

I. Delivery & Storage of Materials

- *PlayFall*[®] Safety Surfacing System and accessories must be stored in a clean and dry at a maximum of 25°C (80°F).
- **Do not take tiles directly from pallet and install immediately.** Rubber tiles will expand and contract with changes in temperature, humidity, and from compression while loaded on delivery pallets. To allow tiles to equalize in pressure and temperature prior to final placement, remove all tiles from pallets and spread over prepared installation site.

II. Installation Conditions

- Ambient air temperatures during installations should be between 5°C (40°F) and 25°C (80°F), and must not be greater than 30°C (90°F). If tiles are installed in temperatures higher than these, gapping between tiles can occur.
- Weather conditions during installation must be dry.
- Temperatures during installation may be slightly below freezing if required.
- All adhesives must be stored and kept at room temperature until used on site.

III. Installation Materials

- *PlayFall*[®] tiles (& edge ramps if required)
- *PlayPad* underlayment, for all fall heights 6' and higher
- **Configurations:**

4'	1.75" <i>PlayFall</i> Tile
6'	1.75" <i>PlayFall</i> Tile + 1.0" <i>PlayPad</i>
8'	1.75" <i>PlayFall</i> Tile + 2.0" <i>PlayPad</i>
10'	1.75" <i>PlayFall</i> Tile + 1.0" <i>PlayPad</i> + 2.0" <i>PlayPad</i>
- **Tools:**
 - Band saw (if available)
 - Sharp utility knife and extra blades
 - Sharp breadknife for deep cuts through tiles after initial utility knife cut
 - Carpenter's square - for straight edge cuts
 - Chalk line - for site layout
 - Jigsaw with "down cut" blade to cut for posts and protrusions
 - Rubber mallet
 - Measuring tape
 - Protractor to measure angles for cutting
 - Markers - paint and/or felt to indicate cuts
 - Rubber gloves
 - Safety glasses
 - Caulking gun for edge-to-edge adhesive
 - ½" notched trowel for perimeter base adhesive
 - 2" wide masking or duct tape for securing *PlayPad* underlayment (for 8' + fall heights)
- **Adhesive:**
 - ***PlayFall*[®] Edge Adhesive, 858 ml Tube**
 - ***PlayFall*[®] Perimeter Base Adhesive (1 part)**
- **Interlocking Pins:** ≈ 5/8" diameter round x 3" long PVC dowels to insert into pre-set holes at tile edges for alignment and to secure tiles firmly in place.
- **Landscape Fabric:** only required for compacted gravel installations.

IV. Site Preparation

All installation sites must be surrounded by a solid and immovable perimeter retainer such as concrete, wood, plastic curbing, or with *PlayFall*[®] Edge Ramps.

PlayFall[®] tiles may be installed over both hard surface sub-base such as concrete or asphalt, or over well compacted granular fill [¾" crush with fines] such as Road Base (4" lift) compacted with a plate compactor.

PlayFall® tiles are water permeable and liquids will drain through them to the sub-base. Even so, adequate drainage must be provided to ensure that ground and rain water is discharged away from the site, either by mechanical means or positive slope of sub-base (min 2%).

a) Hard Surface Sub-Base:

- All surfaces must be clean, dry and free of all loose materials, oils, or previous floor finishes that would prevent a secure bond to adhesive.
- All bumps, protrusions, cracks or uneven surfaces must be leveled before installation of tiles.
- New concrete floors must be thoroughly cured, and not subject to hydrostatic water pressure, prior to tile installation (min. 28 days cure time).
- New asphalt base must be exposed to weather for minimum 30 days prior to tile installation to allow oils to dissipate. (Adhesives will not bond to oily or dirty base materials.)

b) Compacted Granular Sub-Base:

- Grass, ground cover, soils and organic fills must be removed to a minimum 4" below bottom of tiles at finished elevation.
- Place, level, and compact clean and free draining granular material, to a minimum 95% proctor standard. **Do not** use only sand as the play activity will push legs (stanchions) of the tiles into sub-base surface.
- Place Landscape Fabric over entire site, overlapping minimum 6" and tape joints to secure.

V. Site Layout

- Ensure entire site has been prepared, sub-base completed, level and smooth.
- Materials and tools for installation are available, clean and dry.
- All play structure installation should be completed prior to placing of the *PlayFall®* Safety Surfacing System.
- Use of Landscape fabric is required only over granular surfaces.
- For fall heights of 6' and higher, place *PlayPad* underlayment [smooth side up] over entire area (prior to placement of *PlayFall®* tiles), securing pads together with 2" wide masking/duct tape at 16" c/c across all seams.
- Remove *PlayFall®* tiles from pallets and distribute loosely over the entire installation site to allow tiles to conform and acclimatize to conditions. If installation is to take more than one day, spread out only as many tiles as are required for that day. Repeat procedure on the following work day(s).
- When *PlayPad* is installed (for 6' and higher fall heights) loose distribution of *PlayFall®* tiles as described above, is done after installation of *PlayPad* is completed.

