



INSTALLATION RECOMMENDATIONS





Prior to Installation:

The Kid Kushion mats and transition pieces intended for this installation have been shipped to you on pallets with the mats shrink wrapped and strapped. Once the packing is removed, please inspect the exposed edges for any damage. Next confirm shipment to packing list and notify supplier of any damage or shipment discrepancies.

Installation surface should be clean and dry prior to installation. Mats must be clean and dry prior to installation. Moisture acts as a catalyst to the **KID KUSHION** Adhesive, so dry mats and surface are essential.

Temperature variations will also affect the tiles. Tiles will contract in cold weather and expand in warm weather. This is a natural effect of the rubber and is to be expected. This will not lessen the impact resilience of the mat in meeting ASTM Standard F1292 as they pass the resilience tests at both low and high temperatures.

Review engineering plans for layout and ensure that the Consumer Product Safety Commission recommendations for a fall zone are met (Handbook for Public Playground Safety) and contact owner/agency with any discrepancies.



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SECTION 1 - Tools and Equipment Necessary for Installation

- ✓ Rubber Gloves
- ✓ Safety Gloves
- ✓ Razor Knife with Extra Blades
- ✓ Chalk Line
- ✓ Carpenters Square
- ✓ Paint Roller Frames, Roller Extensions and Fluffy Rollers
- ✓ Paint Roller Trays
- ✓ Water Spray Bottles (Mist)
- ✓ Rubber Hammer
- ✓ Measuring Tape
- ✓ ½” Electric Drill
- ✓ Hole saws (to cut diameter of equipment supports)
- ✓ Aluminum Clips (if required)

SECTION 2 – Adhesive

KID KUSHION Adhesive is available in 1 gallon and 5-gallon containers. The adhesive is used to secure the outside perimeter (mats, corners, and/or ramps) of each installation. It can also be used to secure the interior mats, if required. Approximate coverage is 55 to 60 square feet per gallon of adhesive. The adhesive is to be rolled into place (thick film) onto the asphalt or concrete base surface. A misting of water can be added (once adhesive is rolled into place) to act as a catalyst if a faster cure time is required. **STORE** the adhesive in a dry place. Do not subject Adhesive to freezing temperatures under any conditions.

SECTION 3 - Transition Pieces

For the 2 ½” thick **KID KUSHION**, transition pieces (Ramps) are 48” long x 8” wide, reducing from 2 ½” down to 3/8”. 90 degree inside and outside corners are also available.

For the 3 ½” thick **KID KUSHION**, Ramps are 48” long x 12” wide, reducing from 3 ½” down to 3/8”. Corner Ramp pieces are 48” long x 12” wide with a 45 degree angle cut left to right or right to left. One “Outside Left corner piece” and one “Outside Right corner piece” are required for each 90 degree corner of a 3 ½” **KID KUSHION** Ramp section.



SECTION 4 – Clips

Each 2 ½” and 3 ½” mat is molded with a clip index position in the bottom perimeter. There are two indexing positions on each edge or eight clip positions in each mat. The clips are designed for permanent installation and may damage the area of the mat surrounding the clip attachment point if removed after installation. The clip installation method unitizes all of the interior mats as a single unit. Perimeter mats (or transition pieces) are recommended to be glued in place; as well as mats that have cut-outs to allow for the playground equipment supports. The quantity of clips required for a typical installation is 3 clips per tile to be clipped. Contact your **KID KUSHION** distributor for exact number required for your specific project.

SECTION 5 - Sub Surface Requirements for KID KUSHION

KID KUSHION tiles may be applied to concrete, asphalt, wood, and compacted crushed gravel/geotextile overlay sub surfaces.

All sub surfaces should be properly excavated and installed to insure:

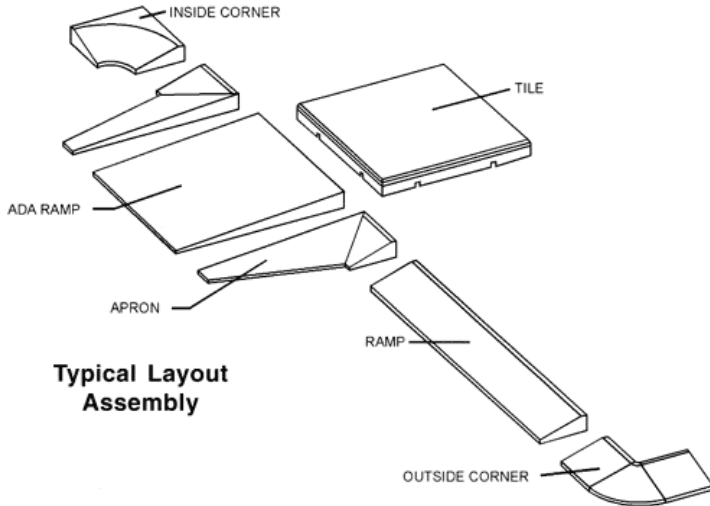
1. Sub surface drainage.
2. Non-Separation of concrete layers.
3. Prevention of Heaving due to freeze/thaw or unstable ground conditions.

