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1. Company Overview

Since 1947, we have been working with customers to create better living spaces.

After it was demerged from the industrial materials division of LG Chemical, LG Hausys successfully re-launched itself and today represents Korea’s biggest building & decorative materials company.

Starting with the production of vinyl sheets in 1958, the company has contributed to enriching people’s lives for more than 50 years by supplying distinguished products and services that include Hi-Sash (Korea's first plastic windows), high-gloss sheets (which occupy the world’s biggest market share), HI-MACS® (acrylic solid surface), and building-integrated photovoltaic’s (BIPV).

Using the industry’s most advanced technology, LG Hausys designs beautiful functional spaces with eco-friendly and sensible products that make up the greatest market share in their field.

Moreover, with active localization strategies in place, LG Hausys is growing as a global company with notable achievements in many areas around the world, including the U.S., China, and Russia.

In the future, LG Hausys will continue to study emerging trends in residential environments and spaces to remain one of Korea’s top green growth leaders as it creates eco-friendly, energy-saving, and customer-friendly products and services.

HISTORY

1947 Establishment of Lak Hui Chemical Industrial Corp. (LG Chem)
1952 Korea's first product manufactured by molding synthetic resins
1958 Start of vinyl sheet production & industrial materials business
1976 Production of PVC windows & door (Hi-Sash)
1995 Production of acrylic solid surface (HI-MACS®)
2001 Corporate demerger (LGCI, LG Chem, LG Household & Health Care)
2006 Launch of Z:IN, a premium interior design brand
2009 Corporate demerger (LG Chem, LG Hausys) Launch of LG Hausys
VISION


Nature

We work hard to enrich the lives of our customers and ensure their health by pursuing spaces that are in complete harmony with nature, while supplying Eco-Friendly materials and improving energy efficiency at the same time.

Eco-Friendly: Health / Comfortable / Beauty
Energy Saving: Heating / Ventilation / Air conditioning

Human

We are increasing the value of people’s lives and setting trends in living spaces through designs that are not only beautiful and human-friendly, but also emotionally appealing.

Customer Friendly: Trust / Professional

Space

We put the highest priority on customers, creating living spaces where people experience perpetual happiness.

Eco-Friendly: Health / Comfortable / Beauty
CUSTOMER VALUE

We put the highest priority on customers, creating living spaces where people experience perpetual happiness.

- Eco-Friendly: Health / Comfortable / Beauty
- Turning Nature into Living Spaces
- Embracing People

GLOBAL NETWORK

Capability to design beautiful and comfortable spaces

Capability to develop various Eco-Friendly materials

LG Hausys

[Map of the world with various markers indicating locations around the world]
2. **SAFETY**

2.1. **Standard Safety Practices and Procedures**

1. Always wear appropriate clothing. Serious injury can occur if safety precautions are not followed in the fabrication shop or on the jobsite.

2. Follow safety instructions and warnings on all MSDS sheets for all products used in the shop.

3. Follow all manufacturers safety guidelines for all tools and equipment used in the shop.

4. Safety boots are recommended for use when fabricating, handling, or installing Viatera.

5. Always use eye protection with side shielding. OSHA approved safety glasses are required when fabricating Viatera. Failure to use eye protection can result in serious injury or blindness.

6. When handling pieces of Viatera, use appropriate material handling methods and equipment. Use approved stone clamps or suction devices in conjunction with overhead cranes or forklifts for large pieces and full slabs. Carry smaller pieces vertically whenever possible.

7. It is recommended to use hearing protection when working around shop machinery and power tools. The decibel level of most machinery and power tools can exceed the safe limits of 85 decibels for an extended period of time, typically 8 hours. If in doubt as to your respective shop noise limits, please have your shop tested. Exceeding these limits can damage your hearing, resulting in hearing loss over time.

8. Wet fabrication (see section 2.2 below) can create the potential for slip hazards. Floors should be sloped to trench drains and all water should be drained away from the work area.

9. Adhesive items used for edge build ups may be combustible. Make certain to keep the work areas well ventilated and do not allow it to be put in contact with heat, sparks or flames.

10. Use of high-cycle pneumatic hand tools is recommended. If electric tools are used, make sure that all are double grounded, ground fault protected, and away from standing water. Consider using overhead electrical drops.

11. Review your shop and actions being performed in your facility to ensure that you have the necessary protection and that safety requirements are being met or exceeded. The added precautionary dollars spent will far benefit the cost of loss or injury to yourself or an employee.

2.2 Dust control

1. All fabrication of Viatera should be done using water to avoid heat buildup and to control dust. Viatera should not be cut or shaped dry as this creates airborne silica dust which can be an extremely harmful health hazard. Occupational exposure to respirable silica dust can cause severe respiratory problems such as silicosis. Additional precautionary measures may include approved NOISH respirators.

2. Water from the fabricating process should be filtered and recycled for reuse in the shop. The solid material precipitated should be properly disposed of.

3. Wet cutting is recommended even at the jobsite.

4. Dry edge polishing should not be attempted because it can create dust, and it also may overheat (burn) the polyester resin causing the edge to appear dull.

2.3 A-Frame Safety

1. Inspect A-Frames for damage and stability. Do not use A-Frames that are damaged or unstable.

2. Always use tie down straps or clamps to secure slabs within the A-Frame.

3. When removing slabs, the material remaining on the A-Frame should be secured. Secure stored material at all times.

2.4 Handling and Lifting

1. Always handle material vertically.

2. Do not attempt to lift more than you feel comfortable with.

3. Lift carefully and always keep your back in an upright position. Use carrying tools with handles to allow you to walk with your back straight.

