BRIDGE SAW

ATTENTION

1. Make sure the cutting table is flat, rigid, leveled and free of any debris and there is sufficient support for the entire slab.
2. Use the approved/recommended Porcelain blade for GEOLUXE®. Further details can be obtained from our master Fabrication Manual at www.geoluxe.com in the Appendix no.1.
3. Use the maximum flow of water (minimum flow rate required is > 50 liters/min or 13.2 gallons/min).
4. In case of corner equal to or smaller than 90°, it is recommended to join up the corner with radius ≥ 5 mm (3/16").
5. Avoid cutting across the middle of slab whose width ≥700 mm (28 in). When inevitably necessary, spare some extra space enough for adjusting the workpiece to the required dimension.

PARAMETERS

• Recommended feed rate

RPM	BLADE DIAMETER				
	300 mm (12 in)	350 mm (14 in)	400 mm (16 in)	450 mm (18 in)	500 mm (20 in)
1200			300-400 mm/min (12-16 in/min)	300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)
1500			300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)
1800		300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)
2000		500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)	
2200	300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)		
2500	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)			
2800	500-800 mm/min (20-32 in/min)				

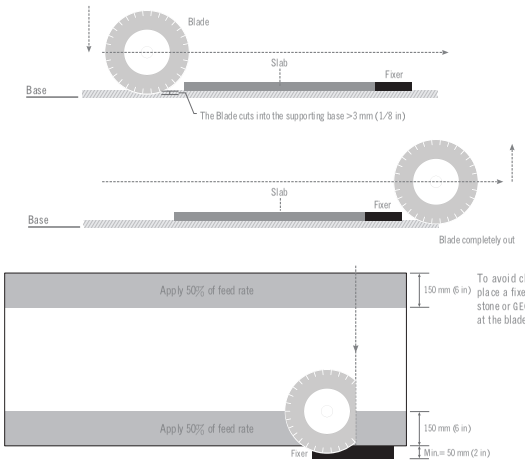
• Cutting parameters

TYPE OF CUT	FEED RATE	
	mm/min	in/min
Inclined cut (mitering)	200-400	8-16

"The workable feed rate may vary from the above table, depending on your preferred choice of saw blade from our approved list. Kindly refer to the technical parameters as recommended by the specific blade producer".

CUTTING INSTRUCTION

1. Proceed through the whole thickness of slab with a single cut.
2. Always start to cut lengthwise along the vein direction first and cut across afterwards. In case of few series with diagonal veins, please refer to the original long side (3.2 m or 126 in).
3. The blade should cut deep into the supporting base at least 3 mm (1/8 in).
4. Start to cut from outside of the slab.
5. Apply 50% of recommended feed rate when entering and exiting the slab.
6. To avoid chipping, place a fixer (wood, stone or GEOLUXE®) with minimum width 50 mm (2 in) at the blade exit.



WATERJET

ATTENTION

1. Keep the water level in water tank lower than the top line of the grate 20-30 mm (3/4-1 3/16 in).
2. The grate of the waterjet machine must be in good condition and uniformly leveled.
3. In case of corner equal to or smaller than 90°, it is recommended to join up the corner with radius ≥ 5 mm (3/16 in).
4. Avoid cutting across the middle of slab whose width ≥700 mm(28 in). When inevitably necessary, spare some extra space enough for adjusting the workpiece to the required dimension.

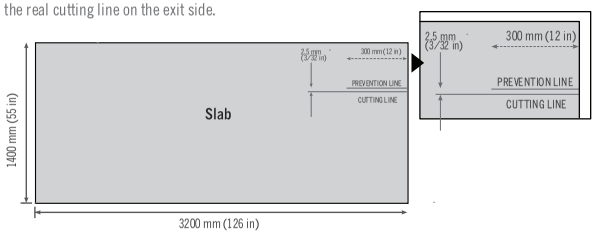
PARAMETERS

TYPE	PRESSURE		FEED RATE		ABRASIVE FEED RATE	
	MPa	psi	mm/min	in/min	kg/min	lbs/min
Piercing	69-104	10,000-15,000	-	-	0.40-0.45	0.9-1.0
Cutting	190-340	28,000-50,000	150-300	6-12	0.40-0.45	0.9-1.0

NOTE: - The workable abrasive grain size is ranging from grit #60 to #120. For GEOLUXE® we recommend grit #80.
- In case of low pressure jetting, work at lower feed rate, taking into account the final cutting quality.