The stabilization of the sub surface is the sole responsibility of the installer and/or owner.

Sub surface installation should assure good drainage of the area by either a well-defined gradient of the surface or well-placed drainage pipe in lower spots of the installation.

The **KID KUSHION** tiles shall be adhered to the concrete, asphalt, geotextile or wood surface using **KID KUSHION** adhesive and/or clipping system following the installation instructions for adhered installations. Your distributor should be contacted regarding the best application conditions for your installation.

Example of Proper Alignment of Mat Pieces - Before “Flush Application”



Concrete Surfaces

Concrete surfaces must be thoroughly cured and free from hydrostatic pressure before installing **KID KUSHION** tiles (minimum 28 days after pour).

All surfaces should be flat, level, clean, and dry before applying adhesive for installation. The concrete finish should be reasonably smooth to reduce the amount of adhesive required.

Concrete surface should be free from paint, dirt, oil, or other surface contamination before applying **KID KUSHION** adhesive.

Any separation of concrete layers, heaving, etc. may result in separation of the installed safety surfacing and is the sole responsibility of the installer and/or owner.

Assure good drainage of the area by either a well defined gradient of the surface or well placed drainage pipe in lower spots of the area.



Asphalt Sub Surface

Asphalt sub surface must be hard, level, and free of grease, oil, and other contaminants. Avoid installation on new asphalt until surface oil has had time to dissipate (minimum 30 days after compacting) and drainage can be evaluated.

Any separation of asphalt or blacktop layers, heaving etc. may result in separation of the installed safety surfacing and is the sole responsibility of the installer and/or owner.

Insure good drainage of the area by either a well-defined gradient of the surface or well-placed drainage pipe in lower spots of the area.

Wood Sub Surfaces

The wooden sub surface should be properly secured to ground to avoid any ground shifting (as by pile or other means) and subsequent sub floor movement. The sub floor should be protected and sealed from moisture prior to installation of **KID KUSHION** tiles. The sealer should be completely dry before installation. The sealer should be compatible with **KID KUSHION** adhesive before tiles are applied (avoid use of surface treatments that leave oil residues on surface).

The wood surface should be free from any protruding nails and screws. All damaged wood should be replaced on old surfaces.

The surface should be level, clean and dry before application.

SECTION 6 – Installation

Installation Checklist:

1. Insure that the base surface is clean, level, and dry. Tiles must be dry.
2. Check ambient air temperature. Minimum temperature for installation is 50 degrees and rising.
3. Please note: All play equipment must be permanently installed prior to mat surfacing installation.



Surfacing Layout

Lay tiles (transition pieces if required) from the further corner along base edge in two directions. (90 Degrees) Lay out the rest of the installation, leaving out any tiles that must be “cut to fit”. Keep edges straight and aligned horizontally and vertically.

Installation of Surfacing Product

Once installation layout has been completed; adhere all perimeter pieces. If drainage is a concern, allow a ¼” gap between each Ramp piece for drainage. Install balance of surfacing using generally accepted installation procedures in compliance with engineering detail drawings for installation.

Interior surfacing can be adhered to the substrate; unitized as one continuous piece using installation clips affixed at index points in each mat; or left unattached to the substrate and left to float.

Adhesive

KID KUSHION adhesive is a one part “glue” and is ready to use straight out of the container. Do not open container prior to time for use in installation. A misting of water may be applied to the adhesive after it is spread to act as a catalyst to decrease cure time.

Adhesive is spread in a thick film coat on the substrate and each gallon will adhere approximately 55 to 60 square feet of surfacing.

SECTION 7 - Cure Time (Typical Installation)

The cure time of **KID KUSHION** Adhesive is dependent on several factors. The moisture levels and temperature levels of the substrate and the ambient air temperature and relative humidity will effect the time required for the adhesive to cure. Generally, the higher the temperature; the shorter the cure time, and the higher the moisture levels, the shorter the cure time.



The following information is provided based on trial installations performed with the **KID KUSHION** Adhesive to determine approximate cure times under various temperature and humidity conditions.

<u>Temperature</u>	<u>Relative Humidity</u>	<u>Approximate Cure Time</u>
115° F	> 50%	4 hours +
70° F	> 50%	18 hours
45° F	> 50%	30 hours

The approximated cure time can be decreased with the addition of a catalyst (water).

Once the adhesive is in place and has been allowed to penetrate existing hard surface, (and prior to mat placement) a light fine spray of water (catalyst) on the adhesive will shorten the cure time. The adhesive will react to the spray by forming small bubbles (frothing appearance). Then, place the **KID KUSHION** mats in the normal fashion, as per the installation instructions.

SECTION 8 - Disclaimer

These installation guidelines represent a typical installation and generally accepted installation practices should be followed. Use of trained installation professionals is recommended for best results.

Environmental Molding Concepts does not warrant any installation work and specifically disclaims liability for any direct or indirect personal injury, property damage or other costs or losses resulting from incorrect or inadequate installations.