4. Use a dolly, slab cart, or other equipment whenever possible.
2.5 Safety Guidelines

- Provide and maintain adequate first aid supplies
- Protective eye and ear protection is required
- Safety boots or shoes required
- Establish a policy on no jewelry, bracelets or chains while fabricating
- No smoking in work areas
- Policy on limited bare skin exposure to adhesive materials
- M.S.D.S. sheets reviewed and understood by all employees
- Entrance and Exit passage ways are not obstructed and are visibly displayed
- Fire doors are clear from blockage. i.e. Security chains, etc.
- Explosion proof cabinets for solvents, adhesive, and chemicals
- Properly specified fire suppression or extinguisher system including sprinklers
- Inspection of fire equipment on a regular basis
- Fire evacuation plan and responsibility assignments
- Maintenance of water filtration and dust extraction equipment including routinely cleaning/replacing filters, etc.
- Designate a tool crib for hand tools, bits and supplies to maintain production efficiency
- Designate a special place for disposal of hazardous chemicals, waste adhesive, etc.
- Establish a policy of not disposing liquids, adhesives or chemicals in common trash unless catalyzed. Rags with chemicals should be cared for so as not to create fire hazard.
- Avoid operating equipment with dull blades and bits
- Make certain to eliminate slip factors on the floor surfaces throughout the fabrication process
- Install proper electrical service requirements for specified shop equipment
- Install safety mechanisms on power equipment for emergency shut offs
- Clearly mark and identify shop circuits on electrical panel
- Make certain all equipment cords and electrical extension cords are in perfect working order and are free from defects, frays, and bare wiring that could result in a shock or short. Make certain electrical cords are rolled and outlets are clean and operational. Any defect should be serviced and replaced immediately upon notice of deficiency.
- Portable electrical hand tools are double-grounded, ground fault equipped
- Make sure junction boxes and wiring are to code and are covered and closed
- Lighting is adequate for working conditions and maintained
- Always comply with all OSHA and local safety standards.
3. PRODUCT OVERVIEW

3.1 Viatera Quartz Surfacing

Viatera® is a beautiful non-porous material that is more hygienic and stain-resistant than other stone countertop materials such as granite and marble. And unlike natural stone, Viatera Quartz Surface does not require sealants to maintain its non-porous characteristics. It is approved for use in food service, medical facilities, schools, hospitality and other businesses where long-lasting durability, hygiene, and design flexibility are essential. It is made predominantly from high-purity natural quartz, one of the hardest minerals in nature. More durable and easier to maintain than any other natural stone, Viatera is engineered to look stunning year after year.

3.2 US Manufacturing

Viatera Quartz slabs are manufactured in LG Hausys new state-of-the-art Bretonstone manufacturing process located one hour north of Atlanta, in Adairsville, Georgia. In manufacturing Viatera we meld nature and modern technology into an unparalleled surfacing material. Viatera is composed of 93% quartz, the fourth hardest mineral on earth (exceeded only by the gemstones topaz, sapphire and diamond), and 7% polyester resin used as a binder. These characteristics of Viatera produce a tough, durable surface that is resistant to chips scratches. Within the manufacturing plant, natural quartz is combined with high-quality polyester resins and pigments, and then compacted under intense vibration, vacuum, and pressure into dense, non-porous slabs. The slabs are gauged to precise thickness, and then polished to an enduring shine. All slabs are thoroughly inspected and must pass some of the highest and most rigorous standards in the industry.

Because Viatera incorporates high-quality natural minerals from the Earth, there can be slight color variations and particulate concentrations, just as in natural stone surfaces. This adds to the authentic natural look Viatera.
3.3 Slabs & Colors

Viatera slabs are available in 2 sizes, depending on color and availability. All slabs are manufactured using strict quality assurances to provide the highest possible quality product.

<table>
<thead>
<tr>
<th>Sheet thickness</th>
<th>Sheet width</th>
<th>Sheet length</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{3}{4}$&quot; 2cm</td>
<td>55&quot; 140cm</td>
<td>120&quot; 305 cm</td>
</tr>
<tr>
<td>1\frac{1}{4}&quot; 3 cm</td>
<td>55&quot; 140cm</td>
<td>120&quot; 305 cm</td>
</tr>
<tr>
<td>$\frac{7}{4}$&quot; 2cm</td>
<td>63&quot; 160cm</td>
<td>130&quot; 330 cm</td>
</tr>
<tr>
<td>1\frac{1}{4}&quot; 3 cm</td>
<td>63&quot; 160cm</td>
<td>130&quot; 330 cm</td>
</tr>
</tbody>
</table>

Viatera Product Families

- **Terracotta**: Warm earthen tones of beiges, browns, and rust
- **Woodlands**: Inspired by the colors and tones of the forest
- **Urban Chic**: Eclectic mix of colors that are both fresh and inviting
- **International**: Bold colored patterns, some with chips of glass, mirror, and metal

3.4 Environmental

LG Hausys is committed to providing safe products for its customers.

**NSF**

**NSF/ANSI 51 Level 1 Food Prep Sanitation Standards**: Certification from National Sanitation Foundation International (NSF) states that Viatera® is safe for use as table or countertop in food preparation areas.

