



12mm – Fabrication Guidelines

PRODUCT OVERVIEW

ASCALE is a 100% all natural sintered porcelain surface manufactured from high quality raw minerals with no added synthetic binders or chemicals. These high quality raw minerals are processed under extreme pressure and kiln cured up to 2400 degrees, resulting in a surfaces with dynamic strength and durability features. Amongst many of its advantages ASCALE provides a surface that is UV resistant for exterior use, chemical resistant for ease of maintenance, thermal shock resistant as well as being burn and scorch proof.

- Slab Size: 126" x 63"
- Thickness: 12mm (1/2" nominal)
- Weight: 336 lbs.
- Finishes: Polished and Matte (honed)
- Meshed backed for additional handling stability

MATERIAL SAFETY

Use of appropriate safety gear for fabrication & installation is extremely important: Goggles, masks, shoes, sleeves as per OSHA regulations for Stone fabrication are required.

PRODUCT INSPECTION

Always inspect your ASCALE slabs prior to beginning any fabrication. No claims will be allowed for issues that would have been caught with a pre-fabrication inspection. ASCALE recommends to thoroughly clean the ASCALE slab and inspect for the following.

- Stress fractures
- Surface chipping
- Polish variations
- Color tone variations between slabs
- Warping (very rare)
- Image contamination.

HANDLING & MOVING

- Double Scissor clamp:
A double scissor stone clamp is a preferred method for moving ASCALE 12mm slabs. This type of clamping system will insure equal distribution of slab tension across the length of the ASCALE 12mm slab.
- Vacuum lifters:
Vacuum lifters are also a preferred method for lifting and moving ASCALE slabs. Ensure lifter is equipped with 4 or more suction pads and provides good balanced coverage of surface when moving ASCALE slabs.
- Single scissor clamp:
If a double scissor clamp or vacuum lifter is not available a standard single scissor pinch clamp can work as well. Use a piece of ¾" stone or extremely rigid board 12" x 10ft long and secure too the back side of the ASCALE slab prior to clamping. Secure support piece to the back of the ASCALE slab using c-clamps to hold the piece in place prior to lowering & lifting the ASCALE slab. This will insure the support piece doesn't slip or move prior lifting.

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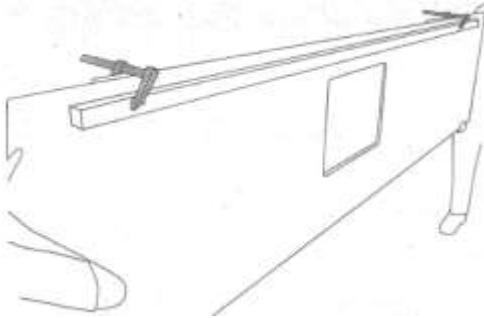
- Manual moving:

Never move full ASCALE 12mm slabs manually. Only cut pieces should be moved manually if necessary. Note the following.

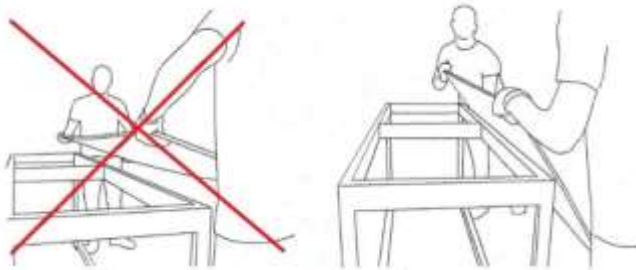
1. Never lift cut pieces in a flat position.



2. Use a sink saver or similar system to support cut pieces prior to manual moving.



3. When laying your ASCALE slab onto a table ensure the entire cut piece is spine supported by the edge of the table prior to rolling the piece onto it. Ensuring both ends are equally moving into place.



