Fabrication Manual

Richlite® is a versatile material suitable for numerous applications and fabrication settings. Richlite is not like any other material available, and these guidelines will ensure that your experience with the product is informed and positive. This document describes how Richlite paper composite is received, handled, and fabricated. Provided only as a sheet-good with a factory surface and factory rough edge cuts, Richlite can be fabricated with stone, solid surface and wood tooling. Armed with the instructions below, you'll find it easy to create rewarding Richlite results.

For more detailed information, please contact your local distributor.

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Delivery, Handling & Storage

Delivery Options

Richlite is shipped from the distributor's warehouse or drop-shipped from the Richlite Company factory in Tacoma, Washington. You may also pick up will-call shipments at your local distributor's warehouse. Contact your distributor for additional freight options and policies.

- All orders, including drop shipments, must be placed through distributors.
- Richlite material is shipped on heat-treated pallets, covered in plywood and/or Cor-X.
- A forklift will most likely be required at the receiving location. Full pallets weigh approximately 3,000 lbs.
- Consider accessibility to site or shop, including hours of operation.
- There are additional charges for all limited access, lift gate, residential, and notification/ appointment-required deliveries. These requirements must be noted prior to shipping. An additional charge will be incurred from the freight company if prior notification is not received.

Inspection

Every effort has been made to provide high-quality material, free of defects. However, the fabricator must:

- Inspect material immediately upon receipt or at time of will-call.
- Conduct a final inspection prior to fabrication.
- What to look for:
    - Color: The color, shade and grain of the panel may vary from samples. Patina and oxidation will affect the product color, on lighter colors in particular. See attributes for further details.
    - Striations: Striations are normal in the product. Striations appear as mottling that runs in a grain pattern along the length of the panel. Occasionally, slightly darker straight lines will also appear. These are normal and part of the paper-making process.
    - Wrinkles: Wrinkles will generally appear as very dark, jagged lines running diagonally across the panel. This is not normal. Contact your distributor to return the product under warranty.
    - Surface Conditions: Most marring or light scratches can easily be cleaned with a wet rag. Please contact your distributor if you see larger bumps or divots.
    - Thickness: The acceptable thickness tolerance is +/-4 percent.

Delivery, Handling & Storage (continued)

Inspection (continued)

- If the material is defective or flawed, you can either:
  - Avoid flaws via part placement on the sheet, or
  - Order replacement material and initiate a request for credit.
- Selecting the side to use:
  - Evaluate both sides of the sheet to determine which side is more desirable to use. There is no “A” or “B” side to Richlite.
- Please be aware that the Richlite warranty does not cover labor, so pre-fabrication inspection is very important.

Replacement Material

If you require replacement material, do not notify the factory. Notify your Richlite distributor by sending an email, including:

- Photos of the material in question
- A copy of the invoice for the affected material. The PO number, SO number, Invoice number, etc. should be listed on the invoice.
- A written description of the defect.
- Any other pertinent information.

Your distributor will respond with either a return authorization and/or approval or denial of a credit. Credit memos will typically include the original cost plus freight for the replacement material and freight for the returned material (if applicable). The credit memo will be issued upon confirmation the warranty material was returned.

NOTE: Richlite does not supply credits for fabrication or material handling costs. Pre-fabrication inspection is critical to ensure that defective material is not fabricated.

Delivery, Handling & Storage (continued)

Storage & Handling

- Be aware that Richlite weighs 6.5 lbs per square foot at 1-inch thick.
- Do not store Richlite uncovered. Place a piece of 7mm plastic or the Cor-X that came with the shipment on top the Richlite.
- Store between 40 and 80 degrees Fahrenheit.
- Do not over stack.
- Store flat, do not store on edge.
- Stone forklift edge clamps can be used.
- An Anver vacuum lift VPF-57-DC is ideal for forklift or gantry material handling.

Cutting

Rough Cutting

Rough cutting Richlite is a quick way to process panels that do not require a finished edge. Some examples include exterior paneling, non-visible fabricated edges, mating assemblies and industrial applications. Due to the weight of the material, stationary cutting with a circular saw, panel saw or CNC router is preferable to table saws. While CNC routers are a good tool for certain operations as noted below, rough cutting and routing by hand is a very efficient way to process Richlite. The factory rough-cut edge is to exact stated dimension and not oversized.