**GREEN GUARD CERTIFIED (Indoor Air Quality / Children and Schools)**: This certification confirms Viatera® as a low-VOC (volatile organic compound) product complying with California’s Department of Health Services Standard Practice (CA Section 01350) for chemical emissions from building products used in schools, offices and other sensitive environments.

In addition to certifications:

- Viatera is 93% quartz, one of the most abundant natural resource on earth and by-product from mining other minerals.
- It has negligible volatile organic compound (VOC) emissions, contributing to air quality
- To address safety for our employees and the environment around the plant, our processing line has been specially installed with Dust Collection and RCO (Incinerator) systems to treat emission in our manufacturing process.
3.5 Adhesive

Be sure to use an adhesive color selection chart to review the properly coded adhesive for the Viatera color selected. It is important to comply with the recommendations set forth. This will ensure proper color match of the finished seam.

- Bulk adhesive cartridges typically provide 40 lin. inches of seaming.
- Normal cure time is about 40 minutes in 70 degrees F. If hotter, your working time is greatly reduced and, if cooler, your working time is extended.
- Before applying the adhesive, clean all areas being bonded with denatured alcohol and a clean white rag.
- Assemble the cartridge in the seaming gun with a fresh disposable mixing tip. After each use, remove and replace this tip. The adhesive in the tip will set up just as the seams do on your materials. The next time you use it you only need to change the tip.
- As you get ready to apply adhesive and begin seaming, remember to purge the tip. This is done by squeezing out a bead of approximately the length of the tip. This ensures trapped air has worked itself from the mixing tip and that the catalyst and adhesive have properly mixed and are ready for use.
3.6 Stainless Steel Sinks

LG Hausys offers a full line of 18 gauge Lovello Stainless Steel sinks that are as beautiful as they are practical. Designed for LG Hausys, these undermount sinks offer a brushed stainless finish, 18 gauge type 304 stainless steel, sound absorbing pads, and are available in both double and single bowl shapes. Lovello Stainless Steel sinks are backed by a limited lifetime warranty.
4. MATERIAL HANDLING

4.1 Receiving and inspection

Inspect all slabs when they arrive. Check for:

- Accuracy of the material type and quantity
- Color consistency
- Color match between slabs (if required)
- Cracks, voids, foreign material, or other defects
- Warped or bowed slabs
- Finish of slabs (check for circular scratches or dull spots)

4.2 Handling and Transportation

Remove the A-frame of slabs from the delivery vehicle using a forklift. The A-frames are designed to be picked up from either end but not from the sides. Fork extensions may be required. An A-frame weighs 325 lbs. without material. 3cm slabs weigh 15.6 lbs. per square foot, 2cm slabs weigh 10.4 lbs per square foot.

A positive slab clamping device should be used to pick up and move individual slabs. Always use an overhead crane or forklift to lift and place slabs. When moving slabs, keep a clearance from the ground (or other obstruction) of 20” or less. Never lift slabs higher than necessary.

Safety is the main precursor to fabrication and movement of materials. Always transport Viatera slabs vertically whenever possible. The sheet should then be transported to the fabrication area vertically with the edge of the long ends of the sheets parallel to the ground.

A forklift is an essential tool for a safe work environment. It is best to have a forklift that has adequate capacity to move an entire A-frame of material at once (approximately 7,000 pounds). It is further recommended to purchase fork extensions to allow the entire A-frame to be lifted from the ends. A boom that fits over the forks should be purchased and used in conjunction with stone slab clamps for lifting and moving individual slabs.

4.3 Storage

Vertical or A-frame storage of Viatera slabs is recommended. Always store slabs indoors. Slabs should never be stored outdoors unless covered. Ultraviolet light can deteriorate the polyester resin.

Horizontal storage is not recommended unless slabs are fully supported and can be lifted without dragging or scraping the piece below. Horizontal storage can also stress the material causing it to warp or crack.

Always store material face to face and back to back.
5. TOOLING

5.1 Equipment and Tool Overview

A fabrication shop creating Viatera countertops should have adequate equipment and hand tools to be able to fabricate and produce a professional finished product. Likewise, anyone installing Viatera must also have appropriate tools to perform the job. The following is an overview of the tooling required. This list is not intended to be all inclusive and is subject to change of modification as new types of equipment or tooling becomes available.

All of the equipment is designed to cut and finish stone in the most efficient manner. All of the recommended equipment uses water in the process, both for cooling and dust suppression. Viatera should always be processed wet, that is to say all fabrication, cutting, and polishing should be done using copious amounts of water. Because of this, a water treatment system is highly recommended.
5.2 Other Tools for Fabrication

Some of the most common hand tools needed in the fabrication process are listed below. It is a guideline for tools that will allow most shops to do a good job of fabricating Viatera.

- Safety equipment (See section 2 – Safety)
- Pneumatic or Electric angle grinders
- Diamond polishing pads (flexible disc set)
- Small drill with screw bits
- Circular saws
- Diamond blades (various sizes)
- Suction cups – 9"
- Extension cords / air lines
- Lifting clamps
- Slab dolly
- Storage racks
- Spring clamps
- Adhesives
- Core drill bits
- Grinding wheels - Various sizes
- Diamond cup wheel

5.3 Templating Tools

This list is a basic overview of tools needed to template.