VI. Adhesive Description

Note: *PlayFall®* tiles are designed to be installed in a "monolithic" type of system where the tiles are adhered to one another, NOT glued to the sub-base using a full-spread application. Product warranties may be void if tiles are installed using a full-spread adhesive application.

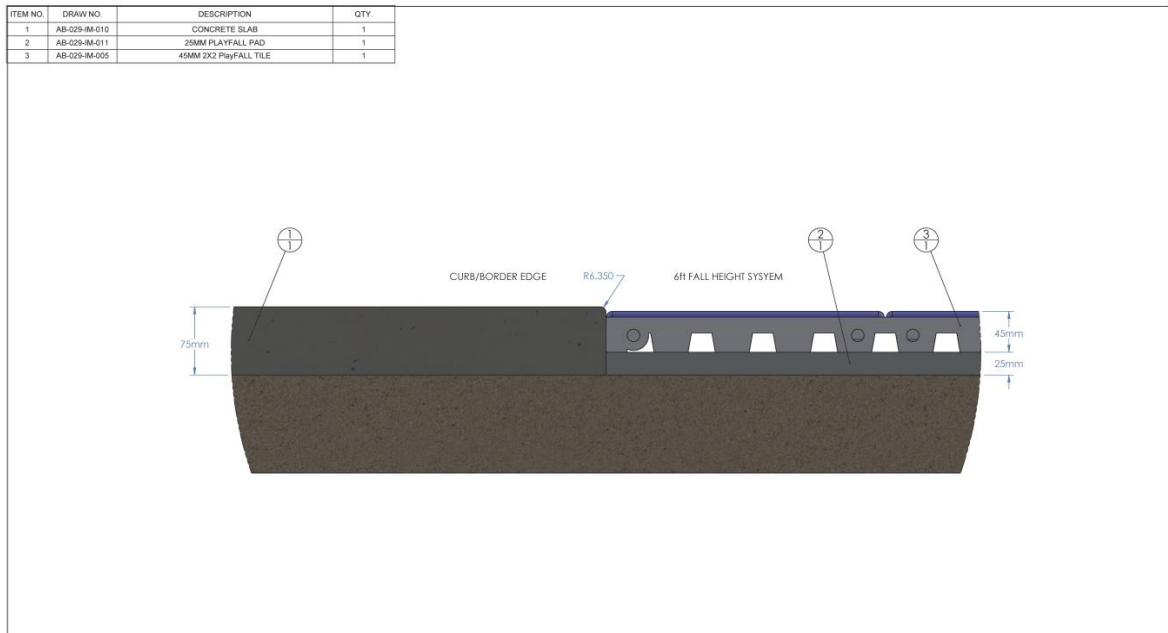
1) Edge-to-Edge Adhesive:

- Adhesive in cartridges which is used to glue the tiles to one another.
- Use a caulking gun to apply *PlayFall®* edge adhesive in a continuous ¼" bead along edge faces of all tiles such that all tiles are securely adhered (and pinned) together.
- Approximate coverage is 18 tiles per cartridge.

2) Perimeter Base Adhesive:

- Adhesive in 1-gallon pail that is applied to the sub-base material around the perimeter of the site, under the outer edge tiles as well as Edge Ramps if they are being used.
- Ensure sub-base is clean, dry and free of all loose materials and dust.
- Use a notched trowel to spread perimeter base adhesive (approximate coverage 85 lin.ft./gallon).
- Apply adhesive to hard surface sub-base, or to landscape fabric in the case of a compact granular sub-base, or to top of *PlayPad* for fall heights 6' and higher.
- Spread only as much adhesive as is possible to be covered with safety tiles before adhesive begins to set up (approximately 1 hour).
- Ensure that adhesive is applied evenly under tiles to avoid elevation differences.

- PlayPad Schematic



VII. Installing PlayFall® Tiles, Edges & PlayPads

Note: Due to the nature of the composition of rubber surfacing tiles, allowances must be made for the normal occurrence of expansion and contraction dimension change.

- When *PlayFall*® edge ramps are to be used, they must be installed first - full spread adhesive must be applied underneath them a minimum 24 hours prior to installing tiles so adhesives can cure and edge ramps become immovable.
- Perimeter Base Adhesive must be applied in a strip approximately 12" wide underneath the outer edge tiles and/or edge ramps.
- When placing surrounding edge ramps at outside corners, we suggest over-cutting required 45° angles (46°-46.5°) to obtain the tightest fit right to the tip of the corner.

Layout:

- Begin layout by selecting the longest straight edge on the outer perimeter of the site.
- From this outside edge, measure 23.5" into the site and snap a chalk line indicating the installation start line. The first outer edge row of tiles will be omitted and used as a 'control row' until the rest of the site is complete.

