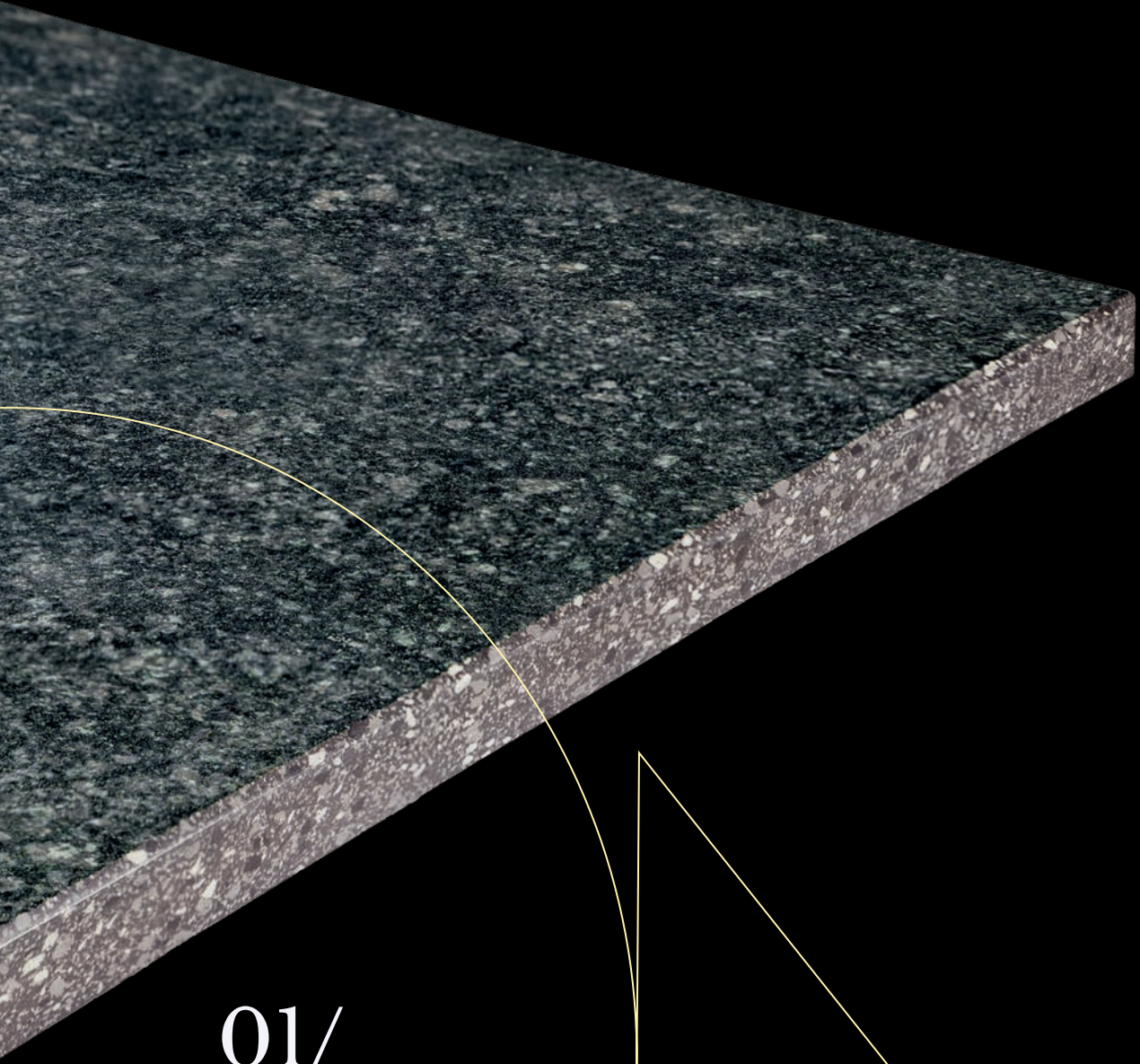
Technical Manual

TILING AND PAVING

NEOLITH

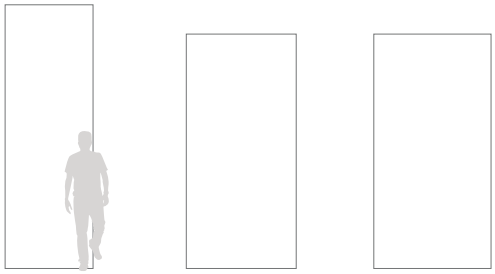


01/ Product

01/
Product

1.1 FORMATS

Neolith is manufactured in large format slabs of around 5 m^2. This allows the product to adapt to any type of project, reducing joints, making it easier to clean and improving its look. Also, it is quicker to install.



3.600 x 1.200 mm 142” x 47”	3.200 x 1.500 mm 126” x 59”	3.200 x 1.600 mm 126” x 63”

1.2 TILE FORMATS

Neolith offers premium sintered stone surfaces in standard tile formats.

1.500 x 1.500 mm 60” x 60”	1.500 x 750 mm 60” x 30”	1.200 x 1.200 mm 48” x 48”	1.200 x 600 mm 48” x 24”	750 x 750 mm 30” x 30”	600 x 600 mm 24” x 24”

Cut-to-size formats also available for projects.
Dimensions in inches are Nominal inches.

01/
Product

1.3 FINISHES

Neolith is available in different finishes that add richness and value to the designs created with these surfaces: from rough textures with relief to shiny polishes with linear reflections.

MATTE FINISHES

SATIN

A completely matte finish. Highly resistant and ideal for commercial applications.

SILK

A matte finish with a thin layer of glaze that provides a subtle shine and a nice soft touch. This finish is extremely easy to clean.

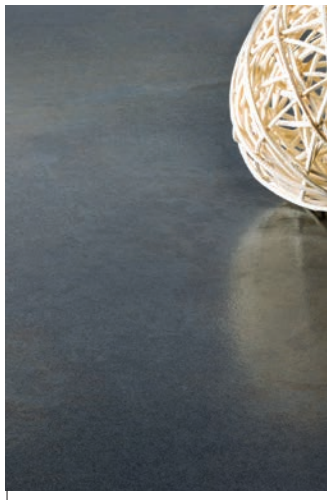
ULTRASOFT

Matte texture with the highest softness and depth

GLOSSY FINISHES

DÉCOR POLISHED

The Décor Polished gives a perfectly linear reflection to the colors of the Classtone Collection, which gains in depth and elegance.



STEEL TOUCH

Steel Touch is Neolith's metallic finish with smooth reflections and surfaces.

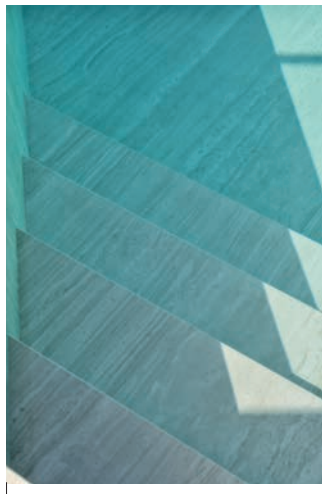
TEXTURED FINISHES

RIVERWASHED

A finish with a rough texture and high relief for surfaces that evoke sensations to the touch.

SLATE FINISH

Similar to a natural slate, the Slate finish creates the illusion of strata on the surface.



ASR

Available on demand anti-slip finish is a perfect option for wet areas or with special requirements.

01/
Product

1.4 THICKNESSES

Each one a specific range of applications:

3 MM 1/8”	INTERIOR WALL CLADDING, FURNITURE CLADDING	**6 MM** 1/4”	INDOOR / OUTDOOR FLOORING, INTERIOR AND EXTERIOR CLADDING, FURNITURE CLADDING
12 MM 1/2”	KITCHEN COUNTERTOPS, TABLE TOPS AND BATHROOM VANITIES	**20 MM** 3/4”	KITCHEN COUNTERTOPS AND TABLE TOPS

	3 (1/8”)	3+ (1/8”)	6 (1/4”)	6+ (1/4”)	12 (1/2”)	20 (3/4”)
Indoor paneling	●	●	●	●		
Indoor paving			●	●	●	●
Outdoor natural stone facade			●	●	●	●
Outdoor paving			●	●	●	●
Ventilated facade with exposed anchoring				●	●	●
Ventilated facade with hidden anchoring				●	●	●
Countertops					●	●
High-traffic paving				●	●	●
Indoor paneling over the material	●	●	●	●		
Indoor paving over the material			●	●		
Furniture	●	●	●	●	●	●

(+) means slabs reinforced with Fiber Glass mesh.

1.5 CHARACTERISTICS

Neolith slabs can be installed indoors or outdoors and work well in high-traffic areas.

