

Marble Flooring Specialists Ltd

Arenastone Good Practice Guidelines

Please check all material for defects and colour match prior to cutting.

No exchange can be made once the material has been cut.

Visual Slab Inspection: Performing a visual inspection for defects or colour matching is essential when working with Arenastone and should be a standard practice before cutting.

Complete the following slab inspection steps as a guide to visual inspection for defects:

Hairline cracks	Slab-to-slab colour match
Colour consistency within the sheet	Quartz pattern irregularity
Thickness tolerance	Irregular spots / blemishes

NOTE: We will not accept any claims for any of the above if the slab is modified in any way whatsoever. The Fabricator is responsible for determining if the slabs are fit for purpose. If they are not, they should be exchanged before the slabs are cut or modified in any way.

Quartz Pattern Irregularity The manufacturer of Arenastone has engineered its products to have random distribution throughout the slab. The nature of "random distribution" is such that sometimes particles will congregate in one area or will be segregated in another. If any obvious irregular distribution of particles is apparent in the slab, the fabricator must determine if the slab is suitable. If the slab is found to be unsuitable, it should be exchanged prior to cutting.

Do NOT change the original surface finish of the slabs by re-polishing, honing, sealing, or altering the factory finish.

Do NOT store or use Arenastone quartz in outside locations or in places subject to intense solar radiation, or in places where the material may be exposed to UV rays or rain.

Tools and Safety Equipment

It is critically important that all fabricators wishing to fabricate Arenastone have the proper tools and safety equipment to produce a quality finished product safely and efficiently.

Below is a list of tools and safety equipment that are recommended.

Bridge saw	Electric / pneumatic polisher (variable speed preferred)
Diamond grinding wheel	Diamond polishing pad
Core bits / Air compressor	Stone carts / dollies
Wet profiling machine - edge router	Fabrication stands
A-Frame / storage racks	Seaming clamps

Preferably all operations to be wet to minimise dust.

Diamond cutting blade: must be in perfect condition with no missing parts or wear.

Water source: Direct plenty of water to the leading edge of the disk whilst cutting.

To avoid overheating the slab, only water-cooled tools should be used for cutting, drilling, and polishing.

Bench Base: we only recommend a solid stone base for cutting Arenastone.

We do not recommend a wooden base as this may not be stable and can lead to breakage during cutting. The stone base must be flat, in good condition otherwise movement or vibration may damage the slab during fabrication.

Speed of Advance:

20 mm Arenastone – between 3 and 3.5 m/min 30 mm Arenastone – between 2.5 and 3 m/min

WHY YOU MUST PROTECT YOURSELF

Cutting, drilling, grinding, etc. products that contain quartz generates dust, which is mainly made of silica. The finest particles of dust, defined as "breathable", can penetrate the lungs and, in case of prolonged exposure to high volumes, the natural defence of the body is no longer able to eliminate it. Accumulation of crystalline silica in the lungs may damage your health irreversibly. One of the main diseases this may cause is silicosis. During processing, operator is also exposed to other risks, such as cuts, crushing, perforations and noise.

PROTECTION AGAINST RISK OF DUST - MEASUREMENT OF DUSTS IN THE AIR

The protection systems must be selected after having evaluated the risks accurately. This evaluation must be made with static and personal samples to detect the quality of the air in the work environment. Employers and worker's representatives must select the most suitable solutions in terms of protection. The documentation relative to the checks made for the evaluation of risks must be stored.

PROCESSING EQUIPMENT

Make sure that the cutting, grinding, polishing, and drilling equipment are of wet type.

Water prevents dust from forming and being diffused in the air.

Make sure that the equipment is always efficient and that the amount of water supplied is sufficient. Equipment maintenance must comply with the user manuals to guarantee constant and optimal work efficiency. Make sure that the work area has an efficient processing water drain system.