- Tape measure
- Grid paper
- Pen & paper
- Framing square
- Angle gauge / protractor
- Beam compass
- 2, 4, 6' levels
- Calculator
- Hot Glue gun/sticks
- Templating material (i.e. Plastic, Paper, Luan)
- Clamps
- Straightedges
5.4 Installation Tools

This list is a basic overview of tools needed to install Viatera.

- Safety Equipment including the following: First aid kit, Proper Safety Shoes, Safety Glasses, Dust Masks or respirators, Ear Plugs, Back Support
- Electric angle grinders
- Diamond polishing pads
- Portable screw gun
- Large circular saw (worm-drive)
- Diamond blades (various sizes)
- Extension cords
- Caulking gun
- Caulking (color matching & clear)
- Diamond core bits (1 ¼ '', 1 ½ '')
- Tape measure
- Screwdrivers
- Razor blades
- Suction cups – 9''
- Slab dolly, drywall cart, lifting clamps
- Grinding wheel
- Diamond cup wheel
- Epoxy (matching colors & transparent)
- Hardener
- Acrylic paints
- Lacquer thinner
- Clean rags
- Wood chisels
- Hand saw
- Masking tape
- Pencils, pens, markers
- 2’ & 6’ level
- Framing square
- Shims – various thickness
- Tie-down straps
- Tarps
- C Clamps
- Framing hammer, rubber mallet
- Wrenches, channel locks, and various other hand tools
- Cleaning solutions
- Broom and dustpan
- Wet/dry vacuum

A general note on the tools listed in this manual:

Even though the tools listed are recommended for use in fabricating, templating, and installing Viatera – this list is by no means absolute. There is a wide variety of equipment and tools available within the stone market. The best tool for the job will ultimately be determined by you, the user.

Remember, when using any tool, always comply with the manufacturer’s instructions, safety guidelines, and recommendations.
6 TEMPLATING

6.1 Measuring

Templates are made to accurately transfer the dimensions and conditions from the project site to the fabrication shop. For the most basic job, field measurements may suffice. Due to the complexities of most kitchen countertops, a template representing the actual layout of the countertop to be constructed is preferred.

Remember to capture all information necessary to accurately fabricate all portions of the job, including sink and appliance centerlines, faucet hole locations, finished edges, overhangs, etc.

It is highly recommended that all appliances, cook-tops, sinks, or any item that penetrates the countertop be on site when the job is templated.

6.2 Construction

Templates can be made from any type of rigid material that retains dimensional stability during transport and handling. Styrene, wood, plastic, and cardboard are just a few of the templating materials that have been used for this purpose. A “ladder frame” template made of 1/8” thick x 2” wide luan strips is the most common construction.

Use the template material to construct a dimensionally exact representation of what the Viatera countertop will be when complete. Place notes on templates to aid in fabrication – for example “corner out of square”. Avoid notes such as “add 2 inches” as this could be missed and cause the top to be fabricated incorrectly.

Check the templates to make sure all pieces fit together and account for the complete job. Where appropriate, label the templates with numbers or letters that correspond to the job sketch.

Always put the project name or customer name on each template.

6.3 Sketch

The first step in capturing information on any project is to sketch a plan view of the job. This is the basis of all of the work to be performed. On a typical kitchen countertop, include the following:

- Sink location
- Cooktop location
- Appliance locations
- Finished edges
- Overhangs
- Corner radius
- Pass through’s
- Backsplash
- Special cut-outs
- Any unusual conditions

DIGITAL TEMPLATING

Currently there are a number of various digital templating methods which can be used to capture accurate countertop size and configuration data. These methods have the advantage of being able to process the digital information directly to state-of-the-art fabrication equipment, such as CNC’s and waterjets. These digital systems can use lasers, digital cameras, or point to point digitizers. Although the initial investment may be considerable, the long term savings due to accuracy and productivity increase may be well worth the cost.
6.4 Level & Alignment

Using a 6’ level, check the cabinets for level. Cabinets should be within 1/8” of level within 6’. If the cabinets are out of level more than this tolerance, the cabinets need to be leveled prior to installing to avoid causing installation problems. Also check the level on the cabinets from front to back using a 2’ level.

Check the walls with a straightedge for any bow or gaps. If there is a backsplash, these gaps may be covered. If not, notify the customer for corrective action. A minimum of 1/8” gap between the Viatera countertop and any wall or vertical surface should be maintained.

Make certain that the template is accurate, especially if the walls are irregular or out of square.

It may be necessary to remove a section of tile on the backsplash to obtain an accurate measurement. Measure the width and length of each piece in two places to ensure accuracy. If there is a discrepancy, always use the longest dimension.

6.5 Seams

When the sketch is complete plan for the seams, keeping in mind that slabs are either 120” x 55” (standard) or 130” x 63” (jumbo).

Seams are required when pieces cannot be fabricated from a single slab.

Locate seams so that they are inconspicuous, whenever practical.

Avoid placing seams in the following areas: in the center of a dishwasher or undermount sink or in direct sunlight.

Support seams on both sides as well as the front and back. It is best to locate seams at a cabinet partition or where 2 cabinets join. Avoid unsupported locations such as a corner lazy susan cabinet.

Explain the seam locations to the customer. If possible, get the customer’s approval on the seam locations. This can help avoid problems later in the job.
6.6 Cut-outs

Determine the location of all cut-outs. Locate all cut-outs on the drawing, including drop-in sinks, undermount sinks, and cook-tops. All undermount sinks should be cut and polished during fabrication.