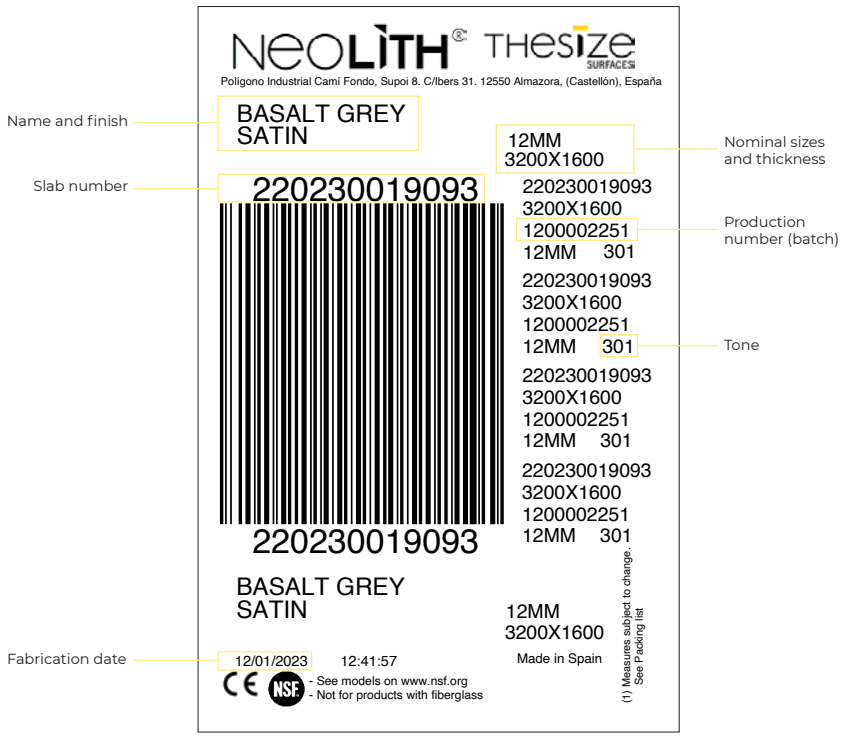
Neolith is resistant to freezing and highly resistant to stains, scratches and water. In addition, the non porous nature of neolith makes cleaning faster and easier.

Neolith has an almost zero water absorption rate and an increased mechanical resistance, making neolith an ideal construction material.

Consult the technical
data sheet at neolith.com

1.6 SLAB IDENTIFICATION

Each slab has a label with important information related to each slab. The labels must be recorded for future reference.



02
Handling

02/
Handling

Neolith slabs must be loaded, unloaded and transported by means of a forklift, bridge crane or other hoisting device.

Whenever handling and transporting, the slabs must be balanced taking their center of gravity into account.

The following table summarizes the weight per slab and per square meter:

THICKNESS	M²	SLAB 1200 X 3600	SLAB 1600 X3 200
3+ mm	7.4 kg/m²	32.6	---
6 mm	14.4 kg/m²	---	75.1
6+ mm	14.8 kg/m²	---	77.2
12 mm	28.8 kg/m²	---	150.2
20 mm	48 kg/m²	---	250.3

2.1 TRANSPORTING WITH A CLAMP

Neolith recommends using the following type of clamp for lifting and moving individual slabs:

Neolith Slab handled with a clamp

2.1 TRANSPORTING WITH A CLAMP

Always pay attention to the movement and handling of the slabs to prevent splintering or breakage.

The additional width of the recommended clamp will prevent the slab from bending during handling to, thus, prevent undesirable breakage.

Contact Neolith for more details.

RECOMMENDATIONS:

Clamping more than 2 slabs at the same time is not recommended.

Before lifting polished slabs with the clamp, remove the protective plastic.

Make sure to cover all metal surfaces that may come into contact with the slab with adhesive foam tape.

2.2 TRANSPORTING WITH SLINGS

Using canvas slings to move several slabs at the same time is recommended.

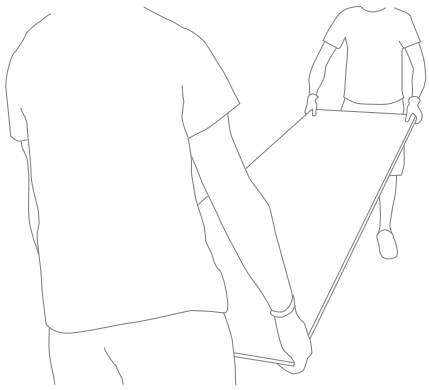
Metal slings must not be used to handle Neolith slabs.

This transporting method is not recommended for polished finishing slab

Canvas slings

2.3 MANUALLY TRANSPORTING A NEOLITH SLAB

Moving a Neolith countertop



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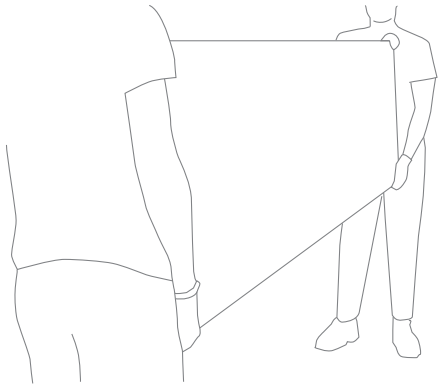
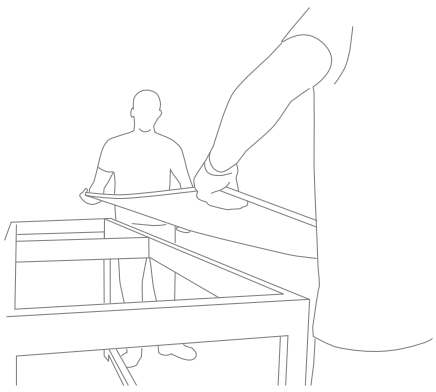


Correct

Raising a Neolith countertop onto a bench



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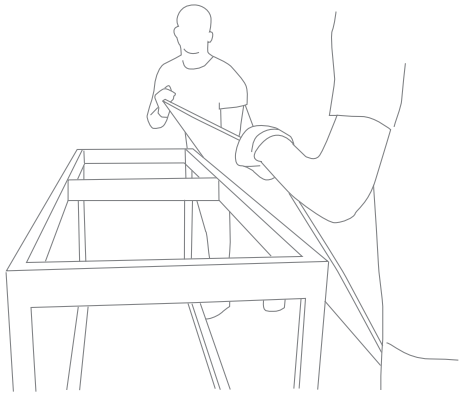


Correct

2.4 SLAB STORAGE

TheSize recommends storing slabs using either A-frames or storage racks. Its further recommended to secure stored slabs with ratchet straps when storing slabs on A-frames.

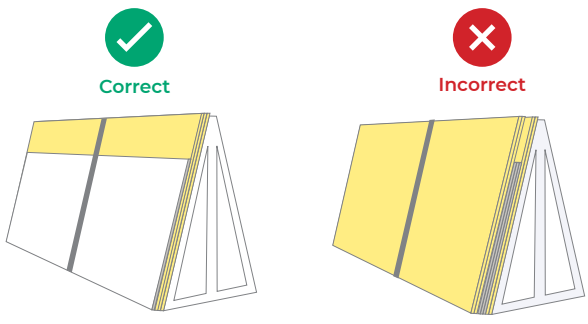
Place the slabs length-wise on sufficiently protected beams to prevent the slabs from splintering.

Supports for slab storage

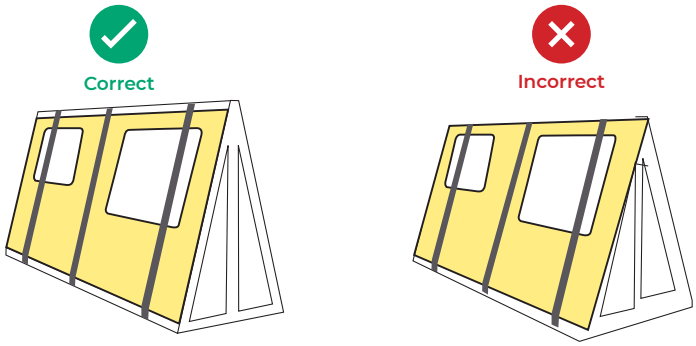
When using A-frames to support Neolith, 3mm and 6mm slabs need at least three support points, distributed evenly along the back of the slab; a full support is recommended - an unused granite or marble slab with sufficient width, for example.

Avoid positioning large slabs against smaller slabs:

Storage of Neolith slabs in the shop



The supports must be able to hold the entire surface of the part during transport. Supports that are too small may cause the part to break:



Regardless of the storage method, we advise not setting other materials on top of Neolith slabs, especially on polished finishes. If it is necessary to place something on the slab, separate the materials with appropriate spacers

2.5 TRANSPORT BY ROAD

When transporting Neolith slabs/pieces, ensure the material is fully supported and secured using straps/belts to prevent damage during transport. Ensure the weight of the load is evenly distributed during the loading and transport of the material.

For both storage and transport, the entire surface of the slab must rest on the support. Avoid placing large slabs against smaller ones. Once protected, it is recommended to fix the slabs to the trestle by means of straps (3 per trestle) resting on wooden slats to avoid damaging the material.

