

# UNILOCK<sup>®</sup> AUTHORIZED CONTRACTOR RESIDENTIAL INSTALLATION STANDARDS

## Base

Based on site conditions, sub-soil type, and the required load-bearing capacity of the project, the contractor must determine the appropriate amount and type of base material to be used so that there will be no degradation of the pavement structure over time and that no surface deformation and rutting will occur. Base depths may range from 4" to 18" according to site conditions and planned use. Compaction must be in lifts no greater than 3" at a time, unless larger equipment such as a two-ton vibratory compactor is used. Compaction should target a minimum of 95% SPD (Standard Proctor Density). Contractors who own a SPD testing device can measure this as the compaction is being done. Although not as reliable as a SPD testing device, 95% compaction can be assessed intuitively by sensing the vibration change in the compaction equipment.

## Permeable Base

For some site conditions the contractor may choose to install standard pavers on a permeable base. Although SPD cannot be measured in open graded materials, the base materials such as those used in permeable applications must still be compacted, using an appropriate compactor to remove any unexpected voids.

## Bedding Course

Bedding courses should be comprised of free draining materials only. Coarse sharp sand is the optimum bedding course for standard base applications. "Limestone screenings", "dust and chip", or "stone dust" containing a high percentage of fines may not be used. Refinery slag may not be used at any time. Bedding courses for permeable projects should be comprised of an open graded 1/4" - 1/2" stone chip. The maximum thickness of a bedding course may not exceed 1" unless required by other engineered specifications.

## Jointing Sand

Jointing materials must contain angular aggregate to facilitate lock-up between adjacent pavers. Joints may be stabilized by one of several methods; polymeric sand, resin sands, sand and sealer combination. The choice will depend on product type and the final look desired by the customer. Measures should be taken to minimize washout of jointing sand where appropriate.

## Steps and Raised Patios

A microporous filter fabric should be used in the construction of steps and raised patios to prevent wash out between paver, coping and block joints. Infill on raised entry steps and raised patios must be clear, open graded material. Consecutive multiple steps should be constructed using a concrete base pad to prevent settlement.

## Edge Restraints

Edge restraints must be used on all paver projects. They may include concrete, plastic or metal edging.



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## **Grading and Drainage**

All surfaces must drain away from building and structures. Surfaces must slope 2% to facilitate proper drainage. In situations where this is not possible, down spouts and other drainage pipes must be handled appropriately to reduce or eliminate water directed at the base material or the surface of the pavement. In areas where slow draining clay soils are present, additional precautions must be made by increasing base depth, and/or the addition of tertiary drains.

## **Concrete Overlay Applications**

Concrete overlay applications are permissible if the concrete surface is properly sloped and drained and if a non-permeable jointing compound is used to prevent bedding course saturation. Measures must also be taken to prevent frost movement and settling of the concrete slab. For overlays on concrete porches which have a root cellar or basement below, provisions must be made to ensure that the concrete is properly waterproofed prior to covering with bedding sand and pavers. In direct overlays (where no bedding course is used), final paver compaction is impossible, therefore it must be recognized that minor height variances across paving units may be visible.

## **Final Paver Surface Compaction**

All vibratory plate compactors must be fitted with a “protective anti-scratch pad” to avoid scuffing and scratching of the paver surface.

## **Retaining Walls**

Walls over 39" (1 meter) should be designed site-specific by a professional engineer.

All walls must be constructed with a clear stone backfill drainage layer separated from the native soil using a microporous filter fabric to prevent the migration of fines which ultimately reduces the effectiveness of the backfill. Walls must never be installed over infill subsoil or soil that has been disturbed. Walls may be constructed on a compacted granular base or a concrete pad.

