



**norstoneuk ltd**  
new dimensions in natural stone

**Conditions of**

# SALE

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**The terms and conditions contained herein shall be incorporated in all agreements between the Supplier (Norstone) and its Customers (the Purchaser).**

## **General Conditions:**

1. Colour variations are inherent in natural stone and are considered part of their natural characteristics. Norstone shall not be bound to consider any claim unless made in writing to the Supplier within 7 days after receipt of the goods by the buyer.
2. Please examine the product on receipt of goods, and at no instance shall any claim be greater in amount than the actual invoice value of the goods claimed to be faulty when delivered by the supplier or by another party on behalf of the supplier.
3. Norstone accepts no responsibility in respect to minor or reasonably accepted variations between samples shown to the buyer and actual stone products supplied.
4. The customer shall not be entitled to make any claim against the supplier after the natural stone material has been cut, marked, damaged or fixed.
5. Natural Stone products must be sealed at all times and depending on the site conditions, they may need to be pre-sealed as well in order to help prevent staining, salt attack, leaching and other types of contamination. With any Sealant use, We strongly recommend the Sealant to be applied to a small sample of the Stone, to determine it's suitability before applying it to the completed Project.
6. Norstone Ochre Rock Panel is a 100% natural stone, sedimentary slate, which consists of multiple layers of slate which have formed over the centuries. Mild delamination may sometimes occur, but this phenomenon will cease after mild shedding.  
A professional drainage control system must be properly designed and implemented to prevent excessive exposure of moisture on the stone. Poor moisture management techniques (i.e. lack of properly installed flashing and inadequate drainage) will damage the Ochre stone that is exposed to the elements causing excessive amounts of moisture to build up and penetrate the stone leading to spalling and crumbling of the strips of stone.  
Please refer to Laticrete Warranty Installation / Adhesives, this procedure is so critical to prevent small cavities forming behind the rock panels that will capture and hold water. Failure to follow this procedure will lead to delamination of the individual stone pieces due to excessive buildup of water in the small cavities behind the rock panels and occasionally will cause the rock panels to "pop off" the wall.  
Norstone Natural Stone products must be sealed when used in wet areas or exposed to the elements, and depending on the site conditions they may need to be pre-sealed as a precautionary measure in order to help prevent staining, salt attack, leaching and other types of contamination.  
Only use recommended sealers and carefully read all the instructions before applying. Ensure that the stone is thoroughly cleaned with a neutral cleaner, removing any loose pieces of stone and wait until the stone is completely dry before applying the sealer. With any Sealant use, we strongly recommend that the Sealant should be applied to a small sample of the Stone, to determine its suitability before applying it to the completed Project.
7. The supplier shall not be liable in any respect for advice provided herein regarding the fixing, grouting, cleaning or sealing of the tiles nor shall the supplier be liable for any damages or loss incurred by the supplier as a result of any delay in delivery of the materials or otherwise. We would recommend sealing the Basalt IL Tile with Norseal H20 Penetrating Sealant prior to grouting. After Grouting, immediately use "Wash Boy Sponge" to remove

excess grout. This process may reduce the pitting effect of a lighter colour grout on the Basalt Tile.

8. No returns allowable unless specifically negotiated with Norstone UK Ltd. Any returns must be returned in perfect condition with no torn cardboard packaging, watermarks or soiling. The ultimate responsibility of the acceptance of the return stock lies with warehouse and its staff who are responsible for the Norstone stocking logistics.
9. All purchases must be paid into Norstone UK Ltd Bank Account, either by cash, BAC'S, OR Electronic Transfer. No Goods shall be delivered until full receipt of funds or if otherwise agreed.
- 10a. Title to and property of the delivered goods shall remain with Norstone until all the moneys have been collected or when all the funds have been cleared.
- 10b. When Payment is required to secure an Order and the Order is later cancelled by the Customer, it is at Norstone`s discretion of what % of the payment is repayable.

#### **Quartz, Marble, Basalt, Granite and other Natural stone Tiles:**

11. To the extent permitted by the trade practices act, the suppliers' responsibilities limited to the replacement of materials supplied only and the supplier shall not be liable for any loss or damage incurred by the customer whether caused by defective materials or otherwise.
12. Due to the fact that Quartz, Marble, Basalt, Granite and other stones are natural products, reasonable variations in colour and veining must be expected and the supplier shall not be liable for any such natural variations as they may occur in materials supplied.
13. Any products sold by Norstone can only be guaranteed if installed by a professional Skilled Tyler with proven experience in fixing stone and tiles. The supplier takes no responsibility for the fixing of the materials. Also, Quartz, Marble, Basalt, Granite tiles should not be cleaned with abrasive chemicals, acid wash or industrial cleaner.
14. Norstone Products are all Natural Stone. Natural Stone may contain small traces of Iron Oxide. Sometimes Iron oxide reacts with Moisture and Staining may occur. Norstone UK Ltd, not accept claims caused by this. While oxidation process occurs in nature, it occurs over many years sometimes Millennia, and is actually responsible for the brilliant colours that are found in our Products Today. Iron Oxide may occur within the Norstone Charcoal, Ochre and Lavastone Products, namely Platinum and Graphite Products. The use of Sealants as mentioned below, may reduce but not necessarily eradicate the Iron Oxide effect.

