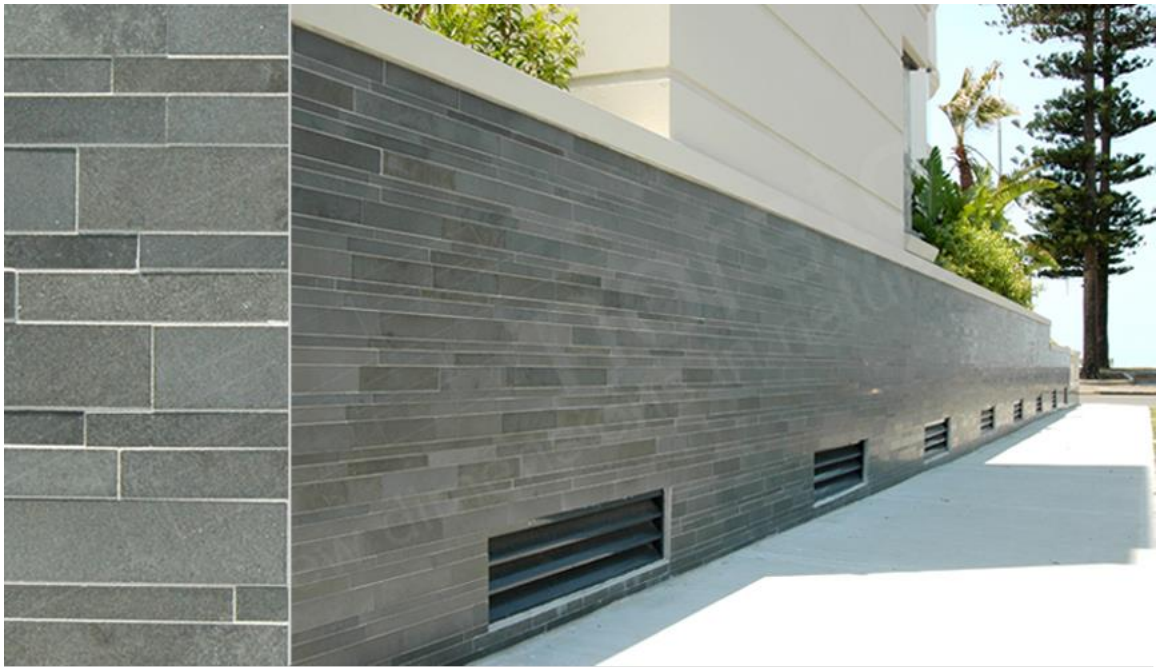


norstone

basalt interlocking tiles

Fine Natural Stone Veneers



norstone natural stone

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norstone is a manufacturer and supplier of premium natural stone products for designer residential and commercial world markets. Established in 2002, norstone has forged its name by maintaining the highest standards in the industry for quality control, product design, and customer service. We're as passionate about your project as you are.

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Introduction to the Basalt Interlocking Tile

Norstone Basalt Interlocking Tiles are produced by Norstone Pty Ltd., of Sydney Australia. For information not contained in this document, contact your local Norstone distributor for assistance. The Basalt Interlocking Tile is a natural stone product created from one of nature's most durable and hardest stones, and because it is impervious to wear and tear, and the weather, it is ideally suited for residential and commercial wall cladding applications alike.

Norstone Basalt Interlocking Tiles strictly adhere to the following physical properties:

CLASSIFICATION: Basalt is an extrusive igneous rock, sometimes porphyritic, and is often both fine-grained and dense.

COLOR: Ebony or Ash Grey

SIZE: The tile sheet consists of strips of Basalt Stone cut into 3 varying widths with each strip being 12 inches long. The stone tile strips are mounted horizontally on mesh in a random pattern whereby the ends are offset to each other, therefore they do not line up vertically.

Each Basalt interlocking tile sheet has coverage of 1.3 square feet.

WEIGHT: Average of 7 lbs per sq ft or approximately 35 lbs per box

PACKAGING: 4 tile sheets per box = 5.2 square feet per box; 66 boxes per crate = 343.2 square feet per crate

Estimating Stone Required

Determine the amount of the Basalt interlocking tiles to be ordered by measuring the area to be covered. Measure the length times the height to determine the square footage of tiles sheets required. Subtract the square footage for window and door openings.

Always allow a minimum of 10% for error and wastage when ordering. Because of the random pattern, the tile sheet can be reduced by up to 1/3

in size when cutting the ends to suit either a left hand or right hand side when finishing to the vertical edge of a wall surface.