Undermount sinks are recommended to be cut-out per manufacturers specifications.

Mark the center line of all cut-outs on the template. The minimum recommended distance between an undermount sink and the front edge of the countertop is 3½”. For drop-in sink or cook-top the minimum distance from the front edge is 2½” (this includes the 1½”overhang plus cabinet width plus ¼” clearance). Note the location of holes for faucets, sprayers, soap dispensers, etc. Always allow sufficient clearance for backsplash (if required).

Measure the sink base cabinet and compare the dimensions to the size of sink. Also check the overall sink size including flange. Be sure the sink will fit into the cabinet base.

6.7 Overhangs

Templates should be made to the size of the countertop – including all overhangs.

Consider additional overhangs on raised bars and islands. Generally these will look better with 2” or more of overhang rather than the standard 1 ½”. Typically have several inches of overhang on either side of the cabinet and will have edges on at least two sides.

Countertops adjacent to stoves and ovens should be flush with the cabinet and should not have an edge profile. Overhangs on sides adjacent to refrigerators can be flush with the cabinet, but should always be less than 1”.

The maximum unsupported overhang is 14” for 3 cm material and 11” for 2 cm material. Larger overhangs will require additional support, including corbels or legs. Refer to chapter 13.2 for additional information.

For areas with support on only 3 sides (dishwashers, desks, or corner cabinet voids), additional support will be required to support the top.

6.8 Edges, Corners, etc.

Note that certain edge types do not transition well into a flat edge when corners become radiused.

The standard overhang for a finished edges is 1 ½” from the face of the of the cabinet to the outermost portion of the edge.

All outside corners should have a radius. Any exposed corners or corners not touching walls should also be radiused. A flat polished edge may be acceptable if the corner is not sharp.

Note all edge types and radius’ on the shop drawing and/or template.
7 LAYOUT

7.1 Layout of Job

Before cutting any slabs of Viatera, calculate the square footage, lengths, and widths of material you will need to finish the entire project. If you come up short it may create color match concerns if more material must be ordered. Thoroughly inspect the slab for color, pattern, defects, and finish. Do not use material with visible manufacturing defects unless the layout allows them to be excluded from the job.

7.2 Color Match, Veining, Aggregate Distribution

Inspect all material prior to fabrication. Veined material has a non-directional pattern, however care must be taken in layout relative to seam location. Be aware that vein and aggregate distribution may be slightly different at the edge of the slabs. Layout the Viatera slabs to provide the customer with the best visual appearance.

- Inspect slab numbers
- Remove peel coat and inspect for color variation, color match and defects
- Veined patterns may require more specialized layout

Color match from countertop to backsplash is generally not as critical as color match between pieces across a seam. Even though the backsplash is adjacent to the countertop, it is in a different plane and slight color variation is usually not noticeable.

7.3 Seam Locations

- Determine seam locations. Avoid locations;
  - In direct sunlight
  - In the center of a sink cutout
  - Over dishwashers
- Corner seam locations are acceptable. Use of a “European Miter” (Figure 7.1) is a common method of executing an inside corner with any type of edge profile. The profile is cut at a 45 degree angle (on a 90 degree corner). The remainder of the seam is cut perpendicular to the front edge of the countertop. See section 8 SEAMING for additional information.
8 SEAMING

8.1 Seam Placement

Careful placement of seams can be the difference between a great job and one that becomes a disaster. Seams in solid colors leave the least amount for error.

Avoid locations;

- In direct sunlight
- In the center of a sink cutout
- Over dishwashers

8.2 Seam Tolerance

Seam tolerance is typically the same as other hard surface material. Recommended seam width is 1/16” and tolerance is +/- 1/32”. Adjacent pieces should be level across a seam, with a tolerance of +/- 1/32” (non-additive). That is to say that one side of a seam could be slightly raised or one side can be slightly lowered, but not both.

8.3 Seam Preparation

The 2 edges to be seamed must be cut straight and true. If a waterjet is used for cutting, the edges should be ground flat to remove any grooves from the cutting process.

Test fit to make sure the pieces to be seamed together will form a tight, level, and uniform seam prior to application of adhesive. Shim and level pieces as required. Also check to make sure the color and pattern matches across the seam.

Make sure to clean the joining edges with denatured alcohol and a clean white rag. Apply a strip of tape or to the underside of the area to be joined, half on each side of the two pieces, leaving about 1/4” between pieces. This will keep adhesive from dripping below the top.

8.4 Adhesive Use

Seams should be made using a 2 part epoxy resin. Various types and brands are available that can be mixed separately (resin & hardener) or available in a 2 component cartridge. LG Hausys recommends the cartridge with a static mixing tube as this will provide a consistent seam each time.

Assemble the cartridge in the seaming gun with a fresh disposable mixing tip. After each use, remove and replace this tip. When you are finished gluing for the day, you can leave the tip on and the adhesive in the tip will set up just as the seams do on your materials. The next time you use it you only need to change the tip. As you get ready to apply adhesive, remember to purge the tip. This is done by squeezing out a bead of approximately the length of the tip. This ensures that any trapped air has worked itself from the mixing tip and that the catalyst and adhesive have properly mixed and are ready.