NOTE: AVOID SUDDEN CHANGES IN DIRECTION WHEN HANDLING AND MOVING ASCALE SLABS OR PIECES

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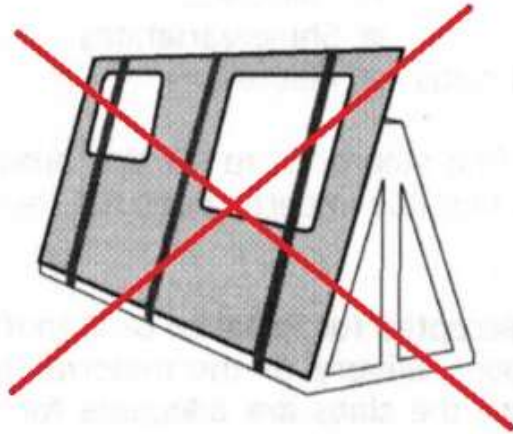
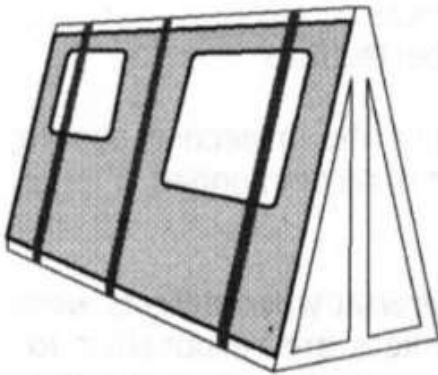
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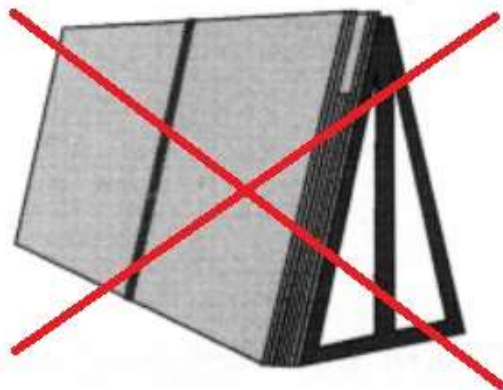
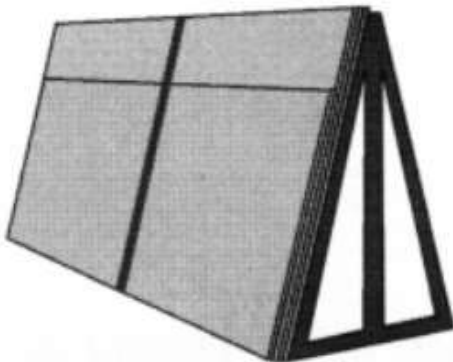
TRANSPORTING

Always transport ASCALE using equipment and a-frames that are fully secured to the transportation vehicle. Note the following.

- All A-frames should have wood or rubber bases to avoid any chipping of edges during transport.
- Insure transporting A-frame is supported in 3 points (Both sides and center)
- The A-frame must be of equal or greater size then the ASCALE slab or cut pieces. If the A-frame is smaller than the ASCALE piece, use of ¾" support stone slab prior to strapping and securing.



- Never lay an ASCALE slab or piece onto a shorter piece of stone or product. The ASCALE should always be flush and fully supported prior to strapping and securing for transport.



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CUTTING

ASCALE is manufactured using a continuous press method that greatly reduces the tension build up in ASCALE slabs. This reduced tension is one of the main fabrication advantages of ASCALE. Due to this reduced tension ASCALE requires “NO” tension relief cutting. Note that the quality of any project is dependent on the quality of the fabrication facility, its equipment, tooling and personnel. As such the recommendations below are a best practices guide to cutting of ASCALE 12mm surfaces only. Note that ASCALE 12mm is best cut wet utilizing tooling designed for sintered / ultra-compact surfaces and porcelain.

BRIDGE SAWS

- The rate at which you can cut ASCALE depends on several key factors, including tooling, machine settings, type of cut and condition of equipment.
- Slab table should be in good and flat condition to avoid chipping or stress fractures during cutting.
- A layer of rubber or foam on slab table is highly recommended for optimal results “But not required”.
- ASCALE as other sintered materials generate a lot of heat. So insure adequate water flow is present during cutting. ASCALE should not be cut dry. WATER WATER WATER!
- All cuts must be made using an “outside in” method. Entering and exiting slab at half the max feed thru rate. Enter and exit distance should be 8” to 10”.
- If deflection chipping is occurring at end of cuts. Sink the blade 1/8” to 1/4” and thoroughly exit the blade in one motion.
- If cutting pieces w/inside corners you must first core drill each corner & then cut towards the core holes (minimum 1/2” for sinks & 1/4” for sockets and similar cuts.)