#### **Delivery:**

15. Cost of delivery will be charged as a separate amount and will vary According to distance, site conditions and number of pallets'/crates Supplied.
16. In the event of goods not being received owing to the customer's Absence at the stated address any additional delivery charges will be Charged to the customer's account.
17. A delivery docket is to be signed by the customer or their agent upon receipt of the goods to acknowledge that the quantities and selected product delivered are correct and also to acknowledge that the goods arrived in good condition. Customer is to inspect and accept that the materials are in good condition and confirm quantities are correct prior to unloading and signing the delivery docket. If any damage is visible on Delivery, either do not accept the Delivery or note the damage on the Delivery Document when signing. No claims of Damage after 14 days of Delivery will be accepted.
18. Delivery of goods - All unloading by crane truck (when available) to kerbside or nature strip only.
19. If stone has been ordered and supply dates agreed, and if delivery is delayed/deferred, through no fault of norstone, then a charge of £50.00per week per pallet, will be additionally charged, for the amount of time the stock has been stored from the original agreed supply dates.

#### **Quotations:**

20. Any quotation provided by Norstone shall be considered invalid if not accepted by the customer within 30 days.

### **Storage of Norstone Supplied products on site:**

21. When products that have been supplied by norstone, they must be stored in a weather proofed environment and not to be at risk to damage while in store. If cardboard boxes are exposed to water, this then may deteriorate and may mean handling of the norstone product may cause damage. Norstone will not reimburse any monies, which causes this damage.

### **Penetrating Sealants:**

22. Norstone strongly recommends that all stone, whether it be installed internally or externally should be sealed with a penetrating sealant immediately after installation has occurred preferably it should be applied when the stone is dry. This will protect and assist in cleaning the stone.  
We recommend that Norseal H2O is used for the rock panel range. Lavaseal is used for the platinum range in the planc, aksent and lynia. All in one rapid dry is used for basalts, silver grey and graphite lavastone planc, lynia and aksent.
23. Norstone, as a supplier, cannot be held responsible for health and safety issues related to any project. This is strictly a matter for the architects and their consultants to determine whether a product complies with the appropriate health and safety requirements when selecting a product. We strongly recommend that the sealant be applied to a small off cut, to determine its suitability, before application to the wall is commenced.
24. Norstone can only supply samples, technical information, references etc. as requested by the architect or client. Based on that information (assuming it is requested), the final decision regarding whether the product complies with the local building codes and is suitable for the application is the sole responsibility of the architect and their consultants. This is accepted practice in the construction industry.
25. Basalt should not be installed in Salt Filtration Pools.

#### **WARNING**

**DO NOT DO ANY OF THE FOLLOWING.....**

Acid wash

High pressure wash the stone (directly or indirectly)

Use any sharp objects, such as a steal scraper, knife, or screw driver, to remove stubborn deposits from the face of the stone. This can result in damage to the natural texture of the product.

26. When installing Norstone Basalt, we strongly recommend using laticrete Adhesives MVIS masonry veneer mortar and Permacolour Grout as Laticrete tests show there is no staining. Please see our technical Library for further details.
27. To avoid slight pitting effect when grouting, we recommend using Laticrete Permacolour which best matches the colour of the Norstone basalt IL Colour.

### **Reimbursement of Defective Product**

28. If during the warranty period, the Norstone product, proves to be defective, Norstone UK Ltd, shall provide a replacement product or reimburse the Purchase Price.  
The replacement or reimbursement, does not cover damage or defects resulting or in any way attributable to, Improper storage, Shipping, Handling or Installation of the product, which must be installed according to the instructions attached to the Issued Invoice. Or Improper maintenance , using unfit accessories, neglect, abuse, misuse, repair or alteration, acts of God, Including Floods, Fires, severe Weather, Impact of foreign Objects, growth of mould, Mildew Fungi or any other organism, lack of proper Maintenance defects in, or damage to the structure to what the product was applied. Nor will there be any refund or payment, if the natural elements within the natural stone Supplied by Norstone are evident during the natural life cycle of the stone. For example, spalling or Iron Oxide, which may occur when using 100% natural stone.

### **Affixing Above 3 Linear Meters:**

29. When affixing above 3 linear meters, whether it be internally or externally, appropriate safety measures must be employed around the area where the tiles are being affixed during curing process. The measures would be Barriers of at least 6 meters from the envelope at the Building

or if not possible restricting any possible movement near the area of installation with the use of Barriers during the Curing Process. All installers must consult with the local Building Codes and these must be followed for installation above 3 linear meters.

30. We would additionally strongly recommend that a suitable Mechanical fixing system should be installed above 3LM. An Architect/Engineer can advise as to the system, taking into account the weight of Norstone which is approx. 65 kg per m<sup>2</sup>. Any installation above 3LM, we would strongly advise for health and safety reasons, that mechanical fixing should be employed.

**Norstone advises strongly Goods must be checked before signing:**

- 31 The Customer or Representative must inspect the goods before signing the Proof of Delivery (POD) The receiver has 20 minutes to inspect and is part of the contract with the Haulier. NOT inspecting and signing the POD without any comments RE damage will restrict possible later damage claims. Insurance claims, with signed POD without any comments will have excess amount of £150 applied to any future claim. If unable to check, note this on the POD when signing.