GENERAL VENTILATION OF THE WORK AREAS

Guarantee suitable general ventilation exploiting the natural ventilation of doors and windows or forced ventilation. Make sure that natural ventilation does not interfere with the local exhaust ventilation systems, as it may reduce its efficiency. Emissions of air extracted from the work environments must comply with the local environmental standards in force. Make sure that the fresh air provided in the work environments is uncontaminated or filtered, and sufficient to dissolve the airborne dust.

LOCAL EXHAUST VENTILATION SYSTEM

The local exhaust ventilation system must be designed and installed by qualified personnel.

The exhaust ventilation system must consist of a hood, a contaminant collection container, ducts to suction contaminants from the source an air-cleaning filter or other suitable device, positioned between the hood and the fan; a fan or similar device to ensure airflow; duct to convey the filtered air out of the working area. Install a local exhaust ventilation system in the areas where dust is generated. Encase the source of dust production in the best possible way to prevent its diffusion. The local exhaust ventilation system must be connected to a suitable dust extraction system (e.g. bag filter or cyclone filter). Do not stand between the suction and the dust generation source to avoid being caught in the contaminated airflow. The work area should be away from doors, windows, and passages to prevent drafts of air from interfering with the local exhaust ventilation systems and to prevent dust from being diffused in the environment. Make sure that the exhaust air is replaced by fresh air by means of a suitable supply system. The ducts must be short and simple. Avoid using long hoses. Set-up a simple check method of the local exhaust ventilation system, e.g. an anemometer. Drain the filtered air away from doors, windows or air inlets.

MAINTENANCE AND INSPECTION OF LOCAL EXHAUST VENTILATION SYSTEMS

The local exhaust ventilation system must be kept efficient by complying with the recommendations of the supplier/installer. Pay attention to vibrations or noise coming from the fans, as these can indicate the presence of malfunctions. Replace the consumables (filters, etc.) complying with the manufacturer's indications. Do not modify the components of the local exhaust ventilation system before having consult the manufacturer/installer.

Contact the manufacturer/installer to request information on the project performance of the local exhaust ventilation system and store it for future verifications. On a weekly basis (or more frequently, if used continuously), visually check the visible pipes to detect any damage. Inspect systems that are used rarely before using them. Store the inspections records.

CLEANING AND AUXILIARY OPERATIONS

Daily, clean the work area and the equipment with humid or suction methods.

Avoid cleaning with methods that raise dust, e.g. dry brush or compressed air. In the event this is not possible, make sure that the operators wear suitable PPE (personal protective equipment).

PROTECTION AGAINST OTHER RISKS

When processing the Arenastone slabs sheets, the operator is exposed to risks, such as cuts, impacts, perforations, crushing, vibrations and loud noises.

Always wear PPE, such as gloves, goggles, earmuffs, or earplugs, and accident- prevention shoes. Avoid lifting and transporting loads exceeding 20 Kg. If necessary, do it correctly, avoiding forced positions. Avoid repetitive movements for long periods. Use mechanical means to handle and transport heavy loads. Make sure that the equipment used is efficient and in good conditions.

HYGIENIC STANDARDS

The operators' clothing worn during the Arenastone quartz processing phases must be stored separately from the other clothing and in specific spaces.

Before eating, the operators must wash their hands and face and take off their work clothes. Do not use compressed air to clean overalls.

PERSONAL PROTECTIVE EQUIPMENT

Indicate the areas where the PPE must be used.

The PPE must comply with the British HSE Standards.

The type of dust protection devices must be FFP3 or Versaflo respiratory face shield with comfort face seal when in the presence of silica. If you are considering RPE with a tight-fitting facepiece, you should make sure that each wearer undergoes a fit test.

Remember, people come in different shapes and sizes, so facial differences will mean that one kind of RPE is unlikely to fit all. If the RPE does not fit, it will **not** protect the wearer.

Facepiece fit testing is a method of checking that a tight-fitting facepiece matches the wearer's facial features and seals adequately to their face. It will also help to identify unsuitable facepieces that should not be used. Remember that tight-fitting RPE will only provide effective protection if the wearer is clean shaven, so they should also be clean shaven when fit tested.

You should carry out a fit test as part of the initial selection of the RPE.