The trestles are loaded according to minimum instructions that guarantee the integrity of the material during shipment. The loading instructions vary according to the characteristics of the means of transport by which the goods are transported, lorry or container.

The loading capacity of the lorries will be determined by the weight limitations, which depend on the legislation of each country. It is always recommended to carefully check the transport route and the regulations of the destination country.

2.6 COMPILATION OF MATERIALS

For the loading/unloading of Neolith material, a flat/ well-leveled terrain is mandatory, and it is advisable that the warehouses are provided with loading docks.

The necessary separation in the packaging should be maintained to avoid blows.

Unnecessary movement of material should be avoided.

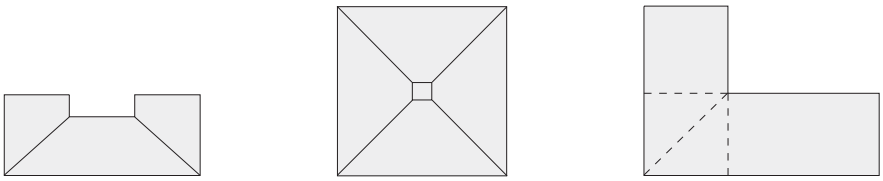
03
Installation

03/
Installation

3.0. PRE-INSTALLATION (PRE-ASSEMBLY, BEFORE STARTING)

Design
Calculate adequately the material necessary for the installation, considering an extraordinary percentage for possible breakages or unforeseen needs.

Make a correct working plan view taking into account the 'obstacles' (doorways, windows, electrical mechanisms, taps, pillars, etc.), taking advantage of them to compose the different pieces.
Avoid making L-shaped pieces or pieces with unbalanced weights.



For continuity and a better visual appearance, whenever possible, make pieces of similar size, avoiding variations in the same space to be tiled.

Tone
Neolith strives to match the tone of current batches to previous batches. Despite this, slight variations in tone may occur between different batches of the same model due to the use of natural raw materials. Tone variations are more noticeable between different thicknesses of the same model due to the way each thickness is manufactured.

Before installing, visually inspect the individual slabs/slabs to ensure that the tone is acceptable. Perform this inspection in lighting conditions similar to those at the installation site. Do not combine slabs from different batches.

Directionality
When installed in different planes (vertical walls and horizontal floors), a false appearance of different tones can occur. Furthermore, slabs/tiles mounted in different directions can give the impression of a variation in tone by reflecting light differently, even though the tone is the same.

3.1. PRIOR TO SETTING

The area where the slab is installed is of vital importance to correct installation and continuous functioning.

For a correct installation it is necessary that the support is as stable as possible, avoiding possible movements and fractures of the support. For more security, we can always use a decoupling film.

Before beginning the installation operation, all types of substrate, it is best to check for the following characteristics:

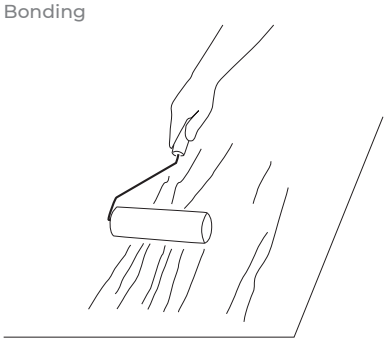
- Healthy and without cracks; Any crack must be sealed
- Mechanically resistant (the mechanical resistance must be adequate for the intended loads and the intended use).
- Dry (drying of each type) of support should be verified according to the methods provided for each type.
- Clean and without loose parts (dust, grease, oils, waxes, varnishes, release agents and any other substance that may affect adhesion).
- Perfectly flat (recommended tolerance ±1.5 mm) If the differences in the substrate exceed this tolerance, it is necessary to regularize it before placement using leveling products
- Using an anti-fracture/decoupling membrane mesh between the support and the piece is highly recommended.
- Identify and inspect all structural expansion joints. It is important to consider the position and the width of these as this impacts on the flooring layout. All pre-existing expansion joints must be respected in width and flexibility properties to avoid stress transfer from the building to the slabs.

3.2 BONDING PRIMER

If you wish to improve the adhesion of the Neolith material with fiberglass reinforcement applying a water-compatible adhesion enhancement agent for compact, non-absorbent substrate is recommended.

When installing cladding, it is recommended to apply an adhesion enhancement product directly to the back of the Neolith slab by applying a thin film, preferably with a sponge roller.

Bonding



The stability of the substrate/support must be guaranteed. This stability is conditioned by:

- The retraction of cement binders by the processes of drying and hydration of cement during the slow maturation of these materials.
- The deformation under load of the construction element by its own weight, by the induced tensile and compression stresses
- The deformation without load of the constructive element as a consequence of its nature and its interaction with the environment.

3.3. ADHESIVE APPLICATION

Make sure the suction cups are tightened before moving the slabs; clean and moisten the suction cups before securing them; increase the suction against the Neolith slab.

To apply mortar, positioning the slab fixed to the suction frame horizontally and then turning the slab downwards is recommended. A flat workbench will be required to rest the frame without causing deformation or arching in the slab.

Once the frame with the slab is fixed in a horizontal and flat position, the back of the slab must be cleaned to eliminate any dust or dirt before the glue cement may be applied.

3.4. DOUBLE BUTTERING

Apply the adhesive with double buttering without leaving gaps. First, on the back of the slab with a trowel (a 6 mm flat notched trowel is best). Then, apply to the support. A 10 mm slanted notched trowel is recommended. Try to cover all corners and edges and avoid air pockets between the support and the piece of slab.

The double buttering technique is necessary and essential to preventing gaps on the back of the slabs. These gaps can collect rainwater which could create tension and cause the slabs to become unglued at below-zero temperatures.

Back buttering is also necessary so the tension caused by different movements due to changes in temperature and/or structural movements will distribute evenly and over a larger surface area.

The trowel lines must be applied in parallel to the shortest edge of the slab, this way when knocking down the ridges the air would escape easily.

Bear in mind to apply the trowel lines on the support in the same direction as the trowel lines on the back of the slab, avoid the “fan technique” application as it would cause trapped air and hollow areas between slab and support.

Trowel for the slab

Trowel for the support

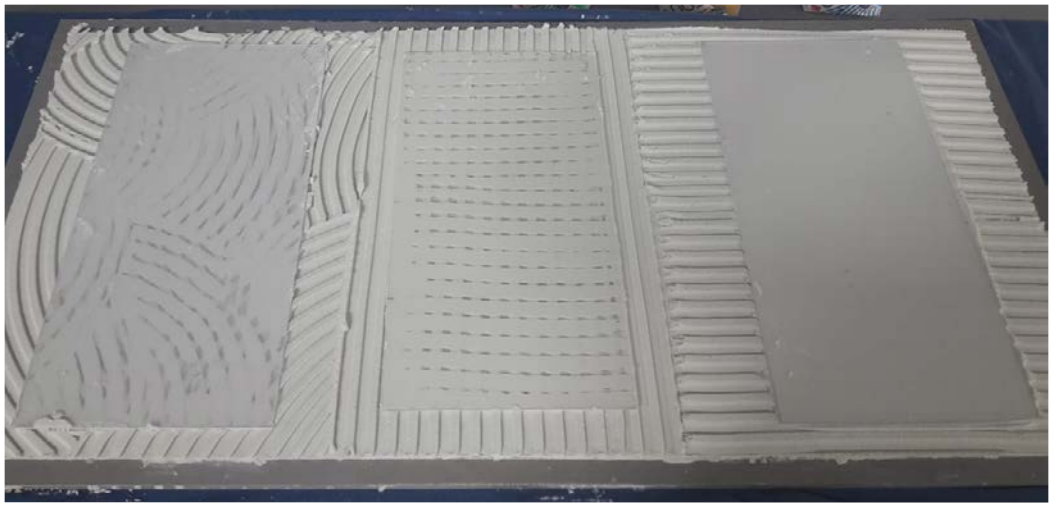
Gluing the slab and the support

Incorrect

Incorrect

Correct

Result of the different techniques



3.5. SETTING

Once both surfaces are ready to be installed, place the Neolith slab downwards into the final installation position.

3.5.1. Flooring

3.5.2. Walls

Tap surface with rubber trowel or similar surface using a rubber trowel to eliminate all gaps and air bubbles. Always check for perfect adhesion to the corners and sharp edges.

Rubber trowel

Do not step on the flooring during or after laying; respect the times indicated by adhesive manufacturer.
Before grouting, adhere to the times recommended by the adhesive manufacturer.

3.6. LEVELLING SYSTEMS

It is highly unlikely that the sub-floor is completely level and true. There is almost always some type of irregularity which is often only noticed once the slabs are installed.
The best way to prevent this is by using a levelling system. There are various advantages to levelling systems:

- Using a leveling system assists in achieving a true and level installation
- They ensure the improved contact between tile and adhesive, for a stronger and longer-lasting installation.
- They reduce the slab installation time.
- They reduce the need to lift up the slabs again to add more adhesive.

