tennis courts.

1. Place the first anchor two to three tiles in from the edge of the court.
2. Use a flat washer to give the stake more surface contact and prevent the tiles from tearing around the stake.
3. Hammer an 8-inch (20 cm) framing stake into the asphalt through the second or third loop of the tiles.

NOTE: in some cases, a pilot hole will need to be drilled before the framing stake can be hammered in.

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7. INSTALLING GAME LINE PAINT

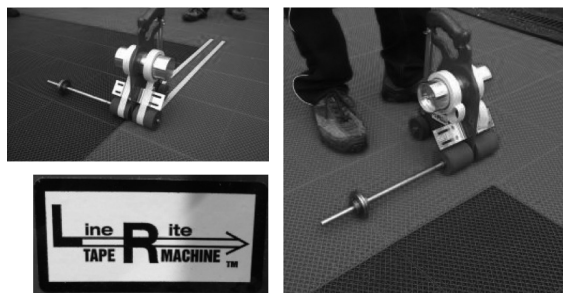
7.1. MATERIALS NEEDED

Safety items

- Neoprene rubber or latex gloves.
- NIOSH/MSHA-approved respirator with activated carbon filters.

Equipment and supplies

- Dual roll tape machine (Line-Rite)
- Paint roller (5 cm to 7.6 cm)
- Paint trays or liners
- Plastic or cardboard to place mixing containers on
 - Short nap roller covers (5 cm to 7.6 cm)
 - Rags, solvent
 - One-part polyurethane primer
 - C-THANE PRIMER PL by CIN
 - Rubbing alcohol (isopropyl) or acetone
- Approved paint
- C-THANE S610 SAT by CIN



NOTE: : product names may change without notice; however, paint products should be two-part high-solids, gloss or semi-gloss aliphatic urethanes.

7.27.2. SAFETY INSTRUCTIONS

1. Use neoprene rubber gloves to protect your hands from direct contact with the primer and paint.
2. The NIOSH/MSHA-approved respirator should cover the mouth and nose tightly. Primer and paint fumes can be dangerous. Change the activated carbon cartridges as soon as fumes are detected inside the mask.

7.3. PAINTING INSTRUCTIONS

1. Use the tape machine and the recommended tape to frame all lines.
 - a. Press down firmly while applying the tape.
 - b. After all the tape has been applied, remove the tape from the machine and go over all the lines again with the roller to ensure a good seal.
 - c. Check all tape for any gaps or loose seals. Failure to properly set the tape will allow the paint to bleed, causing jagged lines.
2. Clean the line areas with a cloth that has been dampened with rubbing alcohol or acetone.
 - a. Frequently fold the cloth to make sure that all dust is removed. Change the cloth as needed.
 - b. Inadequate cleaning can cause paint failure and peeling lines in the future.
3. Pre-stir the one-part primer.

Be careful not to stir so aggressively that the primer becomes frothy with small air bubbles. As the primer dries, the bubbles will pop, leaving small holes in the primer coating.

NOTE: always wear the NIOSH/MSHA-approved respirator and neoprene gloves while working with the primer.

Apply the primer to the line areas with a 5 cm - 7.60 cm roller or foam brush.

- a. Before applying the primer, squeeze out the air bubbles from the roller or brush against the bottom of the paint tray or the inside of the container.
- b. The primer must be applied in a thin even coat covering the entire line area. Apply the primer in long, smooth strokes to avoid creating bubbles. When priming PowerGame, care must be taken to ensure that the primer is applied to the second-tier grid without causing pooling on the subsurface.
- c. Allow the primer to dry before applying the paint.

CAUTION: : humidity and temperature affect curing time. Make sure that the primer is dry to the touch before proceeding (approximately 30 to 60 minutes).

Individual site conditions may cause this time to vary.

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Mix the two-part polyurethane paint according to the manufacturer's ratio recommendations.