**Installation of Knauf Aqua Exterior Boarding or Internal Knauf Boarding:**

32. When installing the Knauf Aqua Exterior or interior Boarding, the Installation methods must be strictly adhered to for the Knauf Guarantee and Laticrete 15 year Warranty to apply when affixing Norstone. Drawings/plans of intended installation methods must be sent to Mr Richard Lord, Technical Development Manager of Knauf for his approval. His email address is rlord@knauf.co.uk Any technical questions regarding the installation of Knauf Aqua exterior Panel or interior Boarding, must be sent stating the installation required to allow Norstone to be affixed to Knauf. Written approval or amendments must be incorporated within the design in order for the system warranty to exist. For the Knauf Guarantee and the 15 year Laticrete warranty to be in place, The Knauf Aqua Exterior Boarding and internal Boarding, must be purchased through Norstone UK Ltd.

**Installing Honed Finished Tiles, including Basalt Lynia, Planc, Aksent, Lavastone Graphite**

33. Honed surfaces look beautiful however they need to be handled with Kid Gloves. We recommend when handling these materials, Gloves (smooth and dirt free) should be used when handling and installing. This will reduce the risk of soiled tiles from fingerprints and scratches appearing on the surface of these sensitive honed Tiles.

**Installing Norstone Lynia Tiles**

34. When installing Platinum products including planc, lynia and aksent Tiles the following installation is recommended. Apply the Lavastone Sealant using a Lint free cloth to the Lavastone Tile before installing. Once Dried it is ready for installing. Screed the Substrate with a 6mm notched Trowel, This thickness of trowel will avoid the adhesive slipping through the gaps and preventing effective grouting. Using a grout Float, pat down to ensure full contact. Once Dried, apply the grouting as you would any normal natural stone Products.

**Adverse weather conditions or Coastal**

35. See Guidelines & Recommendations when fixing with MVIS Veneer adhesive in adverse site conditions at the end of this document.

The best way to avoid retaining moisture within the structure will be to apply the cladding to the concrete blockwork after it has been exposed to conditions over a periods which promote complete drying ie, dry, warm with a good breeze. A period of exposure prior to fixing such as this should allay concern regarding trapped moisture.

**MVIS pointing mortar**

36. Please see technical guide under laticrete catalogue on pages 12 and 13 which includes some useful technical guidelines when applying this pointing mortar which can accommodate joints up to a maximum of 32mm wide.
37. There are two aspects to the Rustik install  
1: onto Knauf aqua exterior Boarding  
2: onto Std Concrete Blockwork/Brick work.

15 Years warranty onto Knauf.  
10 Years warranty onto Concrete Block/Brick work.

1: "Installing Norstone RUSTIK with Laticrete MVIS Masonry Veneer Mortar onto Knauf Aqua Exterior Boarding".

When installing Norstone Rustik onto Knauf Aqua Panel exterior Boarding when using Laticrete MVIS Masonry stone veneer Mortar, it is required that adhesive be applied to the rear of the Norstone Rustik Panel, and also the Substrate. As the interface between both the Knauf board and the rear of the Rustik Panel is smooth, flat and even, the total bedding thickness should be no greater than 6mm when affixing onto Knauf Aqua Panel. Given the open joints of the Rustik Panel, it is imperative that 100% contact between the stone and substrate is achieved whilst ensuring there are no open voids, behind the panel where the adhesive has been applied. This will stop any moisture collecting behind the Rustik panel, which during a Freeze/thaw cycle may cause failure. Warranties will only apply when conditions of installation are met, that is, no voids and maximum thickness of compressed bed of adhesive of 6mm when affixing onto Knauf Aqua Panel when installing the Norstone Rustik Panel".

2: "Installing Norstone RUSTIK with Laticrete MVIS Masonry Veneer Water onto Standard Concrete Block work/ Brick Work".

When installing Norstone Rustik onto Standard Concrete Block work /Brickwork when using Laticrete MVIS Masonry Stone Veneer, it is required that the adhesive be applied to the rear of the Norstone Rustik Panel, and also the Substrate. Given the relative even level of the Rustik Panel, (and allowing for any irregularity in the profile of the block / brickwork substrate) the total maximum thickness bedding thickness should be no greater than 18mm when affixing onto Standard Concrete Block work/ Brick Work. Given the open Joints of the Rustik Panel, it is imperative that 100% contact between the stone and substrate is achieved whilst ensuring there are no open voids, behind the Panel where the adhesive has been applied. This will stop the Moisture collecting behind the Rustik panel, which during a Freeze/thaw cycle may cause failure. Warranties will only apply when conditions of installation are met, that is, no voids and maximum thickness of compressed bed of Adhesive of 18mm when affixing onto Standard concrete block work/Brick work.

When installing Rustik we strongly advise a Stone Mason should install the Product. Additionally you should refer to the Norstone Masterguide as to the method of installation and also with reference to the key stone section regarding installation of the Rustik Panel.

# Norstone Masterguide



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The Norstone rock panel range provides the look and feel of stacked natural stone combined with a fast, fully warranted installation process.

## Norstone rock panels strictly adhere to the following physical properties:

**Classification:** Quartzite-based sedimentary stone  
**Colour:** Ochre Blend, Charcoal, White, Ivory, Sahara, Aztec, Sliver Grey  
**Size:** 152mm tall by 610mm long. Thickness varies between 15-35mm.  
**Weight:** approx. 5.5kg per panel.  
**Packaging:** 4 panels per box; 48 boxes per crate = 17.8 m<sup>2</sup> per crate.

## Professional installation recommended

We would strongly recommend that a skilled tiler installs Norstone products.

## Stone Care & Protection Guidance

To reduce maintenance and cleaning and to give the stone surface the best possible long-life protection, it is recommended you apply a sealer to stone cladding. Norstone UK Ltd supplies 3 different types of penetrating sealants to best suit for your particular choice of stone.