Blade parameter recommendations

Straight Cuts

Thickness	Feed Rate	Saw Blade Diameter	RPM
1.2cm	38 -50 ipm	10 in -254 mm	2200
		12 in – 300 mm	2100
		14 in – 350 mm	2000
		16 in – 400 mm	2000
		18 in – 450 mm	1900

Miter Cuts

Thickness	Feed Rate	Saw Blade Diameter	RPM
1.2cm	20 - 28 ipm	10 in -254 mm	2200
		12 in – 300 mm	2100
		14 in – 350 mm	2000
		16 in – 400 mm	2000
		18 in – 450 mm	1900

NOTE: Rates are dependent on equipment type and condition. Consult your disc blade supplier for proper size needed.

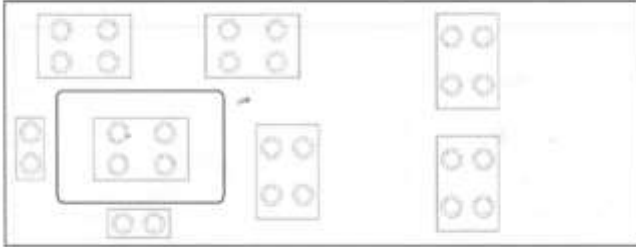
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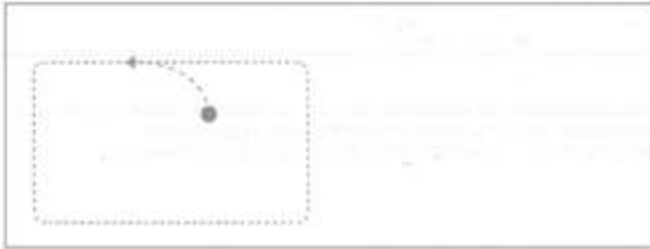
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Computer Numerical Control system – CNC's

- Ensure that table is level that suction cups and equipment are free of debris.
- Ensure there are plenty of suction pads to cover the majority of the slab or pieces to be worked.



- Ensure there's plenty water inside and outside of tooling.
- Begin on the side with the most material
- Cutouts should be done in one step. Beginning from an inside point then working out. Note to core drill inside corners with a minimum 1/2" bit.



- All pieces must be supported when cutting
- Water, water, water
- Each tool manufacturer has different parameters. Be sure to check each tool before use.
- Check with tooling supplier for recommend tooling parameters and speeds.

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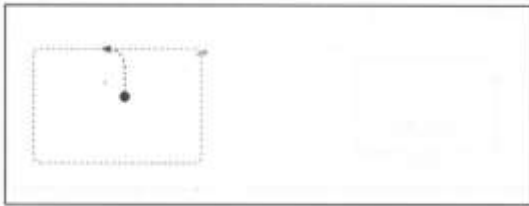
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WATER JET

- Ensure that table and slats are level and in good condition.
- Ensure there are plenty slats or support to cover the majority of the slab or pieces to be cut.



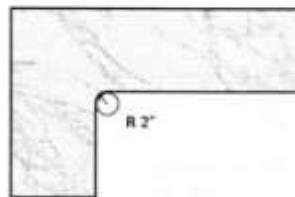
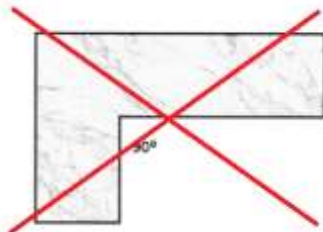
- Begin on the side with the most material
- Cutouts should be done in one step. Beginning from an inside point then working out. Note all inside corners require a minimum 1/8" radius.
- Lower PSI is recommended for piercing holes.



- All pieces must be supported when cutting.
- Recommended PSI 43,000 – 49,000
- Recommended speed IPM 27.5" – 39.5"
- Recommended Abrasive flow rate 0.7 – 0.8 lbs./min

INSIDE CORNERS

- Absolutely no 90° corners or cut outs should be used.
- All inside corners should be radius
- NO square cut outs for sinks
- No 90° corners in L-shaped tops
One piece L-Shape tops should have a minimum 2" inside radius.