When not in use, the PPE must be suitably stored to maintain good operation conditions. Replace the PPE according to the frequency indicated by the manufacturer.

Please note: It's your responsibility as a company to stay up to date with current legislation.

TIPS TO AVOID BREAKAGE

- Trim the edges of the slab by 1.5 cm or more, starting from the longer sides.
- when cutting, if you note that the cut starts to close, before finishing it, insert a small wedge to keep it open.
- To cut the entire length of the slab, drill a hole (Ø 25/30 mm) near the end of the cut and cut advancing towards the hole.

1-Start from the longer sides



2-Then the shorter sides



Internal Corners: Do not cut square corners (cross cut) as this will create stress points in the slab and may result in cracking. When cutting an inside corner, always use a core bit to avoid damaging the corner area with the cutting disc. Damage to the radius area will create a stress point. Any internal angled corner must be radius, cut with the saw up to the joint of the drilled hole, leaving the drilled hole intact.

If the opening for sinks or cooktop cut outs is made with a CNC machine and finger tool bits or with a Waterjet, the 4 corners should have a minimum radius of 6 mm (the largest possible). If the opening is made with a bridge saw, drill a hole (Ø 25/30 mm) at the four corners, then make the cuts to Join the holes to leave the edges rounded.

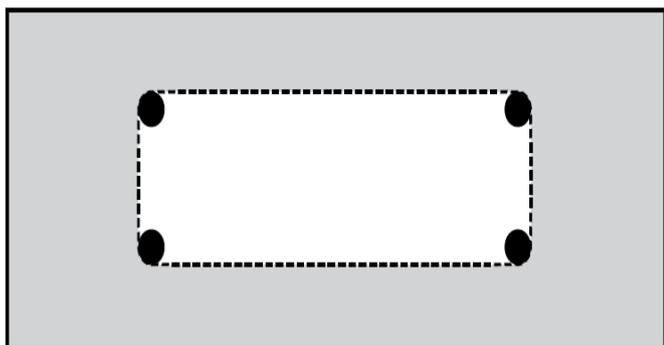
This prevents breakages even after installation, therefore it should always be done.



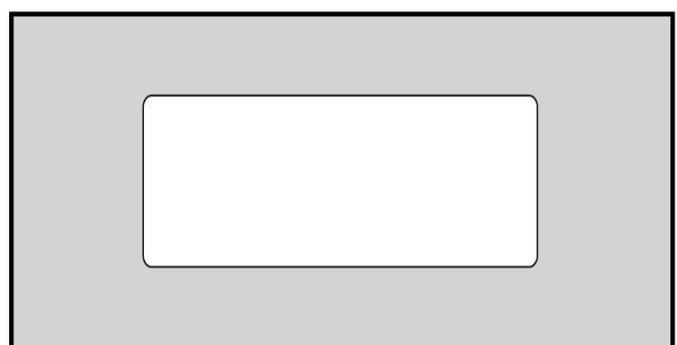
1 – Corners / Holes



2 – Drill holes corresponding to the information above.