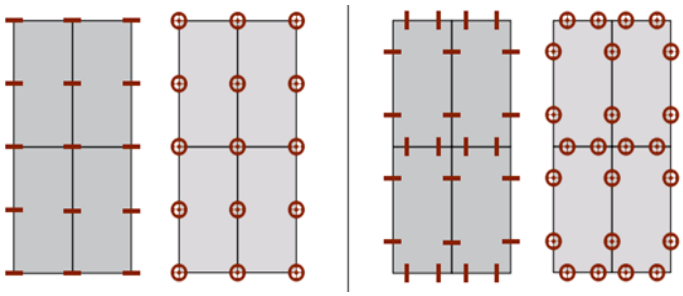
Levelling

The installation of this type of system often follows a three-step process.

3.6.1 Arrangement of leveling clips and wedges

After applying adhesive to the slab, insert the levelling supports under the slab along all four sides. For large-format slabs, use more than one clip along each side. Position the slab in place as per the recommendations (3.4).

A minimum distance from the joint and the first levelling clip of 50mm is recommended. Please check the supplier's instructions of minimum distance between clips considering slab size and thickness.



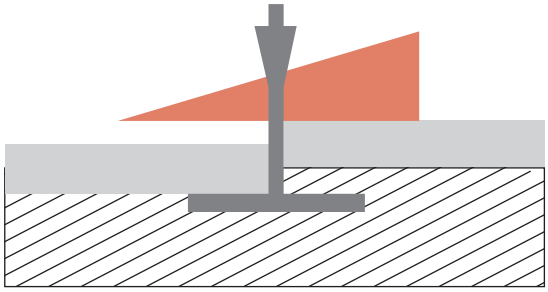
Supports

3.6.2 Insertion of the wedges

With the slab in place, carefully insert the wedges in the support grooves. This must be done carefully so as not to push the wedges beyond the fracture point.

Correct installation of wedge system.

- Insert the wedge into the slot of the clip, taking care not to exceed the breaking point (maximum load) of the clip (please check supplier's guidelines);
- Always insert the wedge from the fresh tile side toward the slab previously installed.

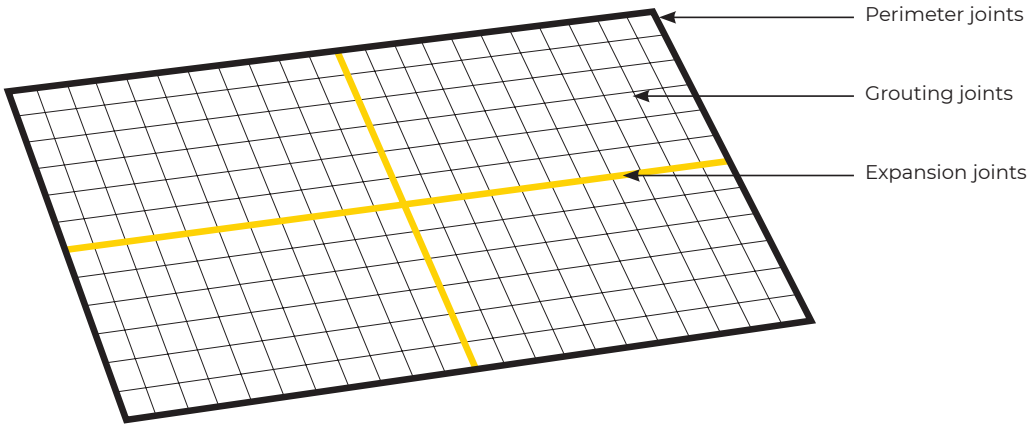


3.6.3 Remove the Levelling system removal

Once the adhesive is dry, remove the part of the clip that stick out from the tiles by hitting it in the direction of the joint line with a rubber hammer or with a kick.

Do not hit the clips perpendicularly to the direction of the joint line.

When used correctly, a levelling system will assist with correct and level installation of large format slabs.



JOINT WITDTH		
2-3 mm	3-5 mm	Joint > 5mm
Indoor	Indoor	Indoor/Outdoor not less than 5mmSupport
Support's Stability	Support's Stability	Support's Stability
Stable or minimum deformability	Stable or minimum deformability	Medium Stability or Medium deformability

3.7. JOINTS

3.7.1 Grouting joints

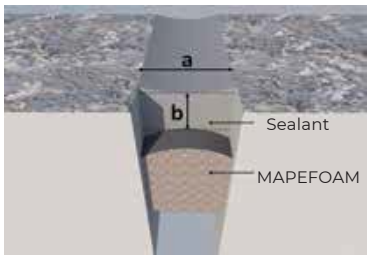
The joint is a crucial aspect of any flooring and wall cladding installation.
It has several functions. It leaves room for expansion of the materials, absorbs structural movements, and allows the moisture of the adhesive to evaporate while drying.
The size of the joint must be determined by the prescriptor, based on the materials used, the location, the intended use and the slab dimensions.

3.7.2 Expansion joints

Expansion joints are critical, especially on floors exposed to sunlight and therefore increased rates of expansion. Without them, most installations that are seemingly well-done will fail.

Without enough space for the installed slabs to expand, there is a high risk of the adhesive and installation failure. This situation can occur with both commercial and residential installations so none of them are exempt of this requirement.

Expansion joints must be installed in 25 SQM areas indoors and 9 m^2 areas outdoors. These joints must be a minimum of 10mm - 3/8" mm wide, must extend through the tile and adhesive layers to the subfloor and must be filled with good quality elastic joint sealant.



A - WIDTH OF THE SEAM	B - DEPTH OF THE SEAM
from 0 a 4 (mm)	increase the width of the seam
from 5 a 9 (mm)	b = a
from 10 a 20 (mm)	b = 10 (mm)
from 21 a 40 (mm)	b = a/2 (mm)
more than 40 (mm)	decrease the width of the seam

3.7.3 Perimeter joints

Perimeter joints are used where the Neolith surface is against movement barriers such as walls, columns, stairs and closets.

Perimeter joints must be continuous and the width must be no less than 5mm - 3/16" mm. These joints must reach the filled with good quality elastic joint sealant. These joints must reach the substrate.

3.7.4. Structural joints

Pre-existing joints in the support must be respected.

3.7.4 SUPPORTS/ STABILITY

No constructive element is stable from the dimensional point of view

Stable or minimum deformability Supports with low expected movements. Very Compatible with Neolith System (Sintered Stone / Adhesive / Support)

Medium Stability or Medium Deformability Supports with expected medium movements. Mediumly compatible with Neolith (Sintered Stone / Adhesive /

Special attention: Very deformable adhesive / Wider joint / Tile format / Movement joints

Low Stability or High Deformability With high expected movements. Not compatible with Neolith (Sintered Stone / Adhesive/Support)

Execution of a self supporting floating floor prior to the placement of the Neolith System (Sintered Stone / Adhesive / Support)

3.7.5 STABILITY IS CONDITIONED BY:

The retraction of cement binders by the processes of drying and hydration of cement during the slow maturation of these materials.

The deformation under load of the construction element by its own weight, by the induced tensile and compression stresses

The deformation without load of the constructive element as a consequence of its nature and its interaction with the environment.

MOVEMENT JOINTS		
Structural Joints	Pre-existing joints in the support must be respected	
Perimeter Joints	5 mm from the construction element	
	Indoor	**Outdoor**
Intermediate Joints	No more than 50-70 m^2/ Every 8 Linear metres	No more than 25 m^2 /Every 5 Linear Meters
	No more than 25m^2 when Sizes > 1m2 Total area	Discuss the joint pattern with the Project Management/ Site management, depending on Climatology when Sizes > 1m^2 Total Area
Depending on the Support´s Stability, the characteristics of the project and the Neolith Slab´s size		

04
Indoor installation

04/
Indoor installation

4.1. GENERAL RULES

- Leave at least a 3 mm space between slabs depending on the reliability of the support and area to be cladded.
- Create >5mm - 3⁄16" movement joints every 25m² - 270 SQ.FT., respecting the exact pattern of the structural joints, perimeter deformation or applicable national laws.
- The adhesive must be applied using a notched trowel using the double buttering technique (3.2). Double buttering is necessary and essential so as not to leave any gaps on the back of the slab.
- Use a "highly deformable" class C2S1 adhesive pursuant to EN 12004. (See table below).
- For large slabs (>1m² - >10 SQ.FT.), "highly flexible" C2S2 is recommended as per EN 12004.
- The substrate structural joints must be respected at all times.

Correct

Incorrect

TYPE	ADHERENCE	OPTIONAL FEATURES			
C	2	F	T	E	S2
C **Cement Adhesive** Cementitious coating Self Leveling Concrete Fibro cement panels Plasterboard Cermic Tiles Terrazo Stone	**1.** Normal (Fundamental characteristics)				
	2. Improved (Aditional features)	**F:** Fast setting	**T:** Reduced slip (<0.5mm)	**E:** Extended open time (Longer than 30)	**S1** Deformable **S2** Highly deformable
R2 Reactive Resins Adhesive: Synthetic Resin Blends	Timber, PVC, Rubber, Metal surface, Resin				

4.2 UNDERFLOOR HEATING

This type of installation involves a certain technical complexity, not only for its installation but also for its maintenance. Therefore, the installation and maintenance of underfloor heating must be carried out by highly qualified staff. In refrigeration, the installation requires even more attention, as the humidity factor must be perfectly controlled to avoid condensation problems.