Professional Installation Recommended

Norstone Basalt Interlocking Tiles can be installed by most home handyman with a limited knowledge of building and construction; however we strongly recommend they be installed by professional licensed contractors.

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Tools and Material Needed

[1] For cutting and modifying Basalt Interlocking Tiles, a quality brick or tile **water saw with a continuous rim diamond blade** is required; these are usually available for hire on a daily basis from large equipment hire firms in your area. **[2]** An angle grinder may be used for cutting around small protrusions in the wall such as pipes, steelwork etc. **[3]** 3/16" X 5/32" notched trowel, **[4]** scraper, **[5]** rubber hammer, **[6]** grout sponge, **[7]** grout float, **[8]** leveling tool, **[9]** recommended tile thinset adhesive, meeting or exceeding ANSI 118.4 & 118.11 standards, **[10]** recommended grout and **[11]** natural stone sealer.

Optional materials that may be required, depending on the substrate and application include:

- Waterproofing Membrane

Norstone recommends using thinset, grout, and when appropriate per the installation, a waterproofing membrane, from the same setting material manufacturer. This ensures these components won't interact in a negative manner and potentially jeopardize an installation.

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Preparing your Substrate for Installation

It is mandatory that local building codes be followed in the installation of Basalt Interlocking tiles. Please consult your building authority with any specific questions relating to the local building codes.

Norstone Basalt Interlocking Tiles weigh approximately 7 lbs per sq ft; therefore it is critical that they are fixed to an appropriate, robust substrate to ensure a successful installation. If a new wall is to be constructed which is neither a brick or block wall, then Norstone recommends all installations be performed over fibrous cement board. **Norstone Basalt Interlocking Tiles SHOULD NOT be installed over drywall or sheetrock.**

Fibrous cement board must be a minimum of 1/2" thick to support the weight of the tiles and must be securely fixed to the framework of either timber or steel. We suggest that the fibrous cement board be glued and screwed to the frame. First, cover the entire frame, where contact with the fibrous cement board is made, with a good quality mastic type adhesive and then fix the fibrous cement board to the frame, screwing at 24 inch centers using screws that are a minimum of 2 inches long.

To ensure safety, strength and permanent fixing, this work should only be done by a qualified and licensed builder. If project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the fibrous cement board and the setting material.

Special Note on moisture rich environments and freeze thaw climates

Natural stone is an excellent choice of building material for any environment and climate, be it interior or exterior, adjacent or completely submerged in water, desert hot or polar cold. Certain products should be used and procedures followed in some of these environments, as noted below:

Moisture Rich Environments – It is critical that a waterproofing membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile adhesive to form a waterproof barrier. This will ensure moisture will not reach the substrate material and potentially degrade its ability to support the Basalt Interlocking Tiles.

Freeze / Thaw Climates – Norstone Basalt Interlocking Tiles will not be affected at all by the normal freezing and thawing of the climate which they are exposed to, however, the same cannot be said about the substrate to which they are applied. It is critical that a waterproof / anti-fracture membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile adhesive to form a water and fracture proof barrier, capable of resisting substrate movement during freeze thaw cycles.

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Installing the Basalt Interlocking Tile

Make certain the back of each tile sheet is free of dirt, sand, or loose particles. If applying the Basalt Interlocking Tiles to an existing wall then the substrate should be a clean, dry, relatively smooth wall surface free of cracks and contamination, and very importantly, stable.

Norstone recommends sealing the Basalt Interlocking Tile with a quality penetrating sealer before and after the installation. Sealing the product before installation will make the grouting and clean-up process simpler and easier. Always test the sealer on an off-cut or in an inconspicuous place on the finished stone wall before applying to the entire stone surface.

Apply the thinset using the notched end of your trowel, holding the trowel at about 45 degrees to the surface. A consistent angle will ensure that the thinset application has a consistent depth which is important to maintain the correct thickness so as not to cause excess thinset to bleed between the joints.

Using the flat side of your trowel, lightly flatten the peaks and valleys to an even thickness. Be sure not to remove any of the thin set during this process; if you do inadvertently, go back to the previous step and re-notch.

Use your level and chalk line to mark the position of where to place the bottom row of tile sheets ensuring that they are fixed level and in a straight line. Set the tiles down in the interlocking pattern and lightly tap into place. The mesh adhered to the back of the tile sheets will ensure

that the correct horizontal grout gap is maintained. It is important to remember that as the tiles are positioned and fixed to the wall, they should not be moved until the thinset has cured.