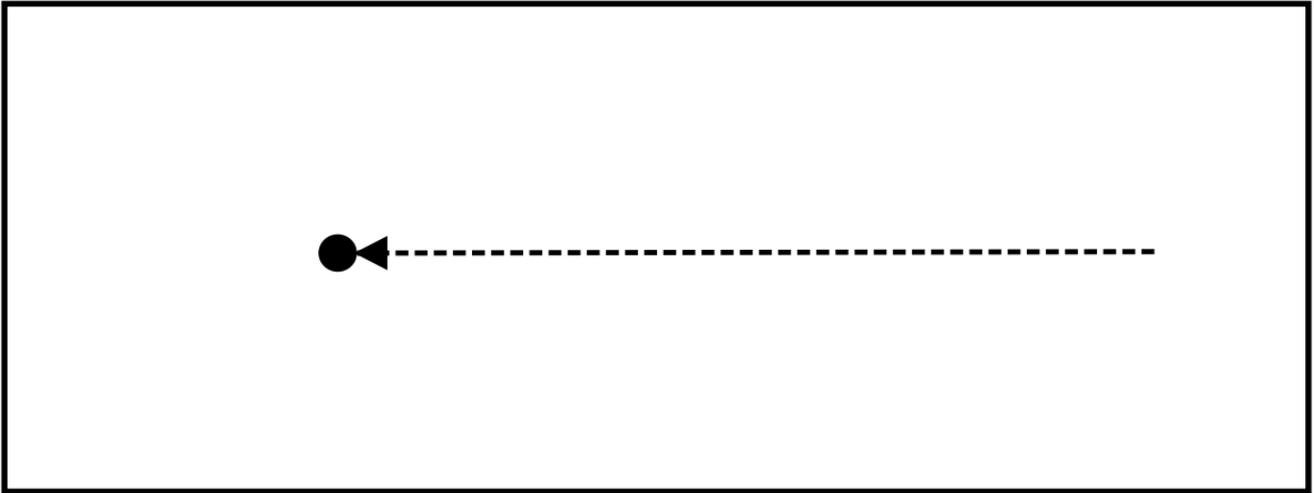


3 – Make the cuts to join the holes.

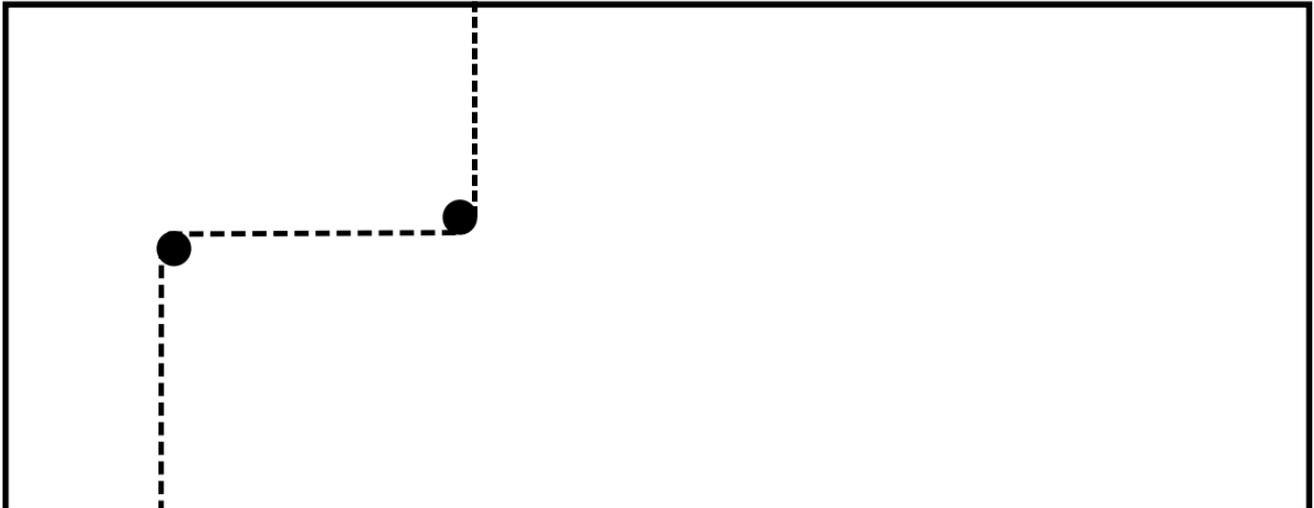


4 – Hole with rounded edges.