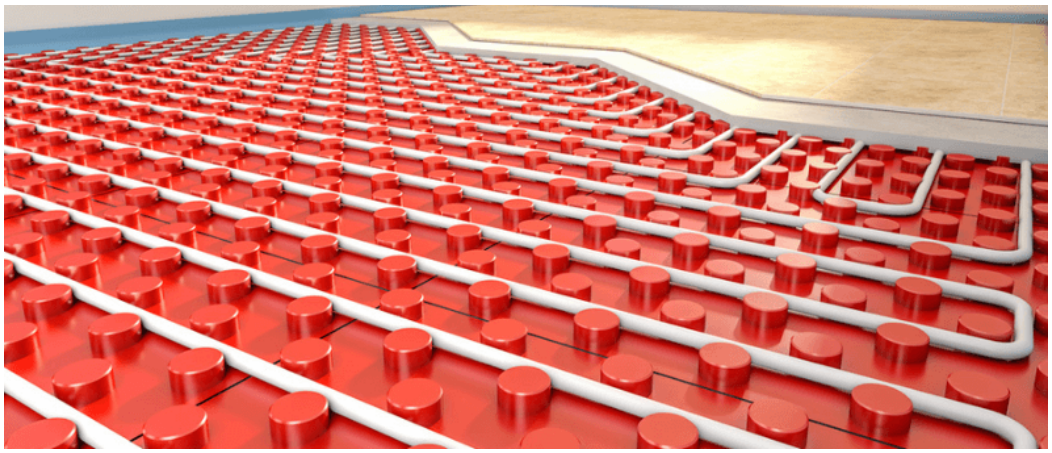
The following lines are intended as a guide for the correct installation of our material, being the responsibility of the designer and/or installer to know the possible necessary adjustments, requirements, applicable local regulations or needs of the elements of the installation, other than Neolith slabs, for each specific project.

A. UNDERFLOOR HEATING SYSTEMS

Currently, there are two types of underfloor heating systems, depending on the supply used to operate them. Each one has its own requirements or considerations for installation.

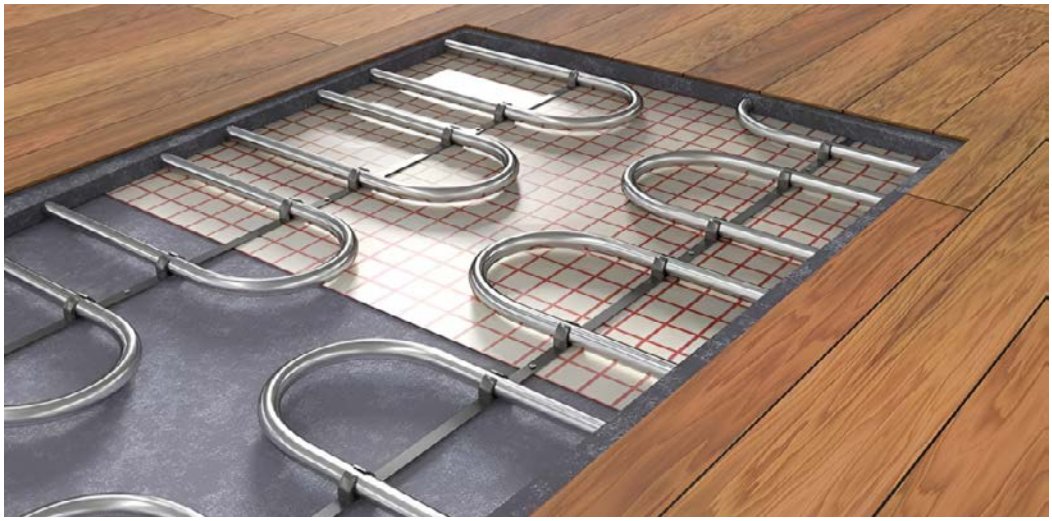
A.1. WATER CIRCULATION SYSTEM

The most common type of underfloor heating is the hot water underfloor heating system, which works thanks to the domestic hot water that is driven by the circuit of pipes distributed under the floor. In general, this water is heated by different energy systems: natural gas, aerothermal or geothermal.



A.2. ELECTRICAL SYSTEM

The difference with the previous system is that it has conductive wiring that is distributed over the entire surface, radiating heat evenly throughout the area, instead of plastic tubes through which the water runs.



B. GENERAL RULES

The previous recommendations in this manual also apply to the installation of underfloor heating (double gluing/gluing technique, grooves parallel to the short side of the tile, etc.).

Always use a certified company/installer for this type of installation.

Check the manufacturer's heating installation process before starting your project.

For better energy efficiency, it is possible to install an insulating layer.

The adhesive must be highly flexible (C2S2).

The adhesive should be applied with a notched trowel using the double gluing technique (3.4).

Double gluing is necessary and essential in order not to leave gaps on the back of the slab.

C. CONSIDERATIONS TO BE TAKEN INTO ACCOUNT WHEN INSTALLING NEOLITH ON UNDERFLOOR HEATING SYSTEMS:

C.1.- WATER CIRCULATION SYSTEM

1. It is necessary to prepare the area before starting the application of the substratum. Bring to full heat slowly and maintain at operating temperature for a few days (at least 3 days).
2. Switch off and allow to cool slowly before tiling.
3. Start applying the appropriate adhesive to create the tile backing. Always use deformable adhesive, and then a grout to withstand thermal expansion.
4. Allow the entire installation to settle before using the heating system. Allow a minimum of 10 days after tiling before using the heating system.
5. Test and secure the entire support system by switching on the heating system. Increase the temperature by a maximum of 5°C per day until 45°C is reached.

C.2. ELECTRICAL SYSTEM

1. Before starting the installation, prime the substrate before installing the heating cables.
2. Encapsulate the cable with a suitable levelling compound.
3. Start applying the appropriate adhesive to create the tile backing. Always use deformable adhesive, and then a grout to withstand thermal expansion.
4. Allow a minimum of 7 days after laying the tiles before using the heating system, but always check the heating manufacturer's instructions.
5. Turn on the heating system and secure the entire support system. Ideally, the initial temperature should be about 5°C per day.

D. JOINT DIMENSIONS:

Allow a minimum gap of 5 mm between slabs depending on the reliability of the substrate and the area to be coated. A larger joint size may be required (see adhesive manufacturer's requirements).

Create 1 cm movement joints every 12 m^2 , respecting the exact pattern of structural joints, perimeter deflection or applicable national laws.

Structural joints in the subfloor must be respected at all times.

E. JOINTING

It is necessary to bear in mind that, as this is an installation in which the area will undergo expansion due to heat, it is essential to use sufficient joints and elastic adhesives that are capable of withstanding and absorbing this expansion.

For grouting, adhesive type CG2 (according to EN 13888) is recommended. For further information, always refer to the manufacturer's specifications. The application can be carried out according to section 06. Grouting in this manual. Grouting of this manual.

The adhesive should be applied with a notched trowel using the double gluing technique (3.4).

Double gluing is necessary and essential in order not to leave gaps on the back of the slab.

05
Outdoor installation

05/
Outdoor installation

5.1. GENERAL RULES

Leave at least a 5mm - 3⁄16" space between slabs depending on the reliability of the support and the area to be cladded.

Create 10mm expansion joints every 9m^2 - 97 SQ.FT., respecting the exact pattern of the structural joints, perimeter deformation or applicable national laws.

The adhesive must be applied using a notched trowel using the double buttering technique (3.4). Double buttering is necessary and essential so as not to leave any gaps on the back of the slab.

Use of a class C2S2 "highly flexible" adhesive pursuant to EN 12004.

The substrate structural joints must be respected at all times.

5.2. CLIMATE

Using class TE adhesives (with extended open time) in warm climates and during poor weather (strong winds, for example) is recommended pursuant to standard EN 12004.

In cold climates and during the winter, it is best to use class F adhesives (quick fixing) as per EN 12004.

It is recommended to always follow the adhesive manufacturer's guidelines and specifications.

06
Grouting

06/ Grouting

Poor grouting can affect an otherwise perfect installation. Besides the aesthetic value of quality grouting work, poor work can affect the longevity of the installation.

6.1. PREPARATION

- Remove the spacers and excess glue cement to ensure uniform joints.
- Clean, brush and vacuum the joints to ensure the area is free of water, dirt, dust or foreign remains.

6.2. RECOMMENDED GROUT

Grout that is high-performance, anti-fluorescence, quick fix and dry, water-repellant, anti-mold, and class CG2 as per EN 13888 is recommended.