### Norseal H<sub>2</sub>O Sealant >

Best for Norstone Rock Panel range.

### Lavaseal >

Best for Lava Stone Platinum in the Planc™, Aksent™ and Lynia™ Range

### All-in-One Rapid Dry stone impregnator & sealer >

Best for basalts, silver grey, graphite Lava Stone. Please be aware that this sealer may darken the stone slightly. Do a test sample before full application.

The incorrect choice of sealants may effect the ultimate look of the stone. The buyer must be sure that the sealant on the invoice was correctly delivered before application. We strongly recommend a small test area before application.

## Installing Norstone rock panels

Make certain the back of each panel is free of dirt, sand, or loose particles. When necessary, wash them completely. If the back of the panel is dry, dampen it first with a wet sponge but do not saturate.

This prevents the panel from pulling the moisture from the adhesive, allowing it to cure naturally and with a stronger bond.

Select a tile adhesive that meets or exceeds local building regulations and mix per the manufacturer's instructions. We strongly recommend Laticrete MVIS Masonry Veneer Mortar and we will only warranty installations using this product.

When fixing rock panels it is necessary to start the bottom row on a level line in order to maintain consistent levels in each row as you work up the wall. Always start installing Norstone rock panels at the bottom row, and beginning at an outside corner if one exists. The rock panels should be laid in a random, staggered fashion in an effort to minimise any vertical seams lining up from one course to the next. The panels should not be "stacked" one on top of the other in a single line up the wall, nor laid in a running or brick bond pattern as this increases the likelihood of patterned or vertical seams being visible.

It is also important that they rest on a secure base such as a temporary batten (fixed a minimum 150mm above the DPC line if external) to help carry the weight until the adhesive has fully set.

When fixing the stone panels it is essential that the substrate and all parts of the back of the tile are covered to a compressed total maximum bedding thickness of not more than 18mm.

Apply MVIS Masonry Veneer Mortar adhesive onto the receiving substrate using a 6 mm x 9 mm or 12 mm x 12 mm notched trowel. Back butter all Norstone panels using the straight-edge of the trowel to key a thin coat of MVIS Masonry Veneer Mortar covering the entire back of the veneer units to provide full bedding of the veneer. Place & press the Norstone panel into the notched mortar bed and adjust to desired position. Clean any excess mortar on sides of stone or tile veneer

It is important to use a notched trowel to spread the tile adhesive on to the wall as would normally be the application method used for fixing tiles. Applying the adhesive to both the back of each panel and the wall ensures the maximum possible adhesion to your wall surface, ensuring the gaps, voids and cracks are filled.

Press each rock panel into the adhesive, rotating slightly, forcing some of the adhesive to squeeze out freely. Any adhesive forced out beyond the finished joint or on the panel surface itself must be promptly removed before the adhesive is allowed to set. Tight joints will provide a neat appearance. Be sure not to allow any adhesive to harden on the face of the panels as this will hinder the cleanup process.

### Tools and materials needed

- [1] For cutting and modifying Norstone rock panels, a wetsaw with a continuous rim diamond blade is required and should tilt if mitre cuts are necessary; these are usually available for hire on a daily basis from large equipment hire firms in your area.  
See our unique interlocking fingerjoint corner units which will save labour time and produce a perfect finish for angles of 65-115 degrees.
- [2] An angle grinder may be used to notch the back of the rock panels to fit around small protrusions in the wall such as pipes, steelwork etc.
- [3] Notched steel trowel
- [4] scraper
- [5] stiff wire brush
- [6] masonry brush
- [7] large sponge
- [8] selected Norstone rock panels

### Preparing your substrate for installation

Norstone rock panels weigh up to approximately 65kg m<sup>2</sup> therefore it is critical that they are fixed to an appropriate substrate to ensure a successful installation. Norstone rock panels may be applied over any masonry surface, standard concrete block, brick, cement, etc. Painted surfaces must be sandblasted or otherwise stripped of paint. If a new wall needs to be built of a thinner and lighter substrate than Hardie Backerboard (6 or 12mm) for internal walls, or Knauf Aqua Exterior Boarding for external walls must be used.

Warranties are available if used in conjunction with Laticrete MVIS Vener Mortar Adhesive. It is mandatory that ALL local building codes be followed in the installation of Norstone rock panels. This includes ensuring that the lowest edge of the cladding does not bridge the building's DPC line and for any installation rising above 3 linear metres, we would strongly advise for health and safety rules that an appropriate mechanical fixing method should be used.

Norstone rock panels and other products can weigh up to 65kg per m<sup>2</sup>.

Please consult your building authority with any specific questions relating to the local building codes.

### Installing over open stud walls

Norstone rock panels can be installed over open stud walls using Hardie Backerboard (see above).

Installation details can be found in our technical library.

### Installing over standard concrete block, brick or concrete

First ensure that the surface is clean and free of any foreign agents, including paint that may interfere with the bond between stone and substrate. This may require light sandblasting or waterblasting. If the substrate is uneven or not plumb, please contact Norstone for specific advice.

**\*\*Special note for pre-fabricated concrete tilt up construction – all release agents must be removed from concrete surfaces prior to Norstone rock panel installation.**

During the installation of Norstone rock panels, it's very important to wash down as you work, the adhesive can fall onto the face of stone work below as its being troweled onto the wall above (photo 1) and also finger marks of adhesive can be left on the face of the stone (photo 2) as you handle the product which can lead to unsightly marks when dry.