- Festool track saw is an ideal cutting setup.
- Standard circular saws can be used but will often leave saw marks due to their less stable nature and lower RPM motors.
- Single-pass cutting can be achieved if the proper blades are used. Appropriate feed speeds are critical in this situation and will be a function of thickness, and in some cases, color.

Finish Cutting

Finish cuts can be made with a high-quality circular saw like a Festool track saw or worm drive high-horsepower unit. Feed speeds and high RPMs will ensure a clean cut. Taking a very light pass with a sharp proper blade can provide a cut that can be minimally sanded to achieve a quality edge treatment.

- An even rate of speed will prevent burn marks which can be routed off but are difficult to sand off.
- For mated seams, routing or finish cutting will result in a tighter seam.
- Sliding table saw speeds between 3,450 RPMs and 4,000 RPMs
- Jigsaws and hole saws are not recommended as a tool for Richlite as the blades tend to wear out very quickly.

Cutting (continued)

Recommended Equipment

Saws

- Festool model TS 75 or TS 55
- Circular saw
- Sliding table saw

Saw Blades

- Festool #495387 10-inch, 80-tooth, negative 5-degree hook. Kerf 2.5 mm
- Festool #495386 Solid Surface/Laminate Blade for the Kapex Miter Saw - 64 tooth
- Amana Tool Double-Sided Melamine and Laminate Blade Line “MB” series
- FS Tool 7.25 x .115 x 5/8 x 40T, triple-chip negative hook
- Laminate and melamine blades from various manufacturers that follow general specifications of the above blades.

Routing

Finish Edge Routing

After cutting with a saw, a finished edge can be cut with a router.

- 1/64-inch of material or less for finish pass.
- Large diameter bits and higher horsepower routers will provide a smoother finish cut.
- Smooth and consistent feed speeds without hesitation will avoid burning the edge.

Plunge Routing

For inside shapes and large holes, plunge routing is the best solution.

- Large shapes and interior cutouts can be created using templates.
- Use a stepped cut, and do not plunge all the way through the material. A good rule of thumb is to use no more than the diameter of the bit as your depth of cut per pass.
- When cutting out a small hole, make multiple passes and use a jig to ensure a safe operation.

Profile Routing

Any standard wood or stone decorative, round-over, or chamfer router bit profile can be cut into Richlite. Route the edge detail or round-over per client specification. Use a sharp carbide bit and an even rate of speed to prevent burning. Multiple passes may be required for removing large amounts of material and deep profile shapes. Sand the edge detail by hand or with sponge sanding blocks. Due to the way Richlite is manufactured, sharp square edges can be achieved but are prone to impact damage. At minimum, a 1/16” chamfer or radius is suggested.

Recommended Equipment

Routers

- 3 1⁄4 horsepower minimum
- Variable speed
- Solid carbide straight flute bits
- Standard carbide profile bits
- Festool track saw

CNC Machining

Richlite is a very dense product. It is important to have a specific router bit for cutting Richlite in order to protect the machine, the router bit and the safety of the operator. CNC machining is an excellent way to fabricate curves and large cutouts. Feed rates with CNC routers and machining centers vary depending on the tool. Please consult your machine tool salesperson for more information regarding the specific application of cutting cellulose sheet phenolic resin panels.

The following technique is a good baseline to start:

- Machine example is MultiCam 5000 Series.
- 1-inch to 2-1/4-inch – rough cut with Her-Saf 1/2-inch+.015-inch, or Vortex 5853, leaving an "onion skin" vacuuming out the dust from each pass, and finish with 1/2-inch compression. Feeds and speeds are 175 inches per minute (IPM) or 4400 mm/minute and 16,000 RPM for both.
- 1/4-inch to 3/4-inch – rough cut with 2 flute 3/8-inch down cut spiral or Vortex 4250 at 18,000 RPM and 300 IPM leaving an "onion skin" vacuuming out the dust from each pass, and finish with 2 flute 3/8-inch compression bit at 18,000 RPM and 200 IPM.
- Maximum depth of cut is 1/4-inch per pass. Rough cuts are 1/64-inch oversized from final dimensions. Final pass cuts the 1/64-inch at full depth in a single cut, and the length of lead in (and lead out) of the cut are twice the thickness. Typically for all parts processed, we do not cut all the way through the material until the finish cut. Leave a small "onion skin" (about 0.02-inch thick) at the bottom to help hold smaller pieces in place. Always lead in and out of cuts at a 45-degree angle with a 1.5-inch lead in.
- Drilling: Rotation 4000 RPM, lowering speed for 5mm bit is 1500mm per minute, slower for larger bits.

Recommendations & Other Experience

Her-Saf bits work well for the roughing process. These bits are designed with a removable down cut head 5/8-inch long. The cost of the head is about half of the solid carbide spirals and are interchangeable with other sizes. The primary bit is the #H-0515 (1/2-inch+.015-inch) on a 1/2-inch shank. The extra .015-inch is intended to make a full dado cut in a single pass for 1/2-inch material. That extra size also makes a good amount of clearance for the rest of the shaft when cutting deeper than the cutting head. One can use two different lengths of 1/2-inch shanks to mount the bits. The #HA-50AL is a 2-3/8-inch shank that is good for material up to 1-1/4-inch thick, and the #HA-50AT at 3-1/4-inch length works for material up to 2-1/4-inch thick.

When using the Her-Saf bits (or any down cut bit) to cut Richlite, remove the dust from each pass. Vacuum it or blow it out with compressed air. Removing the dust from the cut on each pass will double the life span of your down cut bits. Spraying bits with Bostik Bladecote (formerly known as DRICOTE) will also lengthen tool life considerably.

For the finish bit, use Onsrud #60-172 1/2-inch, 2 edge compression bit, 1 5/8-inch cutting edge to remove the final 1/64-inch at 16,000 RPM and 4,400 mm/minute. This gives a very good finished edge for material 1-inch to 1 1/2-inch thick and lasts much longer. This bit will not work on 3/4-inch or thinner material because of its cutter configuration. For 3/4-inch material, use Onsrud #57-320 (3/8-inch 2 edge down cut spiral) for rough cuts and Onsrud #60-123MW (3/8-inch 2 edge Compression bit 7/8-inch cutting edge) for the finishing cut.

Drilling & Tapping

Through-Hole Drilling

Through-hole drilling is very similar to drilling into wood or MDF. The speed rate should be set to avoid burning or polishing the inside of the hole. Holes drilled completely through Richlite should consider the tolerances of overall parts being fabricated. Part assemblies that are casework construction, attached to metal or wood, or exterior applications such as cladding should have oversized holes to accommodate the expansion and contraction of the materials. Richlite is very stable and strong, and the other materials can be damaged if not considered for movement.

Pilot Hole for Tapping

Richlite is able to be drilled and tapped and has very good screw-holding ability with this process. Plastic expansion inserts are not recommended as they tend to be engineered for soft compressible material and will not grip properly in Richlite. Standard tap drill specifications for metals can be used on Richlite.

Pilot Hole with No Tapping

Drill a pilot hole that is slightly smaller than the screw thread. Because of its density, Richlite is nearly impossible to screw into without a pilot hole. The pilot hole should be slightly longer than the screw. You may not be able to penetrate the hole further after your screw reaches the end of the pilot hole, and there is a possibility of damaging the product or pushing through the other side.

Pilot holes for pan head sheet metal screws:

- #8: 9/64-inch - 5/32-inch
- #10: 11/64-inch - 3/16-inch
- #12: 7/32-inch - 1/4-inch

Equipment

- For small holes, use titanium or cobalt bits.
- Step drilling up from smaller sizes to larger will ensure accurate hole dimensions and location accuracy
- Hole saws are not recommended for use on Richlite. Due to its density and heat retention, hole saws do not remove enough material to work effectively before wearing out.

Seaming, Gluing & Fastening

Biscuits

Do not use traditional wood biscuits as they will not expand nor provide a mechanical advantage. Place Lamello K20 clamping plate every 6 inches, starting with the first biscuit 1 inch from the side. It is important to do a dry fit because if it is not tight fit during the dry fit, it will not be a tight fit once epoxy is used. Cut a slot in the center of the material, indexing from the top as Richlite may have slight thickness variation. Biscuits are engineered with a directional "tooth" that will be difficult to remove in the direction opposite the tooth. To remove the biscuit after dry fit, grab the tip or point end of the biscuit and pull in an arc away from the opposite end.

Splines

Quarter-inch Richlite splines are an excellent choice for strength. Cut so that when installed in the slot, the grain (paper layers) in the spline follows the same direction as the grain in the sheet.

Tight Joint Fastener or “Dog Bones”

For use in non-structural situations only, these are ideal for field installations by sub-contracted or remote site installers.

Epoxy Only

Make sure that the joint gluing surfaces are roughed-up, 100 grit or less, for better glue adhesion. Do not over-tighten clamps to keep enough glue in the seam. Vacuum clamp fixtures work well for surface alignment.

Mechanical Fasteners

Mechanical fasteners are acceptable for situations where there is access to install them.

Seaming, Gluing & Fastening (continued)

Built-Up Assemblies

Richlite is currently being specified in applications where stack laminations are required. Examples include mold and die units, part assemblies, extra-thick design elements, and countertop or casework built-up edges.

Please note the following guidelines when fabricating these assemblies. It is critical in this application to abrade the mating surfaces of the material before being glued together. This applies to both stack laminations as well as mitered or butt-joined fabrications.

- If the surface is not abraded sufficiently, with 100 grit sandpaper prior to glue up, there will most likely be failure in the joint at some point due to moisture or impact. The mill finish and machine-cut edge are both highly resistant to proper adhesion regardless of adhesive due to the low porosity of the material.
- The built-up edge needs to be at least 1-1/2-inch deep to ensure enough surface area for the mating parts to adhere and not create an imbalance on the front edge of the material. Any edge less than this will be prone to movement and instability.
- Mitered edges are acceptable and require the same abrasion technique on all mating surfaces. Any mitered edges less than 3/4-inch should be backed by a support block of Richlite.
- The edge of Richlite is not the same as the face of the panel and a built-up/stacked edge will not look the same as a mitered edge.
- There are no maximum build-up dimensions.
- Built-up or mitered material must be 1⁄2-inch thick or more.
- Two-part water-resistant epoxies formulated for thermoset resins or phenolics are recommended for this application. Most other countertop adhesives WILL NOT be appropriate for use with Richlite. We suggest System Three T-88 for any structural bonding. Loctite E-30CL or Devcon DEV-20845 5 minute epoxy is also acceptable.
- Screw clamps must be used to set the built-up edge to ensure a good bond with structural epoxies. SPRING CLAMPS WILL NOT WORK.
- These are general guidelines, and it is recommended that any fabrication techniques be tested by the individual fabricator as each situation may have different parameters that will affect the performance of the joints and laminations. These guidelines do not imply any warranty of work provided by independent fabrication companies and are superseded by the Richlite material warranty.

Seaming, Gluing & Fastening (continued)

Equipment

Clamps

- Traditional mechanical screw type and vacuum clamps. Screw clamps are required to ensure a good bond with structural epoxies.

Biscuit Cutter

- DeWalt 3751-5 minimum power- 6.5 amps

Two-Part Epoxies

- Industrial epoxy formulated for thermoset resin or phenolic resin
- Five-Minute General Purpose Epoxy: Devcon DEV-20845
- Loctite E-120HP, Hysol
- 3M Scotch-Weld Epoxy Adhesive DP125
- System Three T-88 for anything structural. (Available for purchase at systemthree.com)

Edge Connectors

- 1/4-inch Richlite splines
- Lamello K20 Clamping Plate
- Mechanical joint fasteners, such as KV 516 Tite Joint Dog Bone Fastener or draw bolts.

NOTE: Do not use standard #20 biscuits. Lack of water in epoxy does not expand biscuit.

Material Surface Options

Surface Preparation

OPTION 1: Mill Surface

The “mill surface” has a slight texture that is created in the manufacturing process and acts like a light skin over the faces of the panel. No finish is applied as a surface treatment.

For exterior applications, a dry factory finish is recommended. If sanded and placed in an exterior environment, the surface will oxidize rapidly and appear chalky and dry.

PROS:
More durable, no additional work for surface preparation or finishing; scratching and wear are less apparent over time.

CONS:
Material that has been handled may have slight abrasions, not repairable or restorable to the exact factory finish. Top surface alignment is critical and requires additional attention.

EXAMPLES: Industrial parts and sub-assemblies, exterior cladding, interior wall panels, benches and seating, high wear area assemblies and furniture, and interior and industrial work surfaces.

OPTION 2: Leathered

Any of the finishes listed in the applied finishes section can be applied to a Richlite panel with a factory surface.

The surface is slightly more durable as this skin from pressing has not been removed or altered. The mill surface cannot be reproduced, and seaming is more critical since the seams cannot be sanded or feathered as they can be with a sanded finish.

PROS:
More durable, no additional work for surface preparation; scratching and wear are less apparent over time.

CONS:
Material that has been handled may have slight abrasions, not repairable or restorable to exact finish from factory. Top surface alignment critical and requires additional attention.

EXAMPLE: interior wall panels, seating, high wear area assemblies and furniture, work surfaces and countertops. When used with Osmo finish, very good for high water use areas. Enhancer is more appropriate for dry applications. See applied finish application for detailed instructions below.

Material Surface Options (continued)

OPTION 3: Honed

Any of the finishes in the applied finishes section can be applied to a Richlite panel to achieve a honed finish which will have light 150 grit sandpaper swirls evident. The honed finish is a more “satin” finish that is very nice for millwork and countertop applications. It is not recommended for exterior applications and does require an applied finish to be put on after sanding to achieve proper performance. If sanded with no applied finish, the surface will start to appear “chalky” and will also pick up oils from fingerprints, food, etc. While Richlite can be polished to a high finish, this is not recommended as it will show scratches and wear very quickly from use.

PROS:
More polished and satin-finished look and feel, good abrasion and wear resistance, paper patterns and natural look more pronounced, can be refinished and surface repairs are easy.

CONS:
Slightly less durable surface finish prone to abrasions and hard material wear.

Examples: Interior wall panels, seating, high-wear area assemblies and furniture, work surfaces and countertops. When used with Osmo finish, very good for high water use areas. Enhancer is more appropriate for dry applications. See applied finish application for detailed instructions below.

Surface Preparation Process & Techniques

Honed

(Preparation for an applied finish)
Sanding and Scotch-Brite Technique

1. Using a random orbital sander with 150-grit sandpaper, go over the surface area lightly and evenly. There is no need to apply pressure, just enough to keep the sander on the surface.
2. Sand the length of the sheet first.
3. Turn 90 degrees and sand perpendicular to the initial pass.
4. Follow with Scotch-Brite in 12-inch circular motion to even linear sanding pattern.
5. Clean with soap and water.
6. Apply finish.

Material Surface Options (continued)

Leathered

(Preparation for an applied finish)

Scotch-BriteTM Only Technique

1. Sand with Scotch-Brite on a random orbital sander in 12-inch circular motion to mildly abrade the mill finish and to remove marring or surface imperfections.
2. Leave any scratches alone as most will disappear with finish, and aggressive machining will make a more polished spot in your final overall surface.
3. Clean with soap and water.
4. Apply finish.

Troubleshooting

Field Versus Shop Work

Richlite can be a dusty fabrication process, and fabricating or finishing in the field is not recommended. Both the dust created and the Richlite Color Enhancer in a home can create air quality issues that can pose a problem for end-users. Sealing will require the use of blue tape on seams to ensure that overflow of adhesive does not compromise the surface finish.

Oversanding

Richlite is made with cellulose fibers (layers of paper). If you sand too aggressively in one area for too long, you will create something to the effect of a “topography” map by burning through a layer of paper. It is most noticeable in darker colors. Be cautious with seams and uneven surface areas (bumps or divots). After applying the finish, these may even out, but the lines will never disappear. The contouring is especially noticeable in the Slate Black product and is less so in the Black Diamond.

Sanding Too Aggressively

Aggressive sanding will develop an extremely mottled pattern that is especially noticeable on Black Diamond. Use only a random orbital sander on the finish surface with no added pressure.

Repair

- Use router dust mixed with epoxy in thick paste form to do small spot repairs. Depth of repair may need to be made deeper for repair to take.
- Use melamine or laminate patch for very small spot repairs

Applied Finishes

Osmo PolyX

PolyX, PolyX Professional and Top Oil from Osmo are great choices for all-around applications. The finish is a hard wax-oil combination that is highly refined so that it does not separate. It performs like an air-cured wood finish and does not stay waxy or soft like most oil-wax products. It also acts as a better repellent to watermarks, stains, etc. This is the preferred finish for residential use as it has low VOCs and can be a field applied. It is compatible with the Richlite enhancer and can be used to spot repair on top of both the enhancer and itself. The cure times are longer than a solvent-based product but will set up to the hardness of such finishes at full cure.

Applying Osmo PolyX

DO NOT USE THE INSTRUCTIONS ON THE OSMO CAN. These instructions are for floor application of the product and not for Richlite. When choosing to finish the surface with Osmo, first abrade the surface as detailed above. Apply the finish as desired, including the edges. Osmo has a much longer dry time, so you can work at a normal speed compared to Richlite Enhancer. Follow with clean, dry rags, wiping in a circular motion to remove excess finish. Buff to an even, matte finish. When the rag becomes saturated, use a fresh rag to avoid streaking. Osmo will blend into previous coats and can be used as spot repair for both itself and Richlite Enhancer in the field. Apply one coat, allowing 12 to 48 hours for curing. It can be put into use sooner, but it is best to wait as long as possible. Full cure is achieved after 48 to 72 hours. A second coat can be applied for a slightly higher sheen but is not required.

Richlite Color Enhancer

Richlite Color Enhancer is a food-safe polyurethane finish recommended for both residential and commercial projects and should be applied in a shop environment. It has a very quick flash time which is an advantage for turnaround but does require skilled application and training to apply correctly. For high water exposure applications, it is not recommended as it tends to show water rings.

Applying Richlite Color Enhancer

When choosing Richlite Color Enhancer, first sand the surface as detailed above. Although field use is not recommended, if the surface is being finished in the field, it is important to mask adjacent edges and walls to protect them from the finish. Apply the finish liberally across the entire surface, including the edges. Work quickly to avoid streaking. Avoid warm or circulating air, which will shorten the drying time. Follow with clean, dry rags, wiping in a large circular motion to remove excess finish. Buff to an even, matte finish. When the rag becomes saturated, use a fresh rag to avoid streaking. If streaks are visible, let the surface dry and Scotch-Brite again to attain an even surface. Clean with soap and water and reapply the finish. Color Enhancer will not blend or "burn" into previous coats. Apply two to three coats, allowing 20 minutes between coats. Sanding is not required between coats.

Applied Finishes cont.

Other Finishes / Teak Oil / Mineral Oil

Many finishes have been used successfully by fabricators and installers. Richlite can be painted or finished with most wood or stone finishes. Teak oil, urethanes and stone finish products have been used by customers with success in the field.

Mineral oil can be used as a "finish," but it requires frequent maintenance. Because Richlite is non-porous, the oil does not penetrate the surface and watermarks may appear from glasses and tableware. Paper products left on a desk will pull oil from the surface and leave dry areas. If you are using soap and water to clean, be aware that the soap will expedite the removal of oil, making the surface appear dry and chalky.

Equipment & Supplies

FINISH MATERIAL

Richlite Color Enhancer
Available through Richlite distributors.

OSMO PolyX

- PolyX-Oil 3054
- Top Oil 3058
- PolyX Professional Oil 5125
- Any of the above work well. PolyX Professional Oil has a faster dry time. Use Enhancer instructions and not what is on the can. Be aware of dry time when shipping packaged product. Takes 24 to 48 hours to set up and cure.

TOOLING & ABRASIVES

Sanders

- Electric or pneumatic random orbital sanders (5-inch to 6-inch diameter recommended)
- Belt sanders are not recommended as heat retention will burn Richlite edge surfaces.

Abrasives

- 150-grit sandpaper. This is very important as higher or lower grit will not provide the finish to match the manufacturer-provided samples in the specifier boxes.
- Maroon Scotch-Brite Pads (Scuff and Buff Disc, Item # P04-7447)

Other materials

- Clean cotton rags for applying and buffing Richlite Enhancer and Osmo PolyX.

Sizes, Weights & Thickness

RICHLITE PANEL WEIGHT IN POUNDS

Thickness	48x96	48x120	48x144	60x120	60x144	30x120	30x144
in.	Weights						
1/4	53	66	79	83	99	Thickness Not Availble in These Sizes	
1/2	105	131	157	164	197		
5/16	68	85	102	106	128		
3/4	155	194	232	242	291	121	145
1	206	257	309	322	386	161	193
1 1/4	259	324	389	405	486	202	243
1 1/2	312	390	468	487	585	244	292
1 3/4	359	449	539	561	673		
2	418	522	627	653	783		
2 1/2	520	649	779	812	974	Thickness Not Availble in These Sizes	
3	623	778	934	973	1168		

RICHLITE THICKNESS TOLERANCE RANGE

-4%	Fraction	Decimal	+4%
0.24″	1/4″	0.25″	0.26″
0.48″	1/2″	0.50″	0.52″
0.72″	3/4″	0.75″	0.78″
0.96″	1″	1.00″	1.04″
1.20″	1 1/4″	1.25″	1.30″
1.44″	1 1/2″	1.50″	1.56″
1.68″	1 3/4″	1.75″	1.82″
1.92″	2″	2.00″	2.08″
2.40″	2 1/2″	2.50″	2.60″
2.88″	3″	3.00″	3.12″

Care & Maintenance

Exterior

GENERAL PRECAUTIONS

Richlite Color Enhancer

- For exterior applications, flashing and proximity to metal or water may require additional attention or maintenance.
- Graffiti/Spray Paint: Paint and graffiti removal products can be used. Pressure washing can be used for extreme situations but may alter the factory surface slightly, creating a more matte finish. Over time, the variation will blend with the natural oxidation process.
- Applied finishes or sealers are not recommended as they will tend to flake and deteriorate from UV exposure.
- Normal wear and tear due to elements will change the surface over time and oxidize in a similar way to cedar siding.

Interior

GENERAL PRECAUTIONS

- Richlite is stain-resistant to most common substances on interior applications.
- In residential applications, some raw meat (such as liver), high-alkaline fruit or vegetables (such as papaya and red beets), red wine and high-alkaline soaps (such as automatic dishwasher powder and oven cleaners) may cause staining when left in contact for a prolonged period.
- The lighter colors in the Richlite color range will show stains more than the darker colors. Additionally, grout (high alkaline) will lighten darker-colored Richlite counters and darken the lighter tones.
- Avoid using bleach products or abrasive powdered cleaners. Also, avoid using the abrasive side of sponges, as this may also scratch the surface of a Richlite countertop.
- Generally speaking, Richlite resists stains quite well. As with most any material, there is a potential for some staining. With stubborn stains, try a non-abrasive household cleaner. A unique stain remover is plain yogurt, applied only on the stain area. Let sit overnight for 3 to 4 applications, wiping away in the morning to lighten the stain.

MILL SURFACE

- Often requires very little maintenance due to the textured surface.
- Wet rag cleaning with soap and water is appropriate for other applications.
- Cleaning agents may affect any surface which is not protected by an applied finish.

Repairs

- Repairs are very difficult as the textured surface will show any changes and cannot be reproduced.

Care & Maintenance (continued)

LEATHERED SURFACE

- Use warm water and a sponge for daily cleaning. Mild soap can be used, if needed.
- Howard Naturals Wood Cleaner and Polish or mineral oil can be used to renew the look and feel of the finish.

Repairs

- OSMO PolyX is a very good spot repair product that can be applied by the end-user. Wipe on a small amount and buff into adjacent areas. Allow to dry for 24 to 48 hours before full use. It is compatible with Richlite Enhancer and blends very well to a similar finish.
- Do not sand the surface as it will disturb the factory surface which cannot be reproduced. Minimal Scotch-Brite work can be done prior to applied finishes.

SANDED FINISH

- Use warm water and a sponge for daily cleaning. Mild soap can be used, if needed.
- Howard Naturals Wood Cleaner and Polish or mineral oil can be used to renew the look and feel of the finish.

Repairs

- Finish: OSMO PolyX-Oil. See instructions above.
- Refinishing should be advised by the dealer or fabricator who installed the product. In most cases, it is preferable if the trained installer refinishes the surface.
- Light scratch marks and burn marks can be refinished using a Scotch-Brite pad (#7447/Red Color) on a random orbital sander.
- It is important to note, the refinished area will noticeably lighten compared to the surrounding surface area. Richlite surfaces are made of paper which, like wood, patinas or darkens over time, especially in lighter colors. The area will eventually patina and match the remainder of the counter surrounding it. In order to avoid affecting one spot, a full sanding and refinishing the entire counter is required, but this is an intensive and not an inexpensive process versus spot treatment.