Normal cure time is about 20 minutes in 70 degree F, 21 degrees C. If the temperature is hotter, your working time is greatly reduced and, if cooler, your working time is lengthened.

Bulk adhesive cartridges typically provide 20’ to 30’ of seaming.

1 For commercial projects – especially in high use areas or when flexibility is required due to movement, expansion, or contraction – flexible seams are recommended. 100% silicone sealant should be used.
8.5 Clamping Systems

There are a number of clamping systems in use today including spring clamps, “C” clamps, suction cup, and vacuum systems. Each type is suitable in one or more applications so by-and-large, it is a matter of individual preference.

Clamping Tips
- Do not use excessive pressure. This will create a dry seam (squeezing all the glue from the seam)
- Clamp pressures should be tight enough to allow a bead of adhesive to squeeze out.
- Clean up some of the excess epoxy from either side of the seam. The adhesive will shrink slightly, so do not completely clean off the seam of excess adhesive.
- Look for glue voids and air pockets. Take care of this before the seam adhesive sets up.
- Inspect the seam to ensure a tight fit. Use a razor blade to check levelness, moving it back and forth along the seam.

Let the adhesive cure for approximately 40 minutes in normal conditions or until hard to your fingernail touch. Remove the excess adhesive by scraping with a razor blade. A “flat bastard” file may also be used – make sure it is flat to the Viatera surface so that it does not scratch the top.

As a final step, you can use 00 steel wool to put a polished gloss on the seam. This is not required, and the steel wool will not harm the Viatera surface finish. However – it is very important to note that this will ruin the seam if this is attempted before the epoxy is fully cured and hardened.
9 CUTOUTS

9.1 Sink

All sink cutouts should be centered in the sink base cabinet.

Top Mounting

• Cut the opening in the countertop to the dimensions furnished by the sink manufacturer. It is preferable to use a 1 ¼” core drill to cut holes in each of the 4 corners of the cutout. Using a saw with a diamond saw blade, cut the remaining material between the core holes. Take care to support the cutout material during the process so that it does not fall during the final cut.
• Top mount cutouts can be made in the shop or at the jobsite. It is recommended that the cuts be at least partially done in the shop – to minimize field work and potential errors. Using a CNC or waterjet, the corners of the cutout can be cut in the shop leaving only straight cuts for the jobsite. This will help to maintain the strength of the piece during transportation.

Undermount Sinks

• Make a template if one is not provided of the required size for the cutout.
• Regardless of the type of sink, always make the cutout in accordance with the sink manufacturer’s recommendations.
• Leave enough room at the back of the countertop for the faucet assembly, edge buildup backsplash, and respective sink flange.
• All undermount cutouts should be fully cut and edges polished in the shop.
• Use of a CNC or Waterjet to cut out undermount sinks takes some of the human error out of the process. These machines can store files used for common sink cut-outs and repeat the cuts when required. Most sink manufacturers provide CAD or DXF (Drawing eXchange Format) files to produce error free cutouts.

9.2 Cook-tops

Similar to drop-in sink cutout as outlined above.

• Cut the opening in the countertop to the dimensions furnished by the manufacturer. It is preferable to use a 1 ¾” core drill to cut holes in each of the 4 corners of the cutout. Using a saw with a diamond saw blade, cut the remaining material between the core holes. Take care to support the cutout material during the process so that it does not fall during the final cut.
• It may necessary to grind out the radiused corner in a cook-top cutout. Especially on glass cook-tops, the small flange area leaves little tolerance in the size of the cutout.
• Do not overcut the corners of a cook-top – even if it is on the bottom of the countertop, as over time this may cause the top to crack in the corner.
9.3 Accessories

Accessory cutouts range from simple core holes for faucets to complex cutouts for specialized equipment. The best way to determine what size/shape to make any cut out is to have the equipment available on site.

- Whenever possible use the equipment manufacturers recommendations.
- Always get the customers approval on size and location of cutout.

Cutouts for accessories should follow the same process and procedures as outlined in sections 9.1 & 9.2
10 Bowl Installation

Please also refer to Chapter 9 for bowl cutout information

10.1 Drop-in
These instructions apply to all types of drop-in sinks. Always follow the manufacturer’s instructions.

- Apply a ¼” (6mm) bead of 100% silicone to the bottom edge of the self rimming sink flange and also to the edge of the Viatera cutout.
- Position the sink into the cutout so that the flange rests on the deck. Make certain to install the clips or clamps supplied. Center the sink in the opening.
- Attach clips to the sink and clamp down to the underside of the sink opening.
- Clean up any silicone that squeezes out onto the countertop.

10.2 Undermount Sinks (Stainless Steel)

- Apply a ¼” (6mm) bead of 100% silicone to the top of the sink flange and to the bottom of the Viatera counter top at the flange perimeter edge.
- Position the sink equally around the cutout and install sink clips or clamps supplied. Always use mechanical fasteners with undermount sinks. Never depend solely on glue, epoxy, or caulk for attachment.
- Make certain that the reveals or offsets between the sink and the bowl opening are consistent on all sides.
- Attach clips to the Viatera and clamp down to the underside of the sink flange.
- Clean up any silicone that squeezes out onto the bowl or bowl opening.