Then, using your rubber hammer, firmly flatten the tiles into the thinset. When you use a rubber hammer for this procedure, tap the tiles lightly to prevent unnecessary breakage or cracks. The aim is to pressure the tile strips into the thinset enough to adhere, but not enough to force the thinset to bleed through the joints between the tiles.

Be sure to maintain an even gap between the ends of the tile strips that matches the width of the horizontal joints between the tile strips.

When finishing at the top of a wall, the strips of tiles are easily separated by cutting through the mesh backing in a horizontal line with a box cutter. If you need to cut through a particular tile, remove it from the mesh backing and cut it using a tile saw, or for more precise cuts, an angle grinder or tile nippers.

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How to Address Corners

External Corners

There are a number of options available in which to treat external corners. An Aluminum or stainless steel trim may be used to give an external corner definition, forming a functional and attractive finish. Alternatively strips of Basalt in matching lengths and widths may be fixed vertically to form an external corner from which to work along the flat surface of the adjoining walls. Always begin work from the external corner to ensure that the adjoining tile sheets are of a proper size.

Internal Corners

The ends of the Basalt Interlocking Tiles should be cut so that they butt join neatly with a small grout gap where they meet on the internal corner. No further treatment is required.

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Grouting

Check with the thinset manufacturer's guidelines for drying times prior to grouting. 24 hours should be more than enough time to cure thinset and clean off any residual adhesive before grouting. The grout consistency should be less stiff than the thinset application, but not runny. Use the grout float to press grout between the cracks. Do not use grout to fill abutting (right angle) surfaces - instead, use acrylic sealer to create a rubberized expansion joint.

At the manufacturer's prescribed time, go back and lightly sponge off the excess grout. Press lightly and evenly, to avoid digging out the grout from between. Rinse the sponge frequently to minimize smearing.

As the job dries, a light haze will form. Wait a day and remove the haze with a sponge or a piece of cotton fabric. Intermittently mist joints with a spray water bottle for 72 hours: slow-damp curing grout enhances its strength and stain resistance.

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Post Installation Guidelines

Cleaning

Work carefully and meticulously, to avoid adhesive dropping onto the tile strips. Should some thinset drop onto a tile strip, allow it to dry until it is crumbly, then pick it off carefully, and use a bristle brush to lightly scuff the spot where the adhesive may have left a slight mark.

Excess dirt and film may be removed using clean water and a stiff brush. It is important not to allow excessive adhesive to dry on face of the Basalt Interlocking Tiles. Carefully remove it with a damp rag prior to it hardening.

WARNING: Acidic cleaning agents must not be used under any circumstances as this will cause unnecessary damage to natural stone and void any warranty.

Sealing

Norstone recommends that Basalt Interlocking products be sealed with a good quality penetrating sealer for all applications. Always test the sealer on an off-cut or in an inconspicuous place on the finished stone wall before applying to the entire stone surface.

Follow the manufacturer's instructions regarding the application of the sealer. Sealed stone may be easier to keep clean than unsealed stone and certain sealers also repel stains. However, sealers must be periodically reapplied, especially on exterior applications, and could alter the natural coloring of the stone.

Ongoing Maintenance

Though natural stone will last many lifetimes, routine maintenance may be required from time to time. Depending on the application, as with any wall finish, various types of scaling or build-up may occur. Should you experience a need to clean your Basalt Interlocking Tiles please adhere to the following recommendations:

1. Regular dusting for interior applications and hose washing for exterior applications is recommended. Never use a wire brush or any sharp objects for cleaning.
2. In the event that cleaning agents are needed, please select a natural detergent that is non-corrosive and non-acidic to remove build-up in problem areas. Test your detergent in an inconspicuous place to verify compatibility and results.
3. In some cases, a low grade pressure wash may be used. However, the stone should never be exposed to a direct angle of attack from the nozzle. Note that up-close attack from a pressure washer may corrode the stone. So please stand a minimum of 10 feet away when pressure washing to prevent damage or discoloration to the surface of the stone or removal of any grout.

Please DO NOT:

1. Acid wash the stone.
2. High-Pressure Wash the stone (directly or indirectly).

3. Use any sharp object, such as a steel scraper, knife, or screwdriver, to remove stubborn deposits from the face of the stone. This can result in damage to the natural finish of the product.

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Disclaimer

This Installation Guide is intended for general informational purposes only and should not be considered as professional technical or legal advice. It is designed as a reference only and shall not be construed as a substitute to seeking professional advice relevant to your particular circumstances to evaluate its accuracy, completeness and relevance for your specified application, or employing professional and licensed contractors to install the Basalt Interlocking Tiles. Therefore Norstone does not take any responsibility for any error or misinformation that may be contained within this guide.

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