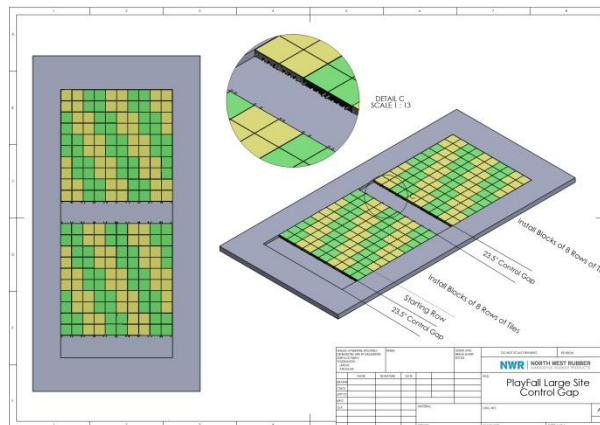
Installation:

- Place the tiles such that the Interlocking pin holes are all oriented in the same direction axis, and such that pins will connect to subsequent rows of tiles.
- Begin installation of first row of tiles along the chalk line, applying the edge-to-edge adhesive between all tiles.
- At both ends of each row, apply perimeter base adhesive (approximately 12" wide) under the first and last tile in the row.
- Complete each row of tiles to the full width of the site.
- With each new row added, ensure all connecting pins are inserted, apply adhesive to all exposed tile edges.
- Begin every 2nd row of tiles with a half tile to ensure offset '*ashlar pattern*' tile layout. Align pin holes in each new row with installed interlocking pins.

- Maintain a consistent tight-fitting installation procedure throughout, and when cutting outer edges and last row of tiles to fit into the site, cut tiles minimum ½" larger than opening and "shoe-horn" the tiles in place keeping entire site very tight to prevent gaps.
- Continue installing tiles across the balance of the site towards outer edges. Once all tiles are installed, then return to infill the omitted first outer row of tiles.
- **Install all full tiles first.** Set aside any infill tiles, custom cut tiles, and tiles surrounding posts.
- Once all full tiles are installed surrounding areas with posts and protrusions, then measure, cut to suit, and install infill tiles.
- As a control measure to monitor accuracy during the install, periodically use a string line along the last installed row to ensure that tiles are being installed straight and true.

Note: For large sites that cannot be completed in one working day, additional "control rows" must be used. Similar to the omission of the first row of tiles at the starting edge, every 9th row of tiles should be omitted. Again measure a 23.5" gap from the last row of installed tiles, snap a chalk line, and begin to install tiles from this new chalk line toward the outer edges of the site (these omitted control rows will also need to be infilled the following day).

PlayFall® Large Site Control Gap



Note: For additional tile security, interlocking pins can also be drilled and inserted to outside perimeter material and connected to first row of tiles

Fall Heights of 6' or Higher

- Install *PlayPad* underlayment [smooth side up] under all *PlayFall®* tiles for the entire site (as described in next paragraph) and secured with tape across all seams prior to installing *PlayFall®* tiles.
- Seams between *PlayFall®* tiles should not be aligned directly over seams in *PlayPads*, stagger the seams of the tiles away from the seams of the pads below.
- For 10' fall heights ensure also that the seams between the top layer of *PlayPads* (1" thick) are not aligned directly over seams of the lower level of *PlayPlads* (2" thick).

VIII. Cutting PlayFall® Tiles

- If available, a bandsaw is the best tool to cut *PlayFall®* and *PlayPad*, ensuring true, clean cut lines.
- Use utility knives and straight edge for seams and straight cuts for first pass. Then use bread knife to finish the cut through the tile.
- Use jigsaw mounted with "down cut" blades to cut all holes for posts and other protrusions.
- To cut tiles to fit around posts, other protrusions, or other openings, first measure from the post face or edge of opening to adjoining tiles, transfer these dimensions to infill tile and cut to size.

- Measurement tolerances should be kept tight to ensure a clean fit.
- Small gaps (up to 1/4") can be filled using a polyurethane caulking material.

IX. Cleaning and Maintenance

- All excess adhesive should be cleaned off tiles immediately using a damp cloth.
- If adhesive has dried onto tile surface, scrape off with utility knife and rub with cloth containing mineral spirits.
- A regular routine maintenance program will enhance the appearance and performance of *PlayFall® Safety Surfacing System*.
- Tile surfaces can be swept, vacuumed, machine scrubbed, or hosed off to ensure a clean and long-lasting safety surface.
- Please note that *PlayFall®* tiles will allow liquids to pass through them, so site drainage is mandatory for tile performance. In indoor installations, odor and bacteria may develop if liquids seep into tiles. All spills and excess liquids should be removed or extracted immediately to ensure a clean and sanitary site.

X. Disclaimer

- This manual has been prepared to assist purchasers of *PlayFall® Safety Surfacing Systems* in the recommended installation procedure. It is a guideline which may be used to produce an effective finished installation and should be reviewed in the context of the installation site(s).
- *North West Rubber Ltd.*, (NWR) does not warrant any installation work not directly performed by *North West Rubber Ltd.*, and specifically disclaims liability for any direct or indirect personal injury, property damage or other costs or losses resulting from installations or applications by third parties. Please see the *PlayFall® Safety Surfacing System 10 Year Limited Warranty* for the particulars of warranty coverage.
- *PlayFall® Safety Surfacing System* is not to be used for any purpose other than playground covering. *PlayFall® Safety Surfacing System* must only be used in accordance with the manufacturer's published specifications.