10.3 Undermount Sinks (Cast Iron)

- When undermounting a cast iron sink, it must be supported from the cabinet. Often a cradle must be constructed inside the sink base cabinet to support the sink from the walls and floor of the cabinet. Never try to undermount a cast iron sink from the cabinet sub top or support strips.
- Construct a cradle inside the cabinet and support the cast iron sink on all sides if possible. Make sure the cradle holds the sink so that the top of the flange is ¼” to ½” below the bottom of the countertop.
- Apply a ¼” (6mm) bead of 100% silicone to the top of the sink flange and to the bottom of the Viatera counter top at the flange perimeter edge.
- Lower the countertop over the sink and adjust countertop for level and alignment as necessary. Position the sink equally around the cutout and shim the sink in the cradle until it is flush with the bottom of the countertop.
- Clean up any silicone that squeezes out onto the bowl or bowl opening.

10.4 Undermount Sinks (Others)

There is a large variety of sink types and styles in the market today. The methods above should apply to most types of sinks you may encounter. Always follow the manufacturer’s instructions.

- Most farmhouse style sinks must be supported from the cabinet, similar to cast iron (10.3). Often a cradle must be constructed inside the sink base cabinet to support the sink from the walls and floor of the cabinet. It is recommended that the sink be installed (by others) prior to templating the job.
- Be careful when you transition an edge profile such as a bullnose into flat edge at the farmhouse sink opening. It is nearly impossible to do this and make it look good. A laminated (4cm) edge makes this issue even more pronounced.
11 EDGES

When profiling edges in Viatera it is best to use a machine with diamond tooling to produce the desired shape. A CNC or other specific edge profile machine is recommended for producing consistent edge profiles. Some standard edges can be achieved using only hand tools. Often a combination of machine and hand labor produces the best result. One word of caution on edge finishing for Viatera; use copious amounts of water and slow down the machine rpm’s to avoid “burning” or overheating the polyester resin. When overheating occurs the edge will look dull and grey.

11.1 2cm With Lamination

- To laminate edges in 2cm Viatera, cut strips to the appropriate width – this will depend on the standard overhang on the edge to be laminated.
- Flip the countertop piece so that the back is facing up.
- Clean all areas to receive epoxy with denatured alcohol.
- Apply 2 part epoxy (seam adhesive) to area to be laminated. Use enough adhesive to allow excess to squeeze-out
- Once you have applied the seam adhesive, place a spring clamp every two inches from the center at a minimum. It is recommended that all the spring clamps are the same size in order to ensure consistent pressure. Slippage is a common phenomenon. When you clamp the edges down, they have a tendency to slide or slip a bit. If you are having a hard time controlling this, use additional clamps in front or behind the lamination piece. This should stabilize the slipping and keep your front edge straight while the adhesive cures.
- Use a CNC or waterjet to cut radial or unusual lamination shapes.
- When the adhesive has cured, check the lamination for a tight fit and for voids. Do not leave any adhesive voids. Make certain all voids are filled prior to profiling the edge.
- Apply your 4cm edge profile.

11.2 3cm Edges

No preparation is necessary to produce 3cm edges other than cutting the pieces to size. It is best to use a machine with diamond tooling to produce the desired shape, however some standard edge profiles can be achieved using only hand tools. Regardless of how edges are profiled, the goal is to achieve a consistent look and finish.

- Exposed outside corner returns of 2” or more should use the same profile as the edge whenever possible. returns of less than 2” can be flat polished.
- Edges at refrigerators and free standing stoves should be flat polished. Do not use a profiled edge in these conditions.
- Raised bars with sinks below will often not have room (depending on faucet type) for any profile except a flat, eased edge.
11.3 Profiles

A variety of edges are possible dependant only on tooling available. These are a few of the common edge types.
12 BACKSPLASH

12.1 Loose Backsplash

For installation of Backsplash materials from 3”- 6”, follow these directions:

- Cut the splash from the same materials that were used for the countertop fabrication when possible.
- If you utilize back splash materials from remnants or with materials purchased at a different time, they may not match in color. Always check for color match before fabricating.
- Cut all splash to the sizes required for the project. The top edge and any exposed ends should be polished. Standard for all splash is a flat polished (eased) edge.
- Dry fit the splash materials to ensure all joints and edges are tight.
- Install the backsplash materials with 100% silicone adhesive. Place dabs of silicone every 4 -6 inches on the back side of the splash materials that will come in contact with the wall. Prior to setting the splash into position, run a thin bead of clear or color matched silicone on the back surface edge of the countertop where the splash will rest.
- Put the splash material in place and remove excess silicone squeezed from the joints and finish the caulking operation.

12.2 Full Height Backsplash

Although not required, it is strongly recommended that the full height backsplash be templated after the countertops are installed. This will necessitate a return trip to install the full height splash, but it will eliminate a great deal of field cutting. The following directions are based on this recommendation.

- Measure from the top of the countertop to the underside of the upper cabinet at the back wall. Take a minimum of 2 measurements, one on each side of the backsplash run. Allow for a gap of 1/16” to 1/8” at the bottom (backsplash to countertop) and ¼” maximum at the top (backsplash to cabinet).
- If there are multiple electrical cutouts or other unusual conditions, it may be helpful to make a template.
- The top and bottom of full height splash will not be exposed and do not require a polish finish. Polish all exposed sides and edges with a flat polished (eased) edge.
- In most cases the backsplash should stop where the upper cabinets stop, even if the countertop extends. If the edge of the countertop ends before the upper cabinet, stop the full height splash at the edge of the countertop. When in doubt it is always best to relate the options to the customer and let them make the decision.
- You may need to add a 1x or 2x piece of lumber behind a slide in range to carry the weight of the full height splash in this location. Make sure the wood is screwed to the studs in the wall.
- Electrical cutouts made in the field should be cut from the back of the full height splash. Depending on the local building code, the customer may need to have the electrical boxes extended to accommodate the thickness of the material for the full height splash (2cm or 3cm).
- Adhere to wall with silicone - never use panel adhesive.