CODE	DEFINITION	FEATURES
CG 1	Normal cementitious grouting material	Only the fundamental
CG 2W	Improved cementitious grouting material with additional features of reduced water absorption	The fundamentals and the additional reduced water absorption (w)
CG 2A	Improved cementitious grouting material with additional characteristics of high abrasion resistance	The fundamentals and the additional high abrasion resistance (A)
CG 2AW	Improved cementitious grouting material with additional features of reduced water absorption and high abrasion resistance	The Fundamentals and the additional w and A
	No more than 25m^2 when Sizes > 1m2 Total area	Discuss the joint pattern with the Project Management/ Site management, depending on Climatology when Sizes > 1m^2 Total Area

6.2.1 Applying the grout

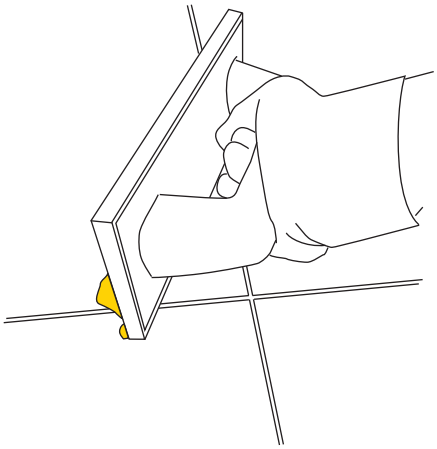
- It is recommended to always follow the application instructions and specifications as prescribed by the product manufacturer.
- Below is a general description of grout application:
- Before applying the grout, moisten the surface near the joint with a damp cloth or sponge, using a minimal quantity of water so the joints remain dry.
- Then, hold the rubber trowel at a 45° angle and force the grout into the joints to completely fill them without leaving any gaps.
- Remove the excess grout from the surface of the tiling while holding the rubber trowel at a 90° angle (perpendicular to the tile surface) while it moves through the slab in a diagonal direction.

6.2.2 Cleaning

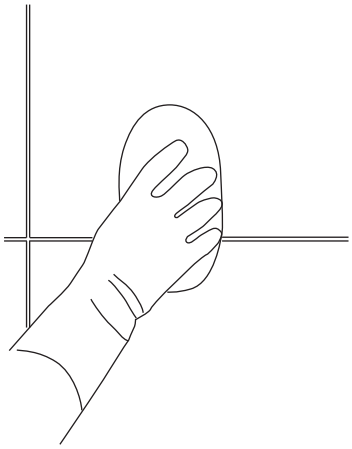
- Begin cleaning as soon as the grout begins to harden (generally between 10 and 30 minutes).
- Never allow the grout to remain on the tile surface for an extended period of time before completing the initial cleaning.
- Use the least amount of water possible when cleaning the grout from the surface. The excess water will discolor the joints.
- After cleaning, rinse and wring out the sponge so there is no excess water on the surface of the slab or in the grouted joint.
- Change the rinse water frequently. (Having various buckets of clean water on hand will simplify this process.)
- Make sure all the slabs are deep-cleaned before the grout dries.
- Clean the surface again around an hour later with a clean cloth to remove any remaining haze.

In order to prevent colour transference, do not leave grout on the surface of the installed material for excessive amount of time.

Grouting pieces



Cleaning



6.3. EPOXY PRODUCTS

6.3.1 Applying the grout

Apply the mix carefully to the joints (which must be dry before application) with a hard rubber trowel, making sure the joints are completely filled to the bottom. Remove the excess material by sliding the edge of the same trowel diagonally over the joints, leaving only a thin film on the surface of the slab.

6.3.2 Cleaning

It is recommended to always follow the cleaning instructions and specifications as prescribed by the product manufacturer.

Revise additional description

The final cleaning can be done by using a special cleaner for epoxy grout. Please check your usual cleaning products supplier catalog for a specific epoxi removal products.

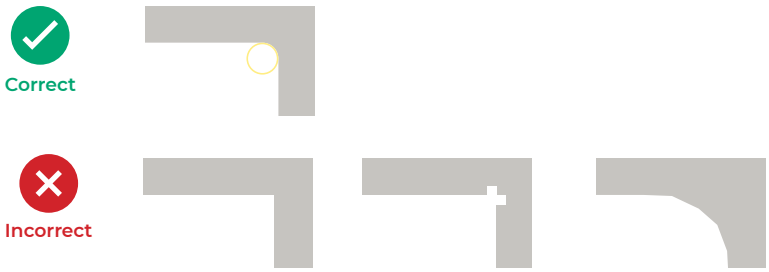
In general, these types of products can also be used to remove grout residue several hours after application. Check the manufacturer's manual for more information.

07
Manual cutting of 3mm and 6mm Neolith

07/
Manual cutting of 3mm and 6mm Neolith

IMPORTANT
All inner corners must have a minimum radius of 5 mm. Never leave 90° angles.

We recommend radiuses of more than 5 mm when the floor/wall design allows as it will make the installed product firmer.



The correct way to create a cutout, except with waterjet and digital control bits, is to first drill the corners and then the rest of the cuts.

7.1. STRAIGHT CUT:

Ensure the slab is fully supported while cutting to avoid possible breakage.

1. For successful cutting and drilling, always place the tile on a stable, flat and rigid work surface.

Work surface

2. For a linear cut, position the cutting guide on the tile in the direction of the desired cut and secure.

Positioning

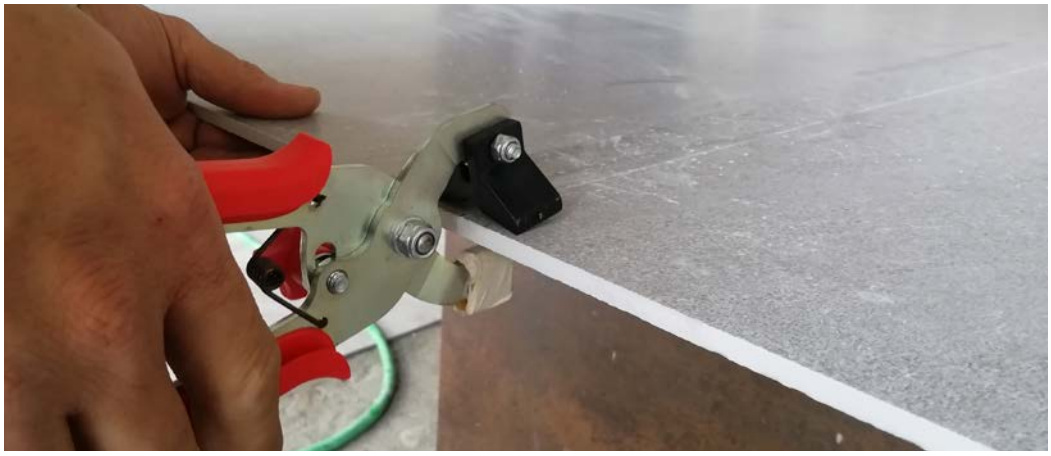
3. Then make a 1-2 cm incisory cut on the 2 ends of the tile from the inside to the outside.

Pre-incision

4. Afterwards, make a complete incision from one edge to another making sure to maintain the same pressure all along the cut.

5. Use special cutting separators (one on each end of the slab) to pressure-separate the incision made all along the slab.

Cutting with a cutter



6. The slab will then be cut and the pieces can be separated.

This should be done by a minimum of 2 people depending on the size of the pieces so they don't break or fall.

Cutting with a cutter

7. If the slab has reinforcement mesh, this should be cut using a utility knife/box cutter.

8. It is important to remove the sharp edges by using a grinding disc or diamond block.

Before grinding

After grinding

Before grinding

After grinding

Diamond disc

Diamond block

7.1.1. Score and snap tool:

Neolith can be cut without any problems using traditional machines. The 3 mm and 6 mm slabs can be cut using manual cutters designed for large format slab installations.

WARNING:
Ensure level support and equal weight distribution of the piece before manual cutting.

7.1.2. Grinder:

When cutting Neolith using a grinder it is recommended to use diamond blades specifically developed for Sintered Stone.

Diamond disc

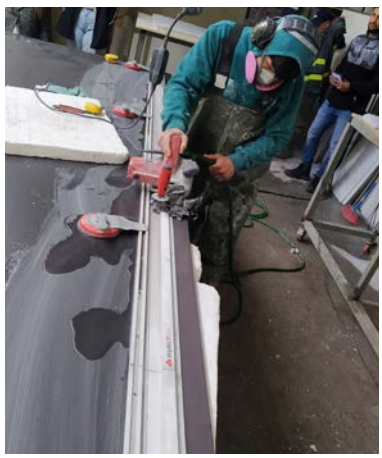
ADW disc

Ceramic disc

Continuous disc

Turbo disc

Manual cutter for large formats



Holes and Radius cuts

Use crown bits / core drills designed for ultra compact sintered stone.

For gaps or corner cuts, first drilling the corners and then cutting the gap or corner is recommended.

