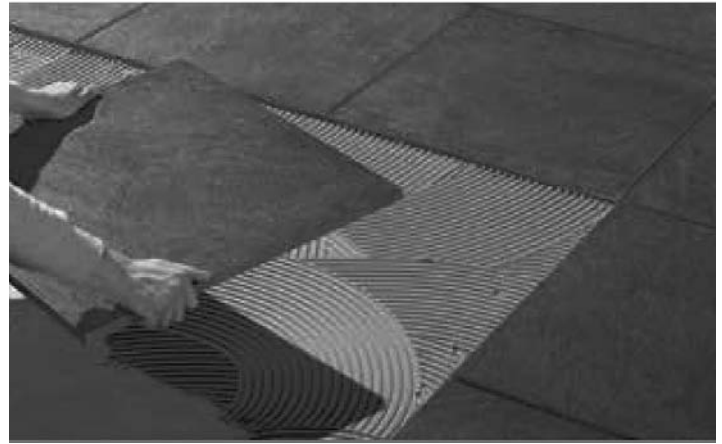


Installation Types



GRAVEL OR SAND INSTALLATION ONTO GROUND
(Pedestrian Foot Traffic)



CEMENTITIOUS ADHESIVE INSTALLATION ONTO CONCRETE BASE
(Vehicle Traffic)

Precautions To Be Taken Before Any Form of Installation

- When lifting product always use assistance, and proper lifting techniques.
- Always call before you dig. It is important to contact all telecommunication and utility companies, in order to mark existing cables and pipes before excavation.
- Always read instruction manual for any equipment before use, and adhere to all safety instructions.
- Always use proper safety equipment when installing LASTRA 20mm slabs: e.g. gloves, safety goggles, knee pads, and hearing protection.
- Always slope paved surface at least 2% away from buildings or foundations.
- Never use a plate compactor on LASTRA 20mm slabs.



When lifting product always use assistance, and proper lifting techniques.

CLEANING AND MAINTENANCE

- Cleaning and maintenance procedures can be carried out using a common neutral detergent and a garden hose. A pressure washer is fine for use. Be sure to use it on the mild setting so that the polymeric sand or joint material is not disturbed. Inclined surfaces and the presence of open joints between slabs allows for the collection of dirt near the discharge points.
- Please note that because of surface tension in liquids, a film of water can form on any outdoor surface even when inclined properly. To avoid a film of water on the surface of the material it is important to completely dry the surface; push the water towards joints using a scrubbing-brush or use a wet and dry vacuum cleaner.
- When cleaning the surface of the paving slabs be sure to use a brush or broom with soft nylon bristles.

Gravel or Sand Onto Ground

(See diagram below)

EXCAVATION

- Always call 811 before you dig. It is important to notify all telecommunication and utility companies in order to mark existing cables and pipes before any excavation.
- When digging make sure to dig a depth that will include the entire base. The depth of the base will be determined by preexisting soil and climate conditions in your area.
 - Take into account that a clay or silt soil will require a deeper sub base (6"-8") (16-20cm)
 - For a sand or gravel soil (4"-6") (10-16cm) should suffice.

SOIL COMPACTION

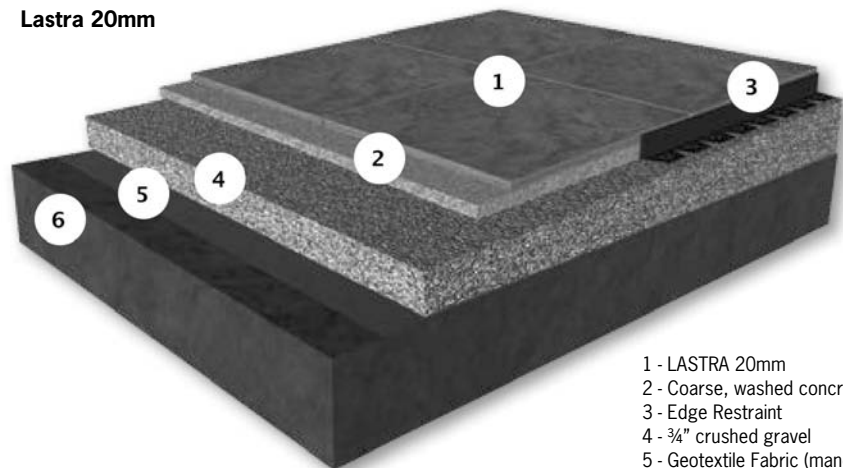
- Compact the soil ensuring a minimum of 2% slope away from buildings and foundations. This will increase the load bearing strength of the soil, and minimize movement due to freezing or thawing and other seasonal changes.
- Soil must be compacted to 98% standard proctor density for pedestrian traffic.

Preliminary Information

TILE CUTTING LASTRA 20MM

- Due to the thickness and natural hardness of porcelain, LASTRA 20mm slabs require a wet saw with at least 1.5 HP, and a 10" or 8" (20-25cm) diamond blade. Take into consideration the length of cut when choosing the appropriate saw for different sized LASTRA 20mm products. The length of cut should be at least 24" (60cm), or 38" (96cm) for diagonal cuts for LASTRA 20mm 24"x24" (60x60cm).
- Be aware that all cut porcelain edges will be very sharp; handle with care.