12.3 Tile Backsplash and Other Dissimilar Materials

When tile or other backsplash materials are placed above a Viatera countertop, always provide an expansion joint between the dissimilar materials. The recommended gap should be 3/8” to ¼” and filled with 100% silicone caulk. Tile should not be grouted directly to the Viatera countertop.
13 COUNTERTOP SUPPORT

Viatera countertops must be supported on a strong perimeter frame that will keep it level within 1/16” for each 10 feet of countertop over the life of the top. The best substrate for a Viatera countertop is made from moisture resistant plywood, solid hardwood lumber, or even steel. Other wood products may be acceptable as long as they are moisture resistant. Support strips should be attached to the cabinets in a “ladder frame” configuration. Always avoid non-moisture resistant materials such as MDF, Particle board or Flake board. These materials are not stable and are subject to warpage and expansion with the presence of moisture. Follow the procedure below using any of the approved support materials.

13.1 Support Structures

• 2cm Viatera requires support every 24”. 3cm Viatera requires support every 36”.
• Outer perimeter support is acceptable when installed on all four sides and the depth of the countertop is less than 26”
• Avoid using substrate materials such as Particle Board, OSB, Flake Board, and any non water resistant composite wood products.
• You can use a full substrate with approved wood or wood product materials on furniture, table tops or related service counters.
• All cabinets must be leveled and shimmed as necessary to 1/16” tolerances prior to countertop final installation.
• Apply perimeter support strips to the cabinet surfaces. Install center support stringer materials across the cabinets for support where necessary to meet span requirements above. These support strips can be nailed with a finish nail and countersunk, or screwed into place provided the head is below the surface of the wood support that will come in contact with the Viatera countertop deck.
• Place stringer/support strips a maximum of 24” apart for 2cm (36” for 3cm).
• Any leveling necessary should be performed between the cabinets and the support strips.
• After the support system is installed and leveled, you will be ready to begin installation of the Viatera top.
• Use 100% silicone adhesive to bond Viatera surfacing materials to dissimilar materials such as wood, steel, aluminum, etc. Do not use Epoxy, Liquid Nails or similar non flexible panel adhesives. The purpose of the silicone is to allow the top to expand/contract as it needs to. Silicone allows for this to take place. Epoxy or panel adhesive restricts this motion resulting in failure to the top and voiding the warranty.

13.2 Overhangs

Never allow more than 1/3 of the width to overhang while two thirds of the width should be supported. If this rule cannot be followed, you must install legs for necessary support.

• For 2cm, a maximum of 11” overhang is allowable without corbels. 12” to 18” requires corbels @ 36” on center (max.). Overhangs of 18” or more require columns or legs.
• For 3cm, a maximum of 14” overhang is allowable without corbels. 15” to 24” requires corbels @ 36” on center (max.). Overhangs of 24” or more require columns or legs.
• Other types or combinations of support methods may be possible. The Viatera warranty will not be voided as long as all of the following criteria are met:
  1. The overhang does not exceed 1/3 of the supported width of the top.
  2. Maximum edge deflection does not exceed 1/8” under an applied load of 140 lbs.
  3. No portion of the Viatera spans more than 24” (2cm) or 36” (3cm) without support.

Note; As a manufacturer of Viatera slab product, LG Hausys does not review and/or approve specific details for project specific applications.
13.3 Miscellaneous Support

- Support must be provided at the back of the cabinet (where it meets the wall) in all cases. If there is no support (for example, at the back of a dishwasher opening), a cleat should be securely fastened to the wall level with the cabinets.
- In many cases, corner cabinets with lazy susan’s do not provide adequate support or have excessive spans. Additional support may need to be added prior to installation of countertops.
- Never screw through support strips into the Viatera material. This will void the warranty as it will eventually cause the material to crack.
- Do not attach appliances such as dishwashers, directly to a Viatera countertop. Use side clips to attach to the cabinet whenever possible.
**14 VERTICAL APPLICATIONS**

Viatera wall cladding can be vertically mounted onto a wall surface that provides adequate support. Wall cladding pieces can be seamed together using 100% silicone sealant. Epoxy or “hard” seams are not recommended for vertical wall applications. Limited vertical applications – such as a reception counter – may be seamed with epoxy. Either 2cm or 3cm material may be used, however the 2cm thick material will generally prove just as durable and will be much easier to install.

Ensure that the wall surface that the Viatera pieces are being attached to is of sound construction and free of defects. If there is an expansion joint in the wall, an expansion joint of the same size and location will be required in the Viatera wall panel. Additionally gaps for expansion must also occur at inside corners, wall to floor, and wall to ceiling interfaces.

Please note that LG Hausys does not provide design review of drawings for any specific application or purpose. Nor will LG Hausys approve or reject a design as being a suitable use of our Viatera quartz surface product.

**14.1 Wet Wall**

The variety of shower and tub configurations available in the marketplace are too numerous to cover in any manual. These guidelