Neolith Design & Installation Checklist

DESIGN CONSIDERATIONS

	When installing Neolith on a wall to wall or wall to cabinet application an expansion gap of 1/8" per every 10ft must be present to allow for building/wall movement. Total of 1/16th" per side.
	L shape and U shape countertops are to include a seam directly in the corner with a mitered edge. Note: Absolutely no inside 90 degree angles.
	Avoid seams being placed in the center of sink and stove cut outs.
	Sink and stove cutouts must be designed with a minimum radius of 1/4".
	All finished edges must have a minimum 1/8" roundover ease to help increase performance and help avoid excessive impact/chipping damage.
	Maximum overhang without support for 12mm Neolith is 6" and 20mm Neolith is 14" Note: With proper support either with the use of corbels or cantilever brackets spaced a maximum of 24" apart the 12mm Neolith can go as far as 12" on overhang.

PRE FABRICATION

	All slabs must be inspected prior to cutting. Checking for excessive cupping/warping or any visible damage.
	Factory barcodes can be provided from us should a client want to register warranty. Warranty is only available on 12mm and 20mm material.
	When loading and unloading single slabs of 12mm and 6mm slabs with forklift boom and gravity clamps a backer board of 3/4" plywood extended 2/3 the length of slab should be used. This creates a rigid spine that helps prevent unnecessary flexing of slabs during handling (see page 15 of Fab manual).
	When storing slabs it is always best practice to store in slab racks that have solid support (like a granite slab).
	Before cutting, inspection of cutting surface is necessary to ensure clean flat level adequate surface for cutting. Failure to do so can cause inadequate support for material during this process and could lead to material breakage.
	Before cutting, an approved Neolith blade should be installed, inspected, and properly dressed (sharpened) prior to cutting of the slabs.

CUTTING - 1

	All Neolith slabs approved for countertop application (12mm and 20mm) must have a minimum of 3/4" to 1-3/16" material removed around all 4 sides of perimeter of slabs do destress material (referred to tension band removal). Failure to do so will void manufacturer's warranty.

	Sawyer/CNC programmer must set cutting parameters to those specified by Neolith technician during certification as stated in Neoliths Kitchen Technical manual (see pages 25-35). Average cutting speeds may vary of a multitude of factors such as thickness of material, color, flatness of cutting surface, cooling, and blade diameter etc.
	Entry and exit speeds when cutting will be reduced to 50% of average feed rates (slow in and slow out) allowing proper blade rotation adjustment on entry and reduced blade deflection on exit.
	Water feed for bridgesaw should cool blade properly without any visible sparking of blade. Water should be pointed towards front of blade rotation and water should enter and exit cut properly with consistent pressure. Any fluctuations in water pressure can be signs of improper cooling and or closing or pinching of blade. An unlevel cutting bed can create these problems too.
	Avoid plunge cutting (dropping blade over surface of material). If cutting sink and plunging is the only option, cutting bed must be completely flat and free of voids and relief cores must be present prior to cutting straights. Plunge feeds cannot exceed 10" a minute.
	Cut order should be as follows: 1) Tension band removal 2) Relief cores around slabs if not mitering 3) Proceed to cut pieces following from outer edge of slab towards relief points
	Coring holes on CNC should use Neolith approved core bits thin wall porcelain glass type and or those specially designed to cut sintered material using a reduced downfeed of 3/4" or less.
	Waterjet cutting should begin with low pressure piercing (15,000 psi - 20,000 psi) and then proceed to high pressure cutting (45,000 psi - 52,000 psi) using an arched lead in and arched lead out cutting motion beginning at perimeter and circling back to the starting point with garnet feed of .75lbs of feed or higher and feed rates of 12" to 32" a minute depending on precision of cut. Test cutting will help dial in speeds. Waterjet head should be set around 1/8" or a fraction higher than surface of material.
	Examples of approved bridgesaw blades: 1) Dia-Tex Gres Cut 2) Terminator Nanocut DK-4 3) Helix Helion 3 4) Alpha Silencer 3 10D or 10P series 5) ItalDiamant Yellow and Yellow Plus and Evrogres 6) Konig UCS Blade 7) Tenax Ceramic Blade

FABRICATION

	Handle all cut pieces with caution as they may be extremely sharp (use of safety gloves is highly recommended) as well as mitered edges may be prone to chipping if mishandled or bumped on hard surfaces.
	When preparing mitered surfaces for gluing, surface of miters must be scuffed for improved bonding (Avoid bow tie hash cutting on miters as this weakens material). Next, the surface must be dried, cleaned of any dirt, dust, or oils with preferably denatured alcohol and than adhered with a modified type epoxy similar to but not limited epoxyacrylate. Do not use polyester epoxy type adhesives as these do not bond well to sintered non porous materials. List of adhesives may vary on application such as indoor or outdoor. Example Integra XI color matched is for indoor use and Integra Ultra Color Matched is indoor or outdoor. Superior Gold is another example of indoor/outdoor glue.

	Miters should have a slight overcut to allow for thickness of glue viscosity and to create a nice tight miter
	When reinforcement of miter is needed, use either the same material and or a dense type granite. Note- DO NOT use quartz as this is not an approved material to back Neolith.
	When polishing mitered edges, avoid contaminating glue line by polishing light colored Neolith with darker colored resign diamond pads. Instead use the resin less quartz type diamond pad (preferably 3 step).
	Break all sharp edges around perimeter of material as well as those that may be considered jagged with a light micro bevel. This detail will help avoid potential cutting hazards and in turn will help increase the performance of the material.

INSTALL

	When strapping to work vehicle never over tighten straps and use a solid backer as support.
	When handling finished slabs, especially those with cutouts, use bar and or sink savers to prevent potential breakage due to flexing of material.
	Countertop must rest 100% upon properly leveled sub decking, substrate, or support strip.
	Countertop must have a continuous bed of silicone around entire perimeter of cabinets for stability.
	If plywood is ever used as a substrate then the following must be respected: 1) Must be cabinet grade and minimum 5/8" thick and flat (never use OSB). 2) Can only be used on indoor application only!!! 3) Cannot be used as support on overhangs as it flexes under load (must use corbels and brackets). 4) 1/4" gap must be left for expansion where plywood meets miter drop as seen on page 40 of fab manual. 5) Must be adhered with 100% silicone with continuous beads front to back. Avoid blotch adhering as this creates air pocket voids. Use of 1/4" V notch trowel is approved.
	Never use quartz as a substrate!!!
	Sinks must be properly supported. Weight of sinks must not be supported solely by Neolith. Instead, weight load should be supported by casework via sink cradles and or frame attached to casework.
	If shims are used to level cabinets, the shims must be placed between cabinet and substrate not between Neolith and substrate. When installed, shims are to be a maximum of 1/4" high and spaced less than 18" apart.
	When dry fitting seams and gluing with seam setters, avoid overtightening when pulling joints together as this can cause chipping.
	Approved high density backer boards are: Wedi Board and Shluter Kerdi. Not approved is pink foam insulation boards sold in box stores.

	Outdoor countertops must be installed on a CBU (cement base underlayment), not HardiBacker. You must use a latex modified thin-set rated for outdoor use. Recommended thin-sets are Ardex X77, Laticrete Platinum 253 or 254 and many other are available upon request.
	Outdoor seams must be soft set with a siliconized acrylic (water soluble), not silicone.
	Outdoor seams are to be micro-beveled (outdoor seam only) using 120 grit sandpaper.
	If installing up against a fire box that throws off extreme heat, heat shield tape is recommended with at least a 1/8" to 3/16" space from any metal.
	BBQ units must be properly cradled from below. Weight of the unit must not be supported solely by the Neolith.
	Neolith must have a minimum 1/8" spacing on all sides from any metal as it expands and contracts constantly.

I reviewed and understand the above guidelines for Neolith:

Company Name

Name

Position

Phone #

Signature

Date

Neolith Representative