While the adhesive is still wet use a wet sponge to dampen the adhesive on the face of the stone (photo 3) then use a stiff scrubbing brush to remove the adhesive (photo 4) followed by another rinse with the sponge using clean water.

Using this process not only saves time but helps to produce a nice clean job ready for the application of stone sealant (photo 5).



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

## Radius wall installation

**Concave** - simply cut the standard rock panel into 3 equal pieces.

**Convex** - do the same but mitre (45 degrees) the back of all six the vertical ends of the pieces of the panel which will allow the panel to move into the adjoining panel. This will work seamlessly on a radius up to 180 degrees ( i.e. a semi-circle) over 4 linear metres.

Note: care must be taken to ensure that the adhesive bed remains a consistent depth and keeps well within the recommended maximum of no greater than 18mm when using Laticrete MVIS Veneer Mortar.

## Installing honed finished tiles, including Basalt Lynia™, Planc™, Aksent™, Lavastone Graphite

Honed surfaces look beautiful however they need to be handled with kid gloves. We recommend when handling these materials, gloves (smooth and dirt free) should be used when handling and installing. This will reduce the risk of soiled tiles from finger prints and scratches appearing on the surface of these sensitive honed tiles.

## Installing Norstone Planc™ tiles

Norstone Planc™ is designed to be installed as a highly calibrated natural stone tile without grout joints. The basis for a successful installation is primarily the flatness of the substrate and the installer's ability to start with a level course and maintain level courses throughout the installation. A standard tile wet saw is the ideal tool for cutting Planc tiles. If mitre cuts are desired for inside and outside corner work, a wet saw with a tilting blade or mitre cut attachment will also be needed. Here is a quick summary of the key components of a Planc installation:

### 1) Substrate.

As with any vertical tile installation, an appropriate cementitious substrate is required. Cement board is most common for interior projects however block work and unpainted brick are also suitable for both interior and exterior applications. Plasterboard is not a suitable substrate for installing any Norstone Panels on a vertical surface, as it is not designed to support the added weight and the outer paper layer of the plasterboard can fail over time causing an installation to destabilise or potentially fall off the wall.

In addition to the right type of substrate, the wall should be in good condition and plumb. If your wall / substrate is uneven or in unsatisfactory condition, it is recommended to apply a render coat to create a smooth, flat surface prior to fixing Norstone, using Laticrete 3701 Fortified Mortar\* in accordance with the instructions in our technical library.

### 2) Waterproofing.

If the product is suitable for an exterior or wet installation, the appropriate waterproofing and where applicable freeze/thaw anti-fracture membranes should be put in place between the substrate and the tile setting bed. Many Norstone Planc colours\* are suitable for use in exterior, wet, submerged, and freeze/thaw conditions provided the right setting material and installation system is used.

Contact us for any questions specific to your project.

### 3) Stone Setting/Patterning.

Norstone Planc™ Series should be set with Laticrete MVIS Masonry Veneer Mortar Adhesive. Mix the adhesive per the manufacturer's recommendation and ensure that both the substrate and the back of the Norstone is fully covered with adhesive with a final compressed adhesive of no greater than 10mm.

For further information, visit our Technical Library under Laticrete warranties for installation instruction or call Norstone UK Ltd for further information. During installation and curing, temperatures should be at least 5 degrees and rising throughout curing time. Curing Times will lengthen depending on temperatures.

Butt horizontal and vertical seams up tightly to achieve a groutless look. Special care should be taken to set the first course and achieve a level line by either selectively trimming or shimming the tiles and then maintaining level as subsequent courses are set.

### 4) Corners.

Internal and external corners are easily fabricated on-site from standard tiles. Individual Plancs can be set along a corner in an alternating overlap pattern where the short edge (thickness) of the tile is exposed on each course, alternating on which side of the corner from one course to the other. A mitre cut can also be used for internal and external corners as well as any non-90 degree corners.

## 5) Sealing.

Pre-sealing prior to setting should be considered depending on the stone selected and the environment it is to be installed in.

When pre-sealing, ensure that the product used is appropriate to work in conjunction with the selected tile adhesive.

We would recommend that the Lavastone Platinum and Graphite, should be sealed prior to installation. This will reduce any chance of finger staining during installation. Both these products may contain iron oxide which is a natural ingredient within this type of stone and to reduce this occurring we would recommend the application of the appropriate penetrating sealant.

Otherwise, most Planc Series colours should be sealed with Lavastone Sealant, a penetrating water based sealant. Different sealers can produce different effects on the stone, so be sure to test the sealant on a sample or offcut of tile before applying to the entire project.

The benefit of Norstone Planc Series is the high degree of calibration we are able to achieve with this product through our expertise in raw stone sourcing and decades of stone fabrication experience at our manufacturing centre simplifying installations for both commercial and residential applications alike.

## Installing Norstone Lynia™ tiles

When installing Lynia Tiles the following installation is recommended.

Apply Norstone Lavastone sealants, depending on what type of Lavastone please refer to "Stone Care and Protection Guidance", this will determine the type of sealant required for the particular stone using a lint free cloth to the Lavastone tile before installing. Once dried it is ready for installing.

When installing Norstone Lynia tiles, trowel over the substrate with a 6 mm x 9 mm notched trowel. Then back butter all panels using the straight-edge of the trowel with a thin skim-coat of MVIS Masonry Veneer Mortar. Place & press the Norstone panel into the notched mortar bed to achieve 100% contact and adjust to the desired position. This design of trowel will avoid any excess adhesive slipping through the gaps and preventing effective grouting.

Using a grout float, pat down to ensure full contact. Once dried, apply the grouting as you would any normal natural stone products.

## Installing Norstone Rustik™ with Laticrete MVIS Masonry Veneer Mortar onto Knauf Aqua Exterior Boarding

We would strongly advise that a skilled Stone mason should be used when installing Norstone Rustik.

When installing Norstone Rustik onto Knauf Aqua Panel exterior Boarding when using Laticrete MVIS Masonry stone veneer Mortar, it is required that adhesive be applied to the rear of the Norstone Rustik Panel, and also the Substrate.

As the interface between both the Knauf board and the rear of the Rustik Panel is smooth, flat and even, the total bedding thickness should be no greater than 6mm when affixing onto Knauf Aqua Panel. Given the open joints of the Rustik Panel, it is imperative that 100% contact between the stone and substrate is achieved whilst ensuring there are no open voids, behind the panel where the adhesive has been applied. This will stop any moisture collecting behind the Rustik panel, which during a freeze/thaw cycle may cause failure.

When installing Norstone Rustik, it is required to install the **Keystone** into the middle gap between the two panels immediately after the surrounding panels are fixed, to ensure the adhesive layer is fully compacted by the stone whilst it remains wet, tacky and open. This should be applied to ensure a full 100% contact is achieved between all the stone and the base substrate ensuring there are no open voids left within the adhesive bed.

Warranties will only apply when conditions of installation are met, that is, no voids and maximum thickness of compressed bed of adhesive of 6mm when affixing onto Knauf Aqua Panel when installing the Norstone Rustik Panel.

## Installing Norstone Rustik™ with Laticrete MVIS Masonry Veneer Mortar onto Standard Concrete Block work/ Brick Work

We would strongly advise that a skilled Stone mason should be used when installing Norstone Rustik.

When installing Norstone Rustik onto Standard Concrete Block work /Brickwork when using Laticrete MVIS Masonry Stone Veneer, it is required that the adhesive be applied to the rear of the Norstone Rustik Panel, and also the Substrate. Given the relative even level of the Rustik Panel, (and allowing for any irregularity in the profile of the block / brickwork substrate) the total maximum thickness bedding thickness should be no greater than 18mm when affixing onto Standard Concrete Block work/ Brick Work.

Given the open joints of the Rustik Panel, it is imperative that 100% contact between the stone and substrate is achieved whilst ensuring there are no open voids, behind the Panel where the adhesive has been applied. This will stop the moisture collecting behind the Rustik panel, which during a freeze/thaw cycle may cause failure.

When installing Norstone Rustik, it is required to install the Keystone into the middle gap between the two panels immediately after the surrounding panels are fixed, to ensure the adhesive layer is fully compacted by the stone whilst it remains wet, tacky and open. This should be applied to ensure a full 100% contact is achieved between all the stone and the base substrate ensuring there are no open voids left within the adhesive bed.

Warranties will only apply when conditions of installation are met, that is, no voids and maximum thickness of compressed bed of adhesive of 18mm when affixing onto standard concrete block work/ Brick work.

## **Special note on moisture rich environments and freeze thaw climates**

### **Moisture Rich Environments**

It is essential that Laticrete MVIS Air & Water Barrier is applied between the substrate and the Laticrete MVIS Masonry Veneer Mortar adhesive. This will ensure moisture will not reach the substrate material and potentially degrade its ability to support the Norstone panels.

When installing Norstone with Laticrete Air and Water Barrier, ensure that the adhesive is fully cured before applying Norseal H20 Penetrating Sealant.

## **Freeze / Thaw Climates**

Norstone rock panels will not be affected at all by the normal freezing and thawing of the climate they are exposed to. However, the same cannot be said about the substrate or the adhesive bed to which they are applied.

Norstone Ochre Blend rock panels are 100% natural sedimentary slate and may be subject to some spalling. It is a natural product and this characteristic is one of nature. To minimize this, we recommend an application of Norseal H20 Penetrating Sealant.

Norstone Charcoal rock panels are 100% natural slate and are hard wearing. Some iron oxide may exist naturally within the stone and may leave oxide marks on the stone when exposed to moisture. To minimize this, we recommend an application of Norseal H20 Penetrating Sealant.

## **Post installation guidelines**

### **Cleaning**

Excess dirt and film may be removed using clean water and a stiff brush; it is important not to allow adhesive to dry on face of the stone panels. Remove it prior to it hardening. Acidic cleaning agents must not be used under any circumstances as this will cause unnecessary damage to natural stone and void any warranty.

### **Sealing**

For an overview of our sealants, please read **Stone Care & Protection Guidance**, page 2. Follow instructions on the application of sealer. Sealed stone is easier to keep clean than unsealed stone and also helps repel stains. However, sealers must be periodically reapplied, especially on exterior applications.

Our sealants have been specially designed to maintain the integrity and natural colour of the stone.

In common with all tiling projects, we strongly recommend that all tests are carried out on a small sample prior to installation.

## **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 Norstone rock panels please adhere to the following recommendations:

- Regular dusting for interior applications and hose washing for exterior applications is recommended.
- 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.
- 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 1.5 metres away when pressure washing.

## **WARNING - PLEASE DO NOT:**

- Acid wash the stone.
- High-pressure wash the stone (directly or indirectly).
- 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 texture of the product

## LATICRETE WARRANTIES

Laticrete will warranty their adhesives when installing Norstone, providing the following steps are undertaken:

### **1. Internal Installations**

Norstone products can be installed onto concrete, suitable high density concrete blockwork, brick or Hardie Backerboard. The background must be free from any dust, debris, paint or any other substance that will inhibit the bond of the adhesive. It must be stable and be able to support the load of the selected Norstone product.

If the substrate is not even, a render coat must be applied to create a smooth, flat surface prior to fixing Norstone. Apply Laticrete 3701 Fortified Mortar in accordance with the instructions in our technical library.

If applying multiple coats, each coat must be fully cured before the next one is applied. Once the mortar has dried, Norstone panels can be installed in accordance the technical guide. Apply the Laticrete MVIS Masonry Veneer Mortar Adhesive (known as Laticrete MVIS Adhesive) to the substrate and all parts of the back of

the Norstone panel, ensure all the Norstone panel back is 100% covered with adhesive. The maximum total thickness of the adhesive bed is up to 18mm.

Norstone products can be applied directly onto the Hardie Backerboard using Laticrete MVIS Adhesive. As above, apply the adhesive to the substrate and the back of the Norstone panel to achieve 100% coverage. The boards must be installed in accordance with the manufacturer's guidelines. This installation will be eligible for a 10 year Laticrete System Warranty.

The adhesive should be applied onto the substrate and the back of the Norstone panel within 15 minutes of mixing.

### **2. External Installations**

When fixing Norstone with Laticrete MVIS Masonry Veneer Mortar, ensure that the substrate temperature is +4 degrees C and rising during the installation and immediately afterwards.

The best way to avoid retaining moisture within the structure will be to apply the cladding to the concrete blockwork after it has been exposed to conditions over a period which will promote complete drying, ie dry, warm with a good breeze. A period of exposure prior to fixing such as this should allay concern regarding trapped moisture.

The installation may require protection using frost blankets or hessian sheets to sustain the required temperature throughout the curing process of the adhesive until it has fully cured. Norstone products can be installed onto concrete, brick, suitable high density concrete blockwork or HardieWall.

The background must be free from any dust, debris, paint or any other substance that will inhibit the bond of the adhesive. It must be stable and able to support the load of the selected Norstone product.

If the substrate is not even, it is recommended to apply a render coat to create a smooth, flat surface prior to fixing Norstone, using Laticrete 3701 Fortified Mortar\* in accordance with the instructions in our technical library.

\*NB - The Laticrete 3701 Fortified Mortar cannot be applied to HardieWall.

After applying the Laticrete 3701 Fortified Mortar, it must be allowed to fully cure before applying two coats of Laticrete MVIS Air and Water Barrier by brush or hairy roller. Ensure the first coat is allowed to dry before applying the second; allow to dry.

When installing Norstone with Laticrete MVIS Air and Water Barrier and Laticrete MVIS Veneer Mortar, ensure that the adhesive is fully cured before applying Norseal H20 Penetrating Sealant.

The affixing of Norstone must be completed within 30 days of application of the MVIS Air and Water Barrier as it is ultra light light-sensitive and will degrade.

Using both Laticrete MVIS and Laticrete Air and Water Barrier when affixing Norstone onto concrete, high density blockwork or brick substrates will enable eligibility for the 25 Year Laticrete System Warranty.

The Laticrete MVIS Adhesive adhesive should be applied to the substrate and the back of the panels to ensure 100% coverage.

Norstone products can also be fixed to HardieWall™ using Laticrete MVIS adhesive. As above, apply the adhesive to the substrate and the back of the Norstone panel to achieve 100% coverage.

The boards must be installed in accordance with the manufacturer's guidelines. The adhesive should be applied onto the substrate and the back of the Norstone panel within approx. 15 minutes of mixing.

We would always recommend Norseal penetrating sealer be applied to Norstone products after installation, the sealer does not generally alter the appearance of natural stone - however, we would advise applying a test coat on an off-cut prior to full application onto a completed project. Note: The Laticrete products detailed above must be mixed and applied as per the latest technical data sheets.

Technical Information regarding Laticrete, Norstone and Hardie boards can be found at <https://www.norstone.co.uk/technical-library.html>

### **3. Guidelines & Recommendations when fixing with MVIS Masonry Veneer Mortar adhesive in adverse site conditions**

The optimum conditions for installation of direct adhered cladding are temperatures between 16°C and 27°C, with 50% relative humidity and minimal wind. Due to the UK climate, these conditions are not typical, so provisions must be made for variations in climatic and environmental conditions.

The need for protection applies to the substrate, the installation of adhesives and grouts and post-installation (rain and temperature protection) until suitable cure has been achieved, as well as the storage and handling of the cladding material. The standard rule of thumb applies: For every 10°C above 21°C cementitious materials cure twice as fast. For every 10°C below 21°C, cementitious materials take twice as long to cure.

Due to the normal rate of Ordinary Portland cement hydration and how its' strength development is affected by low temperatures, it is very important to protect installations for longer than normal periods until full cure. Always allow for extended cure time for installation in cooler temperatures. It is important to note that large format tile and stone will also require extra curing time in cooler temperatures beyond what is stipulated. Suitable protection should be included in the scope of work. Each component must reach a proper cure prior to installing the subsequent installation product.