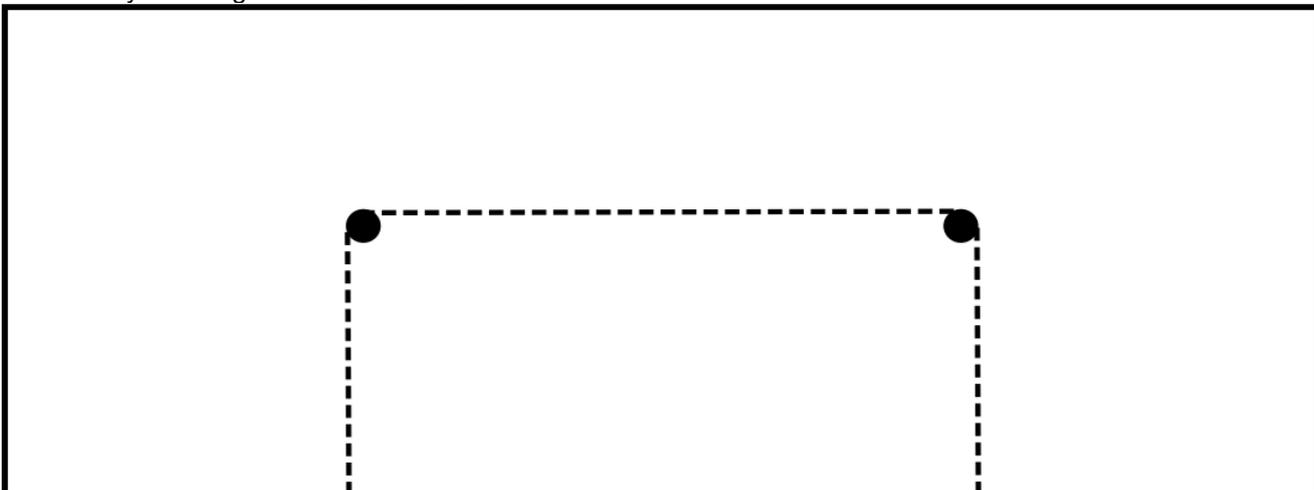
- If you need to make a cut by plunging the blade into the slab (plunge cut) drill a hole ($\varnothing 1\text{''}/1\text{-}1/4\text{''}$) near the end of the cut and cut advancing towards the hole.



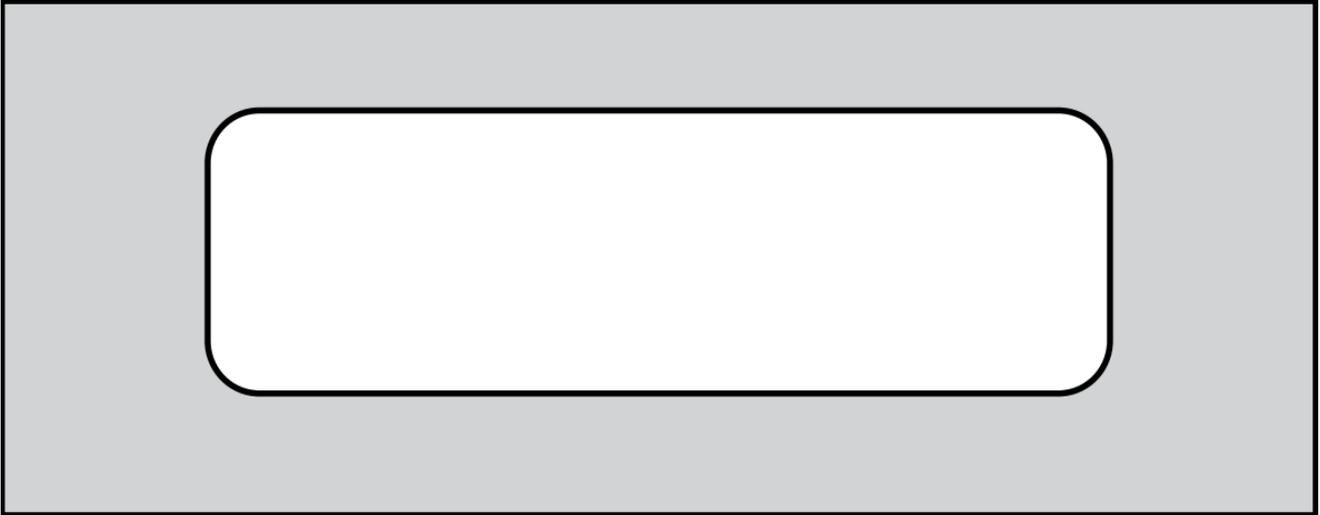
- If L-shaped pieces must be made (shape not recommended!), before cutting, drill the holes ($\varnothing 1\text{''}/1\text{-}1/4\text{''}$), where the cut lines intersect, always making the shorter cut first.