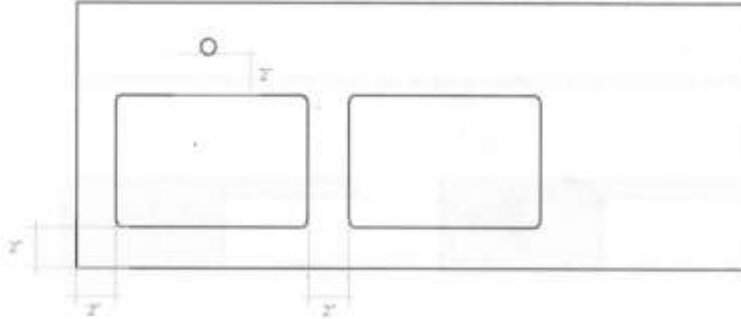
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CUT OUTS

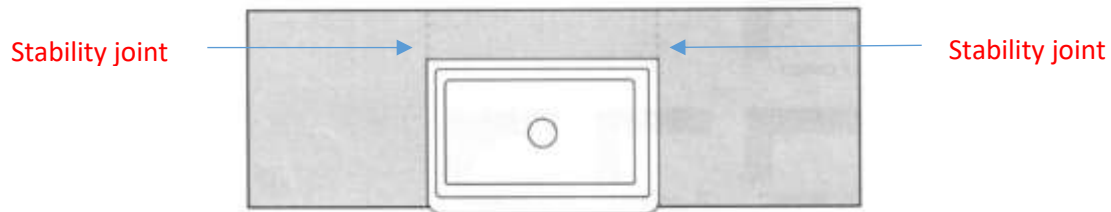
- 2" inch minimum distance is required between all cutouts and edges. The larger the distance the better.



- Inside corners of cut outs must be radius a minimum 1/4" inch. The larger the radius the better.
- Remember that inside corners being cut with a blade must be core drilled first.



- Irregular cuts such as those for "Farm House" style sinks are not recommended for ASCALE. These type of cutouts will require the use of joints in areas where the stability of the product may be compromised, as illustrated below.



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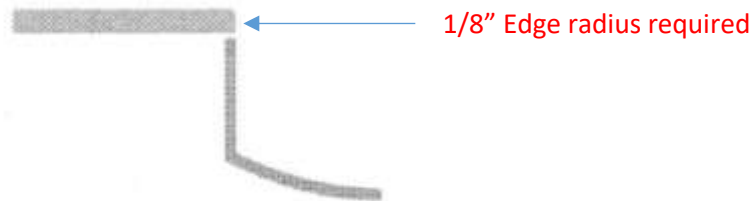
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SINKS

- **Zero Edge / Flush Mount:** An ideal option to protect ASCALE edges. Do “NOT” router out more the 1/4” of ASCALE material for this type of installation as it will compromise the stability of the product.



- **Under Mount Sinks:** To minimize the risk of edge damage an 1/8” edge radius is recommended for all under mount sinks. Note bracing and supporting the under mount to the base cabinetry is highly recommended.



- **Large / Farm House Sinks:** Oversized sinks such as farmhouse style sinks must be braced and supported to the base cabinetry or equal system meant to support the size and weight of the sinks capacity. The weight of these sink types must not be supported by the ASCALE surface alone.

SUBDECKS

- ASCALE requires a minimum 5/8” rigid sub deck such as plywood or kerdi board.
- For projects where an edge build up will not be present. Sub deck must be inset into the cabinets.
- For smaller tops such as vanities. Cabinets must be fully enclosed with counter supports every 12” inches. Otherwise a subdeck will be required.
- Use a flexible adhesive to adhere ASCALE to the subdeck. Ensuring a minimum equal coverage of 60% or more of the sub deck. Focusing on good coverage around cut outs and edges.