#### **Helpful Hints:**

- Ensure that the surface temperature is within the suggested temperature range for the LATICRETE Product
- Consult the individual LATICRETE product data sheet and How-to-Install guide for more information.
- Tent / shade that will be subjected to the elements (wind/raid) or freezing temperatures during installation and cure periods.

**Wet Conditions** - Certain materials used in direct adhered exterior wall assemblies are moisture sensitive. For example, the strength of cementitious adhesives can be reduced from premature exposure to water/moisture or exposure to excessively wet or damp conditions. Materials, such as waterproofing membranes, may not cure properly or can delaminate from an excessively damp substrate exposed to negative hydrostatic water pressure from within the structure.

A very damp substrate may also contribute to the formation of efflorescence (see TDS 159 “Efflorescence - Causes and Prevention” for more information). This is of particular concern not only from normal rain exposure during construction but also in areas of a facade which may be exposed to rising dampness at ground level, and in areas where leaks from poor design or construction cause continual dampness in the substrate. The maintenance of suitably reliable drainage infrastructure and installation of an effective, un-bridged DPC in accordance with building regulations is essential to ensure protection & longevity of the fixed paneling.

Protection and corrective action primarily requires temporary enclosures or tarpaulins prior to, during and immediately after installation to shield from rain.

If prolonged exposure occurs, Surfaces that appear dry may be saturated internally and require testing to determine suitability of certain overlay substrates, membranes or adhesives.

### **Installation of Knauf Aqua Exterior Boarding or Internal Knauf Boarding**

When installing the Knauf Aqua Exterior or interior Boarding, the Installation methods must be strictly adhered to for the Knauf Guarantee and Laticrete 15 year Warranty to apply when affixing Norstone.

Drawings/plans of intended installation methods must be sent to Mr Richard Lord, Technical Development Manager of Knauf for his approval. His email address is [rlord@knauf.co.uk](mailto:rlord@knauf.co.uk) Any technical questions regarding the installation of Knauf Aqua exterior Panel or interior Boarding, must be sent stating the installation required to allow Norstone to be affixed to Knauf.

Written approval or amendments must be incorporated within the design in order for the system warranty to exist.

For the Knauf Guarantee and the 15 year Laticrete warranty to be in place, The Knauf Aqua Exterior Boarding and internal Boarding, must be purchased through Norstone UK Ltd.

*The information provided in this document is to be used as a guide only and does not constitute a Laticrete Warranty. A project specific Laticrete Warranty is available upon request. All information supplied is subject to the company's terms and conditions of sale, copies of which are available.*

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## Laticrete Warranty Letter Information

Customer Name:	
Customer Address:	
Project Name:	
Project Address:	
Start Date:	
Project brief details including m <sup>2</sup> :	
Background Substrate:	
Norstone products specified:	
Laticrete products specified:	

**Globally Proven Construction Solutions**

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e-mail: sales@laticrete.co.uk



## **Guidelines & Recommendations when fixing with MVIS Veneer adhesive in adverse site conditions**

The optimum conditions for installation of direct adhered cladding are temperatures between 16°C and 27°C, with 50% relative humidity and minimal wind. Due to the UK climate, these conditions are not typical, so provisions must be made for variations in climatic and environmental conditions.

The need for protection applies to the substrate, the installation of adhesives and grouts and post-installation (rain and temperature protection) until full cure of the adhesive mortar has been achieved, as well as the storage and handling of the cladding material. The standard rule of thumb applies: For every 10°C above 21°C cementitious materials cure twice as fast. For every 10°C below 21°C, cementitious materials take twice as long to cure.

Due to the normal rate of Ordinary Portland cement hydration and how its' strength development is affected by low temperatures, it is very important to protect installations for longer than normal periods until full cure. Under ideal conditions full cure of the adhesive mortar will take 28 days, so always allow for extended cure time for installation in cooler temperatures. It is important to note that large format tile and stone will also require extra curing time in cooler temperatures beyond what is stipulated. Suitable protection should be included in the scope of work. Each component must reach a proper cure prior to installing the subsequent installation product.

### **Helpful Hints:**

- Ensure that the surface temperature is within the suggested temperature range for the LATICRETE MVIS Veneer Mortar adhesive
- Consult the individual LATICRETE product data sheet and How-to-Install guide for more information.
- Tent / shade that will be subjected to the elements (wind/rain) or freezing temperatures during installation and cure periods.

Wet Conditions – Certain materials used in direct adhered exterior wall assemblies are moisture sensitive. For example, the strength of cementitious adhesives can be reduced from premature exposure to water/moisture or exposure to excessively wet or damp substrates. Some materials, such as waterproofing membranes, may not cure properly or can delaminate from a continually wet or damp substrate.

A damp substrate may also contribute to the formation of efflorescence (see TDS 159 “Efflorescence – Causes and Prevention” for more information). This is of particular concern not only from normal rain exposure during construction, but, also in areas of a facade which may be exposed to rising dampness at ground level, and in areas where leaks from poor design or construction cause continual dampness in the substrate. The maintenance of suitably reliable drainage infrastructure and installation of an effective DPC in accordance with building regulations is essential to ensure protection & longevity of the fixed paneling.

Protection and corrective action primarily requires temporary enclosures or tarpaulins prior to, during and immediately after installation to shield from rain. If prolonged exposure occurs, surfaces that appear dry may be saturated internally and require testing to determine suitability of certain overlay substrates, membranes or adhesives.