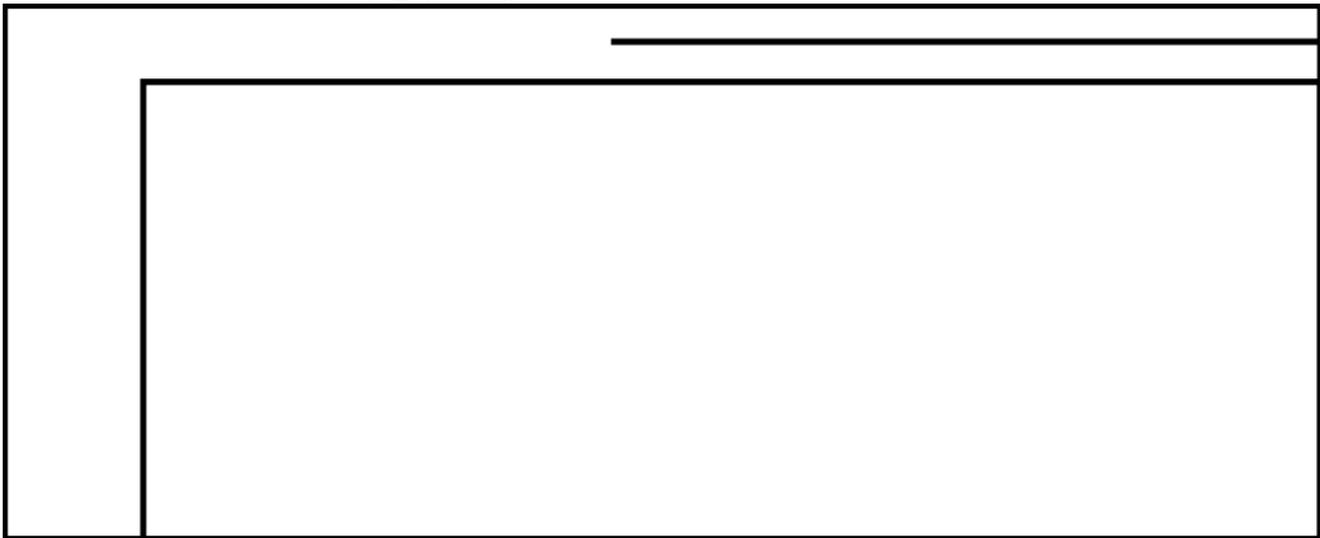
- To make U-shaped pieces, before cutting, make the holes ($1\text{''}/1\text{-}1/4\text{''}$) where the cut lines intersect, always making the shorter cut first.



- All the inside corners should be rounded, with a minimum radius of 4/16" for sink openings and 3/8" in all other cases. By eliminating the corners, you remove the weak points most susceptible to breakage.



- On the Bianco Brillante, and our veined material you can make a cut along the longer side of the slab, at approximately 1-1/4"-2" from the edge and down about 20"-24". Then make the actual cut, parallel to the first cut and at about 1-1/4"-2" from this.



POLISHING EDGES

The edges can be polished with edge polishing machines for stone materials using grinding wheels with a diameter of 5-1/8" specifically for quartz.

The piece to be polished must be secured to prevent any movement during polishing.

The cooling water must have a steady and adequate flow to ensure sufficient cooling.

The feed rate and the pressure of the grinding wheels must be adjusted to obtain a good polishing, and may vary depending on the type of machine and abrasives used.

Indicative grinding wheel series to be used for polished finish: 100 200 400 500-800 1500-2000 2000-3000.

NOTE: When machining dark materials, avoid the accumulation of water for a long period on the surface. This could cause marks which can no longer be removed.

It is therefore recommended to dry the surface quickly.