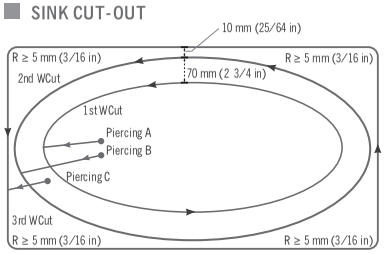
CUTTING INSTRUCTION

1. It is highly advised to create a 300 mm (12 in) prevention line, about 2.5 mm (3/32 in) from the real cutting line on the exit side.



2. Cut lengthwise with reference to 3.2 m side (126 in) first and cut aross afterwards.

SINK CUT-OUT



- Avoid making a sink cut-out on the top with an asymmetric shape. When inevitably necessary, cut in symmetric shape (square or rectangular) first followed by sink cut-out then finish the top with an asymmetric shape as the last cut.

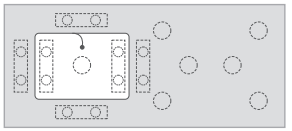
1. Start by drilling hole (piercing) at the starting point with low pressure then cut with high pressure.
2. The outermost ring must be 10 mm (25/64 in) from the peripheral edge of the sink.
3. The next ring toward the inner is 70 mm (2 3/4 in) from the outermost ring.
4. To proceed with the cutting of the rings, always start from the inner rings toward the outer one.
5. Always start and end the next cutting inside the previous ring to reduce the vibration.

NOTE: To cut the sink hole on a slab whose width is ≥700 mm (28 in) by waterjet, we do recommend the following conditions.
- To put a seam at the sink area.
- Without a seam, it is suggested to cut out the sink hole by alternative technique like hand tools or kindly contact us with detailed drawing for technical advices before processing.

CNC MACHINE (Machining centers)

ATTENTION

1. Use the approved/recommended tools for GEOLUXE®. Further details can be obtained from our Master Fabrication Manual at www.geoluxe.com in the Appendix no.1.
2. Use plenty of water directly surrounding the tool.
3. Put the vacuum pods to support and hold the workpiece firmly during processing. Check all connections and make sure that all vacuum pods are functioning properly.



----- Positions of vacuum pods

4. Breakage of workpiece is caused by the movement of slab during cutting due to insufficient support and vacuum pressure.
5. The cut-out piece must be well supported by vacuum pods to prevent breakage from the falling out of the cut-out piece.
6. In case of corner equal to or smaller than 90°, it is recommended to join up the corner with radius ≥ 5 mm (3/16").

PARAMETERS

• Core drill bit

TOOL DIAMETERS Ø		SPINDLE SPEED	FEED RATE	
mm	in	rpm	mm/min	in/min
35	1 3/8	1800-2000	20	3/4

• Finger bit

TOOL DIAMETERS Ø		SPINDLE SPEED	FEED RATE	
mm	in	rpm	mm/min	in/min
23	29/32	4500-6000	150-200	6-8

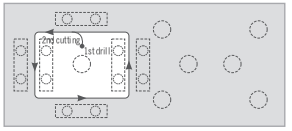
- Apply 50 % of recommended feed rate when entering and exiting

• Profiling tools (full bullnose and chamfering)

GRINDING WHEEL	TYPE	FEED RATE		SPINDLE SPEED
		mm/min	in/min	rpm
1	Metallic	1000	40	4500
2	Metallic	1000	40	4500
3	Metallic	1000	40	4500
4	Polishing	800	32	2400
5	Polishing	800	32	2400
6	Polishing	800	32	2400

SINK CUT-OUT

1. Place the vacuum pods appropriately to support the areas of the workpiece, especially the edge of the sink.
2. Set the vacuum pods to hold the workpiece perfectly tight.
3. The appropriate vacuum pressure must be in range (-0.6) to (-1.0) bar.
4. Drill the hole by using core drill bit and cut the sink hole by using finger bit.
5. Drill the faucet hole or soap hole "face up" to avoid chipping on surface.



- Avoid making a sink cut-out on the top with an asymmetric shape. When inevitably necessary, cut in symmetric shape (square or rectangular) first followed by sink cut-out then finish the top with an asymmetric shape as the last cut.

ATTENTION

1. Water tank and supporting base
   - Keep the water level in water tank lower than the top line of the grate 20-30 mm (3/4-1 3/16 in).
   - Grate must be in good condition and uniformly leveled.
   - Lay cement boards with thickness at least 10 mm (25/64 in) over the whole area of cutting table as supporting base for cutting by saw blade.
   - Make sure the supporting base is flat and uniformly leveled.
   - Change the supporting base at least once a day. Frequency may vary depending on the number of jobs done and the actual condition of the supporting base on the date of operation.
2. Saw blade
   - Use the appropriate type of blade for porcelain and dress the blade properly to ensure its cutting power before starting any job.
   - Blade diameter must match with the spindle speed (rpm).
   - Follow the technical instructions and parameters (rpm/feed rate) as suggested by blade company.
   - Use the maximum flow of water (minimum required flow rate is >50 liters/min or 13.2 gallons/min).
3. Waterjet
   - In case of corner equal to or smaller than 90°, it is recommended to join up the corner with radius ≥ 5 mm (3/16 in).

PARAMETERS

- Recommended feed rate

RPM	BLADE DIAMETER				
	300 mm (12 in)	350 mm (14 in)	400 mm (16 in)	450 mm (18 in)	500 mm (20 in)
1200			300-400 mm/min (12-16 in/min)	300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)
1500			300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)
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2200	300-400 mm/min (12-16 in/min)	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)		
2500	500-800 mm/min (20-32 in/min)	500-800 mm/min (20-32 in/min)			
2800	500-800 mm/min (20-32 in/min)				

- Cutting parameters

TYPE OF CUT	FEED RATE	
	mm/min	in/min
Inclined cut (mitering)	200-400	8-16

- Waterjet

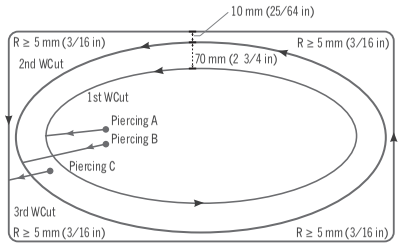
TYPE	PRESSURE		FEED RATE		ABRASIVE FEED RATE	
	MPa	psi	mm/min	in/min	kg/min	lbs/min
Piercing	69-104	10,000-15,000	-	-	0.40-0.45	0.9-1.0
Cutting	190-340	28,000-50,000	150-300	6-12	0.40-0.45	0.9-1.0

NOTE: - The workable abrasive grain size is ranging from grit #60 to #120. For GEOLUXE® we recommend grit #80.
- In case of low pressure jetting, work at lower feed rate, taking into account the final cutting quality.

SAWJET MACHINE

CUTTING INSTRUCTION

1. It is recommended to process the Cut-to-size by saw blade and manage the sink cut and faucet hole by waterjet cutting.
2. Cut-to-size first, then cut the sink and faucet hole.
3. Cut-to-size by saw blade (prevention line must be applied if cut-to-size by waterjet)
   - Cut through the whole thickness of slab by single cut.
   - Cut lengthwise with reference to 3.2 m side (126 in) first and cut across afterwards.
   - The blade should cut deep into the supporting base at least 3 mm (1/8 in) to avoid the problem of lower edge chipping.
   - Start to cut from outside of the slab.
   - Apply 50 % of the standard recommended feed rate when entering and exiting the slab.
   - To avoid chipping, place a fixer (wood, stone or GEOLUXE®) at the blade exit with minimum width equal to 50 mm (2 in).
4. Sink cut and faucet hole by waterjet
   - Firstly drill a hole by low pressure (piercing) at the starting point of each cutting line, then start to cut with high pressure.
   - For sink cut, it is strictly recommended to start cutting the internal oval rings first in order to reduce weight and prevent the breakage of slab. The starting point of each ring must start inside the previously cut ring.



* Length of piercing A,B,C about 80-100 mm.

- Avoid making a sink cut-out on the top with an asymmetric shape. When inevitably necessary, cut in symmetric shape (square or rectangular) first followed by sink cut-out then finish the top with an asymmetric shape as the last cut.

NOTE: To cut the sink hole on a slab whose width is ≥700 mm (28 in) by waterjet, we do recommend the following conditions.
- To put a seam at the sink area.
- Without a seam, it is suggested to cut out the sink hole by alternative technique like hand tools or kindly contact us with detailed drawing for technical advices before processing.

****It is important to note that all suggested parameters are guidelines and may vary depending on machine, tools and facility conditions. Operator must adjust parameters to achieve own optimal working conditions****

Have questions or need advices? Please kindly contact us at info@geoluxe.com for more details.

GEOLUXE

FABRICATION MINI-MANUAL

Version 3 / 2019

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