MARMIRO STONES
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# NATURAL STONE PAVER (NSP) INSTALLATION GUIDELINE

## MORTARED

**REVIEW**

≥ Confirm sub-grade preparation, compacted density and elevations match the specifications.
≥ Geotextiles, if applicable, are according to specifications.
≥ The aggregate base material, thickness, compaction, surface tolerances, and elevations are according to specifications.
≥ Location, type, installation and elevations of edge restraints around the perimeter area to be paved.

**INSTALLATION**

≥ If a **masonry surface** is used, it should be clean and free of loose dirt, dust, or other elements. If a **wood structure** is used, make sure the supporting framework is rigid enough to prevent flexing of the area. For interior applications, a wood substructure is recommended. Install a vapor barrier of tar paper or other membrane over the wood subflooring.
≥ For both masonry and wood substructures, prepare a mortar mixture of 3 parts sand to 1 part Portland II Cement, measure ingredients to keep the mix consistent from one batch to another and mix these ingredients dry.
≥ Add water and any other additives to the dry mix to create a damp mixture. Prepare a bond coat consisting of water and straight cement powder to the consistency of cake batter.
≥ Apply the mortar bed bond coat to the slab. Lay-out a layer of setting mortar, no less than ¾" for a masonry structure and 1 ¼" thick for a wood structure.
≥ Mortar should cover 95% of the surface area. Dust the surface of the setting bed with a fine layer of dry Portland Cement.
≥ Coat the back of the NSP with a bond coat consistent of water and straight Portland Cement and add water. This mix will be used to create suction between the NSP and the masonry structure and will hold the stone in place until the mortar cures. Pack the mortar under the edges of the NSP to leave no voids.
≥ Keep the joints between the NSP free of loose mortar. It is important to have a clean joint cavity to fill with mortar.

**MORTAR JOINTS**

≥ Prepare the same mixture used for the setting bed note, the joint mix should be wetter than the setting bed mixture. A "grout bag" is needed in this phase.
≥ Take a damp sponge and work back and forth across the joint in a 45° direction, compressing the joint and cutting off excess joint mix. Remove as much of the joint mix smear as possible from the face of the NSP before it dries.
≥ If the unused portion of the mixture starts to set, do not add more water, as this will result in an inconsistent joint strength and possible color differences.
≥ Allow the stonework to cure for a minimum of 5 days. In very hot weather you may dampen the joints with a spray bottle to help slow the curing process, making the joints stronger.

**SETTING STRING LINES**

≥ Find the longest straight line, set a string line.
≥ 90 degree off of that long line at desirable length.
(Note: this applies for new concrete, existing concrete with expansion joint you would need to apply crack membrane to the existing concrete.)