Drill bits




All inner corners must have a minimum radius of 5 mm. Never leave 90° angles.

We recommend radiuses of more than 5 mm when the design allows as it will decrease the risk of breakage.

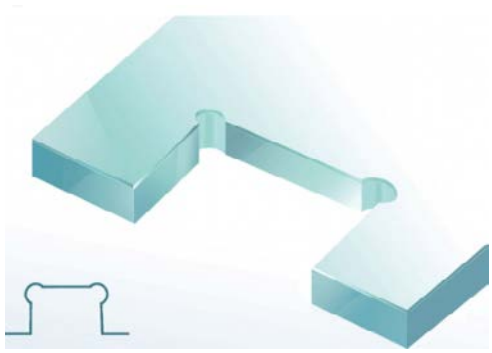
7.2 DRILLING PROCESS

Start with the tool at an angle

Or use a centring tool

Make circular movements

Whenever possible



08
Recommended adhesives

08/
Recommended adhesives

INDOORS

FLOORING AND CLADDING		NORMAL HARDENING			FAST HARDENING	
SUPPORT TYPE	MANUFACTURER	ADHESIVE		ISO 12003 - ANSI	ADHESIVE	ISO 12003 - ANSI
FLOORING AND CLADDING ON CEMENT BASE	MAPEI	KERABON + ISOLASTIC ULTRALITE S2		C2ES2 / A188.4, A118.11	ELASTORAPID	C2FTES2 / A118.4, A118.11
	SIKA	CERAM - 235 Flexible		C2ES2 / A188.4		
	KERAKOLL	SPECIAL PORCELAIN (Fiberglass free) H40 NO LIMITS		C2ES2 / A188.4 C2ES2 / A188.4, A11		
	LATICRETE	GOLD		A188.4	GOLD Rapid	A118.4
	ARDEX	FLOORING X77	CLADDING X78	C2-FT(F)E(E)-S1 / A118.4, A118.11	ARDEX X7R	A118.4, A118.11 C2-T
	PUMA	PEGOLAND FLEX PEGOLAND PROFESSIONAL FLEX		C2TE S1		
	CAPA	CAPAGEL FLEX		C2 TE S1	APLICACER FLEX RAPID	C2 FT S1
FLOORING ON HEAT RADIANT FLOOR.	MAPEI	KERABOND + ISOLASTIC ULTRALITE S2		C2ES2 / A188.4, A118.11	KERAQUICK LATEX PLUS	C2FTS1 / A118.4, A118.11
	SIKA	CERAM-237 Flex floors		C2E / 118.4, A118.11		
	KERAKOLL	H40 NO LIMITS		C2TES1 / 118.4, A118.11		
	ARDEX	S28 + E90		C2-FT(F)E(E)-S1 / A118.4, A118.11	ARDEX X7R	A118,4, A118.11 C2-T
	PUMA	PEGOLAND PROFESSIONAL FLEX ELITE & PEGOLAND FLEX RECORD		C2TE S2		
	CAPA	CAPAGEL FLEX		C2 TE S1	APLICACER FLEX RAPID	C2 FT S1
FLOORING AND CLADDING ON GYPSUM WALLBOARD AND FIBER CEMENT.	MAPEI	KERABON + ISOLASTIC ULTRALITE S2		C2ES2 / A188.4, A118.11	ELASTORAPID	C2FTS2 / A118.4, A118.11
	SIKA	CERAM - 237 Flex Floors		C2E / 118.4 A118.11		
	KERAKOLL	SPECIAL PORCELAIN (Fiberglass-free) H40 No limits		C2TE / A 118.4 C2TES1/ 118.4, A118.11		
	LATICRETE	XLT GOLD		ANSI A118.4, A118.4 A118.4	XLT Rapid GOLD Rapid	ANSI A118.4/ A118.11 A118.4
	ARDEX	FLOORING X77	CLADDING X78	C2-FT(F)E(E)-S1 / A118.4, A118.11	ARDEX X7R	A118.4, A118.11 C2-T
	PUMA	PEGOLAND FLEX PEGOLAND PROFESSIONAL FLEX		C2TE S1		
	CAPA	CAPAGEL FLEX		C2 TE S1	APLICACER FLEX RAPID	C2 FT S1
FLOORING AND CLADDING METAL, WOOD AND PLYWOOD	MAPEI	KERALASTIC KERALASTIC T		R2/A 118.3 R2T/A 118.3	KERAQUICK + LATEX PLUS	C2FTS2 / A118.4, A118.11
	KERAKOLL	H40 Extreme		R2T / 118.3		
	ARDEX	ARDEX WA		C2-FT(F)E(E)-S1 / A118.4, A118.11	ARDEX X7R	A118.4, A118.11
	PUMA	PEGOLAND ELASTIC		R2T		
	CAPA				APLICACER COLOR EPOXI 5K	R2
	CAPA	CAPA PRIMER TOP + CAPAGEL FLEX		C2 TE S1	CAPA PRIMER TOP + APLICACER FLEX RAPID	C2 FT S1

OUTDOORS

FLOORING AND CLADDING		NORMAL HARDENING		FAST HARDENING	
SUPPORT TYPE	MANUFACTURER	ADHESIVE	ISO 12003 - ANSI	ADHÉSIF. ADHESIVE	ISO 12003 - ANSI
CLADDING FAÇADE (WITHOUT FIBER GLASS)	MAPEI	KERABON + ISOLASTIC	C2ES2 / A188.4, A118.11	KERAQUICK	C2TES1 / A118.4, A118.11
		ULTRALITE S2		LATEX PLUS	
	SIKA	CERAM - 260 Flexible	C2TES2/ A188.4, A118.11		
	KERAKOLL	H40 Extreme	R2T / A118.3		
	LATICRETE	PLATINUM	C2TES1/ A118.4, A118.11	PLATINUM Rapid	C2TES1/A118.4, A118.11
	ARDEX	X77 + E90	C2-FT(F)E(E)-S1 / A118.4, A118.11	ARDEX X7R	A118.4, A118.11 C2-T
	PUMA	PEGOLAND PROFESSIONAL FLEX ELITE PEGOLAND FLEX RECORD	C2TE S2		
	CAPA	APLICACER SUPERFLEX	C2 TE S2	APLICACER FLEX RAPID	C2 FT S1
CLADDING FAÇADE (WITH FIBER GLASS)	MAPEI	KERALASTIC T	R2T / A118.3		
	SIKA	CERAM-260 Flexible	C2TS1 / A118.4, A118.11		
	KERAKOLL	H40 Extreme	R2T / A118.3		
	LATICRETE	PLATINUM	C2TES1/A118.4, A118.11	PLATINUM Rapid	C2TES1/A118.4, A118.11
	ARDEX	X77 + E90	A118.4, A118.11	Coat back with ARDEX 8+9 and use Ardex X7R	
	PUMA	PEGOLAND ELASTIC	R2T		
	CAPA	APLICACER SUPERFLEX PREMIUM	C2 TE S2		
FLOORING	KERAKOLL	H 40 ECO EXTRAFLEX	C2TES1/A118.4, A118.11		
	SIKA	CERAM-260 Flexible	C2TES2 / A118.4 A118.11		
	LATICRETE	PLATINUM	C2TES1 / A118.4, A118.11	PLATINUM Rapid	C2TES1/A118.4, A118.11
	MAPEI	KERALASTIC T	R2T / A118.3		
	ARDEX	X7B + E90	C2-FT(F)E(E)-S1/ A118.4/ A118.11	ARDEX X7R	A118.4, A118.11 C2-T
	PUMA	PEGOLAND PROFESSIONAL FLEX ELITE PEGOLAND FLEX RECORD	C2TE S2		
	CAPA	APLICACER SUPERFLEX	C2 TE S2	APLICACER FLEX RAPID	C2 FT S1

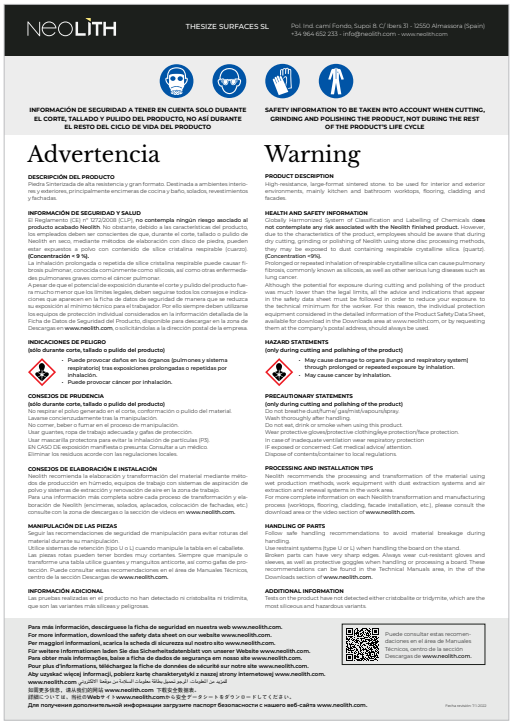
SAFETY DATABASE

From all the available information about Neolith, The Neolith has prepared a Safety Data Sheet as specified in the REACH Regulation (EC) N° 1907/2006.