- a. Before applying paint, squeeze out the air bubbles and remove excess paint from the roller or brush using a paint screen or a trimmed tile.
- b. Apply the paint in a thin even coat using the roller as specified between the tape lines.
- c. Avoid squeezing extra paint under the tape or down any seam or void in the tiles.
- d. After the first coat has cured for approximately 30 to 90 minutes, apply a second coat (as needed).

When coating the second level, care must be taken to ensure that excess paint does not flow to the ground and seal the tiles to the subsurface. A light third coat may be applied at your discretion.

- e. The finished painted line should look thick and even on the tile.

7.4. APPLICATION NOTES

1. Foam brushes and 5 cm rollers were used in line painting tests at Sport Court.
 - a. Foam brushes delivered the most consistent paint coverage and proved useful when painting small, smooth areas in a single coat.
 - b. Rollers were the preferred choice for faster and more efficient painting, and the application of multiple coats.
2. One 3.8-litre batch of mixed paint can cover approximately 120 to 150 linear metres of 5 cm lines on grid tiles. Individual results may vary due to the installer's experience, on-site temperature and humidity, etc.
3. Mixed paint has a pot life of about 1.5 hours. Unmixed paint and cure catalysts stored in tightly sealed containers have a shelf life of six months or more if uncontaminated. Store unmixed paint in a cool dry place out of direct sunlight.

4. Masking tape removal: allow the final coat of paint to cure at least 30 minutes before removing the tape. Removing the tape too early may make sections of the paint pull away, leaving a jagged edge or causing paint runs. Test-remove the tape in a small area before proceeding to the whole floor.

- a. Remove the tape by pulling it straight back over itself, not up at a right angle.

5. Remove the tape in the same sequence as you painted the floor.

6. Allow the paint to cure thoroughly.

- a. The paint should be dry to the touch after 18 to 36 hours.
- b. The paint should fully cure after approximately two to four days. Do not allow active use of the surface prior to that time.

4. Using too much paint (one heavy coat as opposed to multiple thin coats) can create pooling on the subsurface, creating problems with the flooring's performance.

- a. Pooled paint can glue the tiles to the subsurface, restricting lateral movement and tile interaction caused by thermal expansion and contraction, as well as active play. This can cause buckling and unzipping.
- b. When paint has pooled and locked tiles into place, tiles must be removed from the subsurface and excess paint must be scraped from the concrete.
- c. When tiles are glued together by excess paint, use a putty knife or similar flat instrument to remove the paint without damaging the tiles.

Temperature may affect the impact of accelerators.

8. REPAINTING LINES

8.1. PREPARING THE SURFACE

1. First clean the floor with a broom and dry dust mop.
2. After deciding whether to remove all painted lines or only certain sections, you must choose the method for removing the paint.
 - a. To remove peeling lines, do not repaint directly over the peeling sections. The jagged edges of the flakes could cause early defects in the paint.
 - b. For lines where the paint is in relatively good condition, but worn, you can apply a second coat of paint over the existing surface. To do so, you are advised to rub down the surface of the old paint.
3. Creating a rough surface will increase the paint's adherence through mechanical bonding.

8.2. REMOVING PAINT AND PRIMER

1. To remove the existing paint, first try to lift it up by applying 5 cm-wide tape over the existing painted line on a few tiles. In some cases, this method will remove the old paint.
2. If the tape method proves to be ineffective, use a chemical paint stripper. If you use a paint stripper, make sure that you wear rubber gloves to protect your hands.
3. Apply the stripper with a brush. Shake the stripper well prior to use. You can also use a putty knife or wire brush.

8.3. REPAINTING

After preparing the surface and removing the old paint, clean the tiles with MEK solvent to remove any residue.

Apply the primer and then paint the lines.

Refer to the game line painting instructions above.

9. DISASSEMBLY

Insert the rigid putty knife between the male and female lock. Tilt the knife away from the male peg, so that the male lip unlocks and lifts out from the rest.

