

EP HENRY®



BELMONT™ PAVING SLABS INSTALLATION GUIDE

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I LAYOUT AND EXCAVATION

Mark out the perimeter of the patio or walkway with spray paint, adding 6" on each side for the overdig. The overdig is necessary to make sure that the outside edges of the Belmont units remain stable during and after installation. Using a transit, establish the finished elevation of the patio or walkway. Remember that all flatwork must have a slope, or pitch, away from any fixed object (house foundation, existing steps, pool, etc.). The slope should be ¼" over one foot (2%). The minimum slope needed to get water to run off is 1.5" over 10'. Excavate to a depth of 9", removing all grass and vegetation, top soil, debris, etc. If the topsoil or unsuitable material is deeper than 9", it must be removed and replaced with modified stone. Compact and stabilize the sub-grade with three passes of a plate compactor in alternating directions.

If water "pumping" is exhibited in the subgrade, excavate the affected area an additional 6" in depth and replace the poor subgrade soils with compacted modified stone .

Geotextile should be used on all Belmont Paving Slab installations and is essential when existing subgrade soils are clay or poor draining. The fabric is placed between the subgrade and installed base material, acting as a separator between the two layers. This will prevent the layers from mixing during compaction and provide additional stability to the installation.

1. Install only a certified geotextile fabric (Mirafi RS 280i, 500x, or 160n). Fabrics intended for landscape use are not suitable for Belmont Paving Slab installations.
2. Be sure that the fabric extends up the sides of excavation. If working against a house, extend the fabric up the side of the foundation to the elevation at the top of the setting bed.
3. Where more than one piece of fabric is used, make sure pieces overlap by at least 12".
4. Keep fabric flat and taut during backfill. Carefully place the stone base material on the geotextile fabric to avoid damage and movement. Sod staples can be used as an inexpensive fabric anchoring system.

II BASE AND MATERIAL INSTALLATION

Install a compacted base of modified stone (2A modified stone, crusher run, 2RC, or similar material). Proper base material installation gives the project its support and strength. The minimum stone base depth should be no less than 6".

NOTE: Never install frozen or saturated modified stone or install over a frozen or saturated subgrade.

The first layer or "lift" should be no more than 4" in depth if using a 5,000 lb. or greater centrifugal force plate compactor; or, 3" if a smaller one is used. See the compactor manufacturer's guidelines for more information.

Rake flat and then compact with a plate tamper (3 passes at various angles). Keep the surface of the modified stone flat to ensure proper compaction. Make sure that the modified stone is uniformly dampened but not soaking wet prior to starting. If water appears on the surface of the modified stone or around the edges of the vibratory plate compactor during the compaction process, allow the material to dry before trying to compact it. Make sure that the compaction takes place over the entire area, paying particular attention to edges, corners and along existing structures.

BELMONT PAVING SLABS ARE NOT INTENDED FOR VEHICULAR APPLICATIONS

II BASE AND MATERIAL INSTALLATION (CONT.)

Install the last 2" lift of base material using a rake and use a transit to establish the finished elevation of the base material 2 ½" below the finished height of the paving slabs. Compact this lift the same as the previous one, ensuring proper moisture content in the modified stone. The finished base should be smooth with proper pitch following the established finished height. Check the finish of the base installation with a 10' straight edge. Any deviation of more than 3/8" should be corrected using the setting bed material and then compacted. If coarse stones are showing on top of the base, choke these areas with the setting bed material and compact to avoid migration of the setting bed after the patio has been installed.

Remember, the smoother and more even the base, the easier and quicker the screeding will be. It is vital that this stage of the installation be done properly.

III SETTING BED MATERIALS AND INSTALLATION

Try not to disturb the modified base when installing the setting bed. Planks or pieces of plywood can be laid for wheelbarrows or equipment access in the work area. The setting bed material for Belmont Paving Slabs should be washed coarse concrete sand.

Use screed rails and a screed board to install the setting bed over the stone base. The diameter of rails will determine the thickness of the bed. Paving Slabs should be installed on a 1" thick setting bed. A mason's trowel can be used to adjust bedding material along fixed edges. As the screed rails are removed from the work area, their depressions must be filled in with bedding material and smoothed out with a hand trowel or by using a flat edge, such as a broom or shovel, and lightly dragging it across the materials added to the voids. After the sand has been screeded, do not walk on it as it will cause uneven compaction as you set the paving slabs. Only install as much setting bed sand as needed to accommodate the quantity of material that you'll install in a day. Do not leave the base uncovered for extended periods or if rain is forecast.

IV PAVING SLAB INSTALLATION

If using more than one pallet of Belmont Paving Slabs for a job, draw from multiple pallets to ensure the consistency of color blends.

Begin installing paving slabs from a precise 90° corner. If installing a walkway or patio between two fixed points, work towards the end where the finish cuts will be least noticeable. Make sure to run string lines across the installation in two directions at a 90° angle to keep the pattern straight. If the pattern starts to wander from these lines, fix it immediately.

Design and installation tip: Try to make the dimensions of your job work out to use full Belmont units. Generally full foot measurements (10' x 15' for example) are the easiest to achieve with the random sized units.