Lastra 20mm



- 1 - LASTRA 20mm
- 2 - Coarse, washed concrete sand
- 3 - Edge Restraint
- 4 - ¾" crushed gravel
- 5 - Geotextile Fabric (mandatory)
- 6 - Soil

GEOTEXTILE INSTALL AND SUB-BASE

- DO NOT USE CRUSHED CONCRETE FOR YOUR BASE.
- Cover the top and the sides of the excavated area with a geotextile fabric to prevent the dispersions of the substrate, and to allow for drainage. Select the geotextile according to project specification, and the recommendations of the geotextile producer.
- Prepare a sub-base made up of 0-3/4" (0-2cm) crushed stone to allow for drainage and stability. It should be installed in 4"-6" (10-16cm) lifts, and compacted with at least a 5,000-7,000 lb. vibrating plate compactor and levelled off.
- Cover the top of the prepared sub-base with geotextile fabric also according to project specification, and the recommendations of the geotextile producer. This will increase the stability and the longevity of the installation.

EDGE RESTRAINT

- Install edge restraints according to project specifications, and the recommendations of the restraint producer. This will help reduce horizontal creeping, and the loss of sand or gravel.
- Take into account the depth of the setting bed and the height of the paving slab when choosing an appropriate edge restraint.

PREPARATION OF SETTING BED

- FOR PAVER SLABS SET ON A GRAVEL BED (RECOMMENDED METHOD)
Fill with coarse washed concrete sand (ASTM C33) to a depth of 2" (5cm). COMPACT THE SETTING BED WITH A VIBRATING PLATE COMPACTOR AND LEVEL OFF WITH A MINIMUM INCLINATION OF 2%.
- FOR PAVER SLABS SET ON A SAND BED
Lay 2" (5cm) thick pipe (screed rails) parallel every couple of feet. Fill with 2" (5cm) of paver sand, and pass flat board over screed rails to level out sand base. Remove screed rails and fill gaps with paver sand, and level. Gently mist, and compact using a vibrating plate compactor. Be sure to allow for at least a 2% slope for drainage in the appropriate direction.



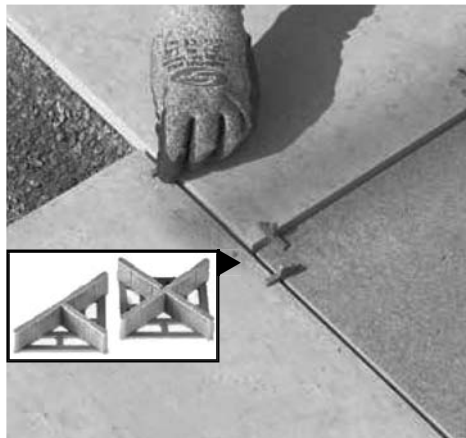
▲ Preparing the setting bed



▲ Compacting

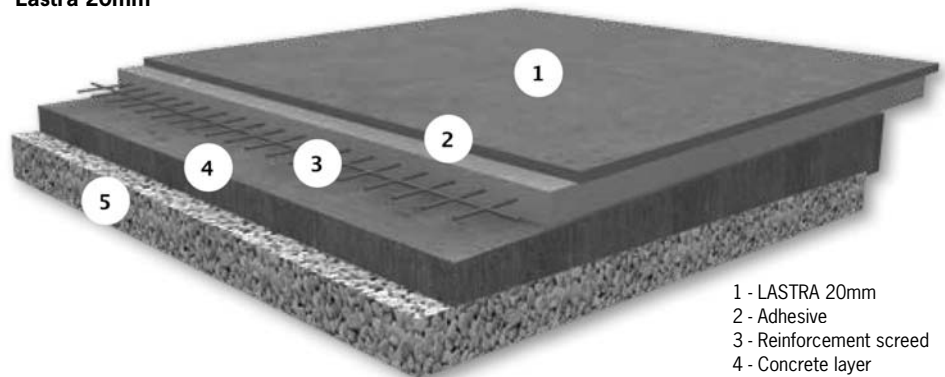
INSTALLATION OF SLABS

- Select size and color of the pavers and install them on the prepared surface. Complete the laying scheme according to the project specifications or to your preferences.
- To achieve a more natural look randomly select pavers from different boxes. This will maximize the effect of shade variation on the installed surface, WHICH IS THE DESIRED EFFECT OF LASTRA PORCELAIN SLABS.
- Always leave a joint between the slabs of at least 5/32" (4mm), while using proper plastic spacers (pictured below). This will avoid porcelain to porcelain contact.



▲ Spacers

Lastra 20mm



- 1 - LASTRA 20mm
- 2 - Adhesive
- 3 - Reinforcement screed
- 4 - Concrete layer
- 5 - Gravel layer

FILLING THE JOINTS

- Polymeric sand should be installed according to the instructions provided by the producer.
- Never use a vibrating plate compactor on the paved surface, instead use a rubber/PVC mallet to help adhere the pavers to the support.



▲ Sweeping sand in the joints

Cementitious Adhesive Installation onto Concrete Base (See diagram below)

INSTALLATION OF PAVERS

- Concrete base must meet all building code requirements for installation area, and must have a slope of 2% away from any buildings or foundations.
- Do not install pavers directly over control joint on the concrete base. Otherwise expansion and contraction of the control joint due to freezing and thawing could damage the pavers.
- Install the pavers with the double spreading method while using highly deformable cement-based.

JOINTS

Place the pavers leaving a joint of at least 5mm between each one using cement-based premium mortars (class CG2 in compliance with ISO 13007).