The purpose of this guide is to provide employees general information and guidance on how to handle the product during all activities, to promote and improve working conditions and to minimize potential risks through the implementation of the risk management measures proposed in this document.

Because of the product characteristics, employees should be aware that during cutting and/or polishing of Neolith, they may come in contact with breathable airborne crystalline silica (quartz). Prolonged or massive inhalation of breathable crystalline silica may cause pulmonary fibrosis, commonly known as silicosis. The main symptoms include coughing and difficulty breathing. Therefore Neolith recommends wet cutting and polishing to reduce the exposure to breathable crystalline silica dust to a minimum.

According to Regulation (EC) N° 1907/2006 Version 2 Print date 21.12.2011 Revision date 21.12.2012, the finished product (porcelain tile) presents no risk to human health and the environment. Because of generation of silica dust in the dry manipulation processes the following risks must be taken into account:



NEOLITH THESIZE SURFACES SL Pol. Ind. camí Fondo, Supoi 8. C/ Ibers 31 - 12550 Almassora (Spain) +34 964 652 233 - info@neolith.com - www.neolith.com

INFORMACIÓN DE SEGURIDAD A TENER EN CUENTA SOLO DURANTE EL CORTE, TALLADO Y PULIDO DEL PRODUCTO, NO ASÍ DURANTE EL RESTO DEL CICLO DE VIDA DEL PRODUCTO

SAFETY INFORMATION TO BE TAKEN INTO ACCOUNT WHEN CUTTING, GRINDING AND POLISHING THE PRODUCT, NOT DURING THE REST OF THE PRODUCT'S LIFE CYCLE

Advertencia

DESCRIPCIÓN DEL PRODUCTO
Piedra Sinterizada de alta resistencia y gran formato. Destinada a ambientes interiores y exteriores, principalmente encimeras de cocina y baño, solados, revestimientos y fachadas.

INFORMACIÓN DE SEGURIDAD Y SALUD
El Reglamento (CE) nº 1272/2008 (CLP), no contempla ningún riesgo asociado al producto acabado Neolith. No obstante, debido a las características del producto, los empleados deben ser conscientes de que, durante el corte, tallado o pulido de Neolith en seco, mediante métodos de elaboración con disco de piedra, pueden estar expuestos a polvo con contenido de sílice cristalina respirable (cuarzo). (Concentración < 9 %).
La inhalación prolongada o repetida de sílice cristalina respirable puede causar fibrosis pulmonar, conocida comúnmente como silicosis, así como otras enfermedades pulmonares graves como el cáncer pulmonar.
A pesar de que el potencial de exposición durante el corte y pulido del producto fuera mucho menor que los límites legales, deben seguirse todos los consejos e indicaciones que aparecen en la ficha de datos de seguridad de manera que se reduzca su exposición al mínimo técnico para el trabajador. Por ello siempre deben utilizarse los equipos de protección individual considerados en la información detallada de la Ficha de Datos de Seguridad del Producto, disponible para descargar en la zona de Descargas en www.neolith.com, o solicitándolas a la dirección postal de la empresa.

INDICACIONES DE PELIGRO
(sólo durante corte, tallado o pulido del producto)
- Puede provocar daños en los órganos (pulmones y sistema respiratorio) tras exposiciones prolongadas o repetidas por inhalación.
- Puede provocar cáncer por inhalación.

CONSEJOS DE PRUDENCIA
(sólo durante corte, tallado o pulido del producto)
No respirar el polvo generado en el corte, conformación o pulido del material.
Lavarse concienzudamente tras la manipulación.
No comer, beber o fumar en el proceso de manipulación.
Usar guantes, ropa de trabajo adecuada y gafas de protección.
Usar mascarilla protectora para evitar la inhalación de partículas (FS).
EN CASO DE exposición manifiesta o presunta: Consultar a un médico.
Eliminar los residuos acorde con las regulaciones locales.

CONSEJOS DE ELABORACIÓN E INSTALACIÓN
Neolith recomienda la elaboración y transformación del material mediante métodos de producción en húmedo, equipos de trabajo con sistemas de aspiración de polvo y sistemas de extracción y renovación de aire en la zona de trabajo.
Para una información más completa sobre cada proceso de transformación y elaboración de Neolith (encimeras, solados, aplacados, colocación de fachadas, etc.) consulte con la zona de descarga o la sección de videos en www.neolith.com.

MANIPULACIÓN DE LAS PIEZAS
Seguir las recomendaciones de seguridad de manipulación para evitar roturas del material durante su manipulación.
Utilice sistemas de retención (tipo U o L) cuando manipule la tabla en el caballete.
Las piezas rotas pueden tener bordes muy cortantes. Siempre que manipule o transforme una tabla utilice guantes y manguitos anticorte, así como gafas de protección. Puede consultar estas recomendaciones en el área de Manuales Técnicos, centro de la sección Descargas de www.neolith.com.

INFORMACIÓN ADICIONAL
Las pruebas realizadas en el producto no han detectado ni cristobalita ni tridimita, que son las variantes más silíceas y peligrosas.

Warning

PRODUCT DESCRIPTION
High-resistance, large-format sintered stone to be used for interior and exterior environments, mainly kitchen and bathroom worktops, flooring, cladding and facades.

HEALTH AND SAFETY INFORMATION
Globally Harmonized System of Classification and Labelling of Chemicals does not contemplate any risk associated with the Neolith finished product. However, due to the characteristics of the product, employees should be aware that during dry cutting, grinding or polishing of Neolith using stone disc processing methods, they may be exposed to dust containing respirable crystalline silica. (quartz). (Concentration <9%).
Prolonged or repeated inhalation of respirable crystalline silica can cause pulmonary fibrosis, commonly known as silicosis, as well as other serious lung diseases such as lung cancer.
Although the potential for exposure during cutting and polishing of the product was much lower than the legal limits, all the advice and indications that appear in the safety data sheet must be followed in order to reduce your exposure, to the technical minimum for the worker. For this reason, the individual protection equipment considered in the detailed information of the Product Safety Data Sheet, available for download in the Downloads area at www.neolith.com, or by requesting them at the company's postal address, should always be used.

HAZARD STATEMENTS
(only during cutting and polishing of the product)
- May cause damage to organs (lungs and respiratory system) through prolonged or repeated exposure by inhalation.
- May cause cancer by inhalation.

PRECAUTIONARY STATEMENTS
(only during cutting and polishing of the product)
Do not breathe dust/fume/ gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation wear respiratory protection
IF exposed or concerned: Get medical advice/ attention.
Dispose of contents/container to local regulations.

PROCESSING AND INSTALLATION TIPS
Neolith recommends the processing and transformation of the material using wet production methods, work equipment with dust extraction systems and air extraction and renewal systems in the work area.
For more complete information on each Neolith transformation and manufacturing process (worktops, flooring, cladding, facade installation, etc.), please consult the download area or the video section of www.neolith.com.

HANDLING OF PARTS
Follow safe handling recommendations to avoid material breakage during handling.
Use restraint systems (type U or L) when handling the board on the stand.
Broken parts can have very sharp edges. Always wear cut-resistant gloves and sleeves, as well as protective goggles when handling or processing a board. These recommendations can be found in the Technical Manuals area, in the of the Downloads section of www.neolith.com.

ADDITIONAL INFORMATION
Tests on the product have not detected either cristobalite or tridymite, which are the most siliceous and hazardous variants.

Para más información, descárguese la ficha de seguridad en nuestra web www.neolith.com.
For more information, download the safety data sheet on our website www.neolith.com.
Per maggiori informazioni, scarica la scheda di sicurezza sul nostro sito www.neolith.com.
Für weitere informationen laden Sie das Sicherheitsdatenblatt von unserer Website www.neolith.com.
Para obter mais informações, baixe a ficha de dados de segurança em nosso site www.neolith.com.
Pour plus d'informations, téléchargez la fiche de données de sécurité sur notre site www.neolith.com.
Aby uzyskać więcej informacji, pobierz kartę charakterystyki z naszej strony internetowej www.neolith.com.
www.neolith.com
如需更多信息，请从我们的网站 www.neolith.com 下载安全数据表。
詳細については、当社のWebサイト www.neolith.com から安全データシートをダウンロードしてください。
Для получения дополнительной информации загрузите паспорт безопасности с нашего веб-сайта www.neolith.com.

Puede consultar estas recomendaciones en el área de Manuales Técnicos, centro de la sección Descargas de www.neolith.com.

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Additional Information:

According to information provided, the testing of the product has not detected or cristobalite or tridymite, which are the more silicaceous and dangerous varieties.

More detailed information regarding safety and health standards and recommendations is available on *www.neolith.com* (Downloads: Safety Data Sheets section).

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