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IV PAVING SLAB INSTALLATION (CONT.)

Lay the first Belmont unit flat on the setting bed. Using a dead blow hammer, lightly tap the unit in the center and then about 4"-6" in from each side to seat the stone. Alternatively, use a 12" long block of 2 x 4 or 4 x 4, spanning the unit across the middle from side to side and tap it lightly in the center with a 2 pound hand sledge. Turn the wood 90° and tap it again lightly to seat the unit. If the base prep has been done correctly, this should set the Belmont units evenly and securely approximately 1/8" into the sand setting bed. If the unit moves or wobbles, remove it and smooth the bedding sand. Do not try to correct base imperfections by repeatedly striking or hitting the unit as this may damage or break it.

Lay the next unit alongside the previously installed piece with the bottoms of the stones touching. This will create joints between the units. Repeat the hammer set method used on the first unit. If using the "hammer and wood" method, you can span from unit to unit to ensure they are level in relation to one another. Otherwise use a 2' or 4' level to span the units to check their level. Continue installing the Belmont units according to the desired pattern. Once a unit has been properly set you can work from that unit. However, do not step directly on the edges which can cause the unit to "nosedive" into the bedding material.

Once all the Belmont units have been installed, sweep the joints using Techniseal NextGel Polymeric sand. Install the sand to 1/8" below the top of the stone. Make sure to sweep the Belmont units clean before applying water. Any polymeric sand or dust that is left on the units will activate with water and create a haze that will need to be removed. Apply the water as per Techniseal's recommendations.

V CUTTING BELMONT PAVING SLABS

Belmont units cut easily with heavy duty power saws, cut off saws, and block saws equipped with a diamond blade. Make sure to follow all current OSHA requirements for the control of micro crystalline silica dust. If using water during the cutting process, be sure to immediately clean any cutting residue that may be left on the stone to prevent staining.

CAUTION! Dry sawing or grinding of concrete masonry products will result in the release of respirable crystalline silica dust. When sawing or grinding, OSHA requires the use of an integrated water delivery system. When dry sawing or grinding, the use of tight fitting goggles with a minimum APF10 half face respirator is required along with an attached vacuum dust collection system. Fit testing for half face respirator is required. For more information refer to www.osha.gov/silica



DO NOT USE A HAMMER AND CHISEL TO CUT BELMONT UNITS.

DO NOT USE A PLATE COMPACTOR ON BELMONT PAVING SLABS



VI EDGE RESTRAINTS

Edge restraints are required with all Belmont Paving Slab installations when using concrete sand as the setting bed medium. Make sure to choose an edge restraint which is specially designed for Belmont Paving Slab installations, such as Snap Edge Low Profile edge restraint.

Cut away the excess sand around the perimeter of the finished pavement with a mason's trowel to expose the compacted base material. Install the edge restraint directly on top of the aggregate base and tight to the stone. Install 10" or 12" non-galvanized spikes at a minimum of 24" intervals to anchor the edge restraint. If installing the restraint system around a curve, place the spikes 12" apart to provide greater stability.

VII JOINT INFILL

Once all the Belmont units have been installed, sweep the joints using Techniseal NextGel Polymeric sand. Install the sand to 1/8" below the top of the stone. Make sure to sweep the Belmont units clean before applying water. Any polymeric sand or dust that is left on the units will activate with water and create a haze that will need to be removed. Apply the water as per Techniseal's recommendations.

VIII CLEANING BELMONT PAVING SLABS

Because of the Belmont Paving Slabs non-porous finish, dirt, grime, hazing and minor efflorescence can be removed with a non-abrasive and environmentally friendly household cleaner, such as Simple Green or CLT. Apply the product according to the manufacturer's specifications and scrub rigorously, rinsing well when finished. Periodic maintenance will keep the product looking great for years to come. The cleaners will not harm the polymeric sand and are safe and easily applied.

ACCESSORY PRODUCTS

GEOTEXTILE FABRICS

EP Henry recommends the use of geotextile fabric in all Belmont Paving Slab installations. However, it is critical where the existing subgrade is of clay or other poorly draining soil. Geotextile fabric is installed between the subgrade and the base material layer, acting as a separator between the two. Its primary purpose is to prevent base material from working its way into the soil below to reduce the possibility of settling. Recommended products include Mirafi RS 280i, 500X, and 160N.

LOW PROFILE EDGE RESTRAINT

Edge restraint is required on Belmont Paving Slab installations when concrete sand is used as the setting bed. Snap Edge has developed a special low profile, 1 3/8" high edge restraint, specifically for Belmont Paving Slabs.

TECHNISEAL NEXTGEL POLYMERIC SAND

Techniseal NextGel Jointing sand is a state-of-the-art mix of graded sand (ASTM-C144) and binder that flows smoothly down joints for a fast and effective installation of pavers or slabs with false or wide joints. Easy to use, NextGel Jointing sand starts to set only a few minutes after being activated with water, and quickly becomes resistant to water erosion (rain, splashes, sprinkles, etc.). NextGel Jointing sand offers great resistance to weed growth, insect invasion, and erosion.

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