OVERHANGS

- Counters “with” cutouts max 2” overhang
- Counter “without” cutouts max 6” overhang
- A subdeck is required for overhangs exceeding 6”
- For overhangs exceeding 6”inches. A support system such as corbels are required. The support system must be adhered to the sub deck and not the ASCALE surface directly. The ASCALE surface must be fully adhered to the sub deck as well. Maximum overhang with subdeck and corbels not to exceed 24”.

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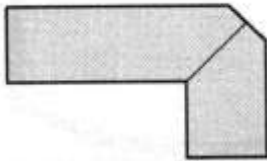
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EDGE PROFILES

ASCALE is a trending product with a contemporary metropolitan feel to its design elements. Though edge stacking and traditional profiles are possible the best design results are achieved with a mitered edge or flat polish. Note that ASCALE is an imaged surface with a colored body. Over rounding / bull nosing ASCALE will remove the surface image.

Preferred ASCALE Profiles

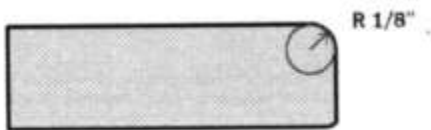
- 45° Mitered Edge with 1/8" flat or rounded bevel.



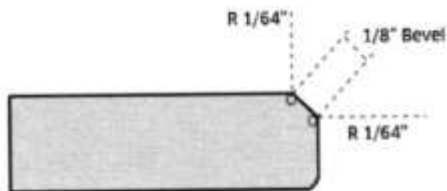
- 45° Inverted flute / sharknose 1/8" radius



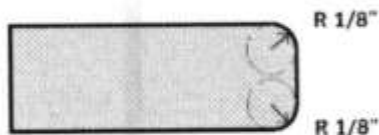
- Eased Edge with 1/8" radius



- 1/8" Beveled Edge



- Double Rounded Premium Edge



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LAMINATING

- Follow current miter & laminating (stacking) practices, but staying alert to following;
- After miter cuts have been done. Inspect and test all strips to pieces
- Score the edges of material that will make contact with one another and that will be glued.
- Clean area removing all dirt & dust. We advise placing masking tape on both sides of the joint to keep it clean.
- If stacking / laminating will be required. Use a 50 grit pad wet to remove back mesh and glue. Do not grind mesh dry as it will cause chipping to occur.
- Do not use engineered quartz strips to support mitered edges. The resin in quartz will expand at a much greater rate and separate or fracture your ASCALE mitered edge.
- Laminate using Hybrid epoxy or acrylic glues (NO polyester knife grade).
 - Indoor adhesives by Integra
 - Akemi
 - Tenex

SEAMS

- Before joining seam together use a 1000 grit sand paper by hand & break the edge. This will help minimize tension on joining edges & help reduce any chipping.
- Edge polishing should only be done wet with proper water fed equipment and diamond pads. No dry polishing.
 - Polished finish = 100 / 200 / 400 / 800 / 1500 / 3000
 - Mate finish = 100 / 200 / 400
- Knock down any edge chipping or glue build up with a 50 grit diamond pad wet.
- Micro fissuring may occur during cutting and polishing. Treat finished edges with a light sealer to fill these micro fissures.

JOINTS

- Leave a 1/8" expansion joint along the perimeter where the counter meets any structural wall. This will protect the ASCALE surfaces from thermal expansion and structural movement. Use a flexible adhesive to fill if needed.
- All joints shall be sealed and filled with silicone.

INDUCTION STOVE TOPS

- The minimum required distance between the stove top and ASCALE must be 1/4" at the counter and stove top.
- If the stove top is to be flush with the counter. DO NOT router out more than 1/4" of ASCALE material.
- Fill joints around the stove top using the recommended heat-resistant silicone from the stove top manufacture.

BARBECUE GRILLS

- Metal materials such as those used for bbq grills will expand at a much greater rate than ASCALE.
- A minimum 1/4" expansion joint must be present on all edges where the bbq is to meet the ASCALE surface.
- Expansion joint should be filled with a thermal insulator material. Check with bbq manufacture for recommendations.
- ASCALE edges next the bbq grill should be polished to protect the surface from any micro fissuring that may have occurred during cutting.
- All inside corners of bbq cut out should have a minimum 1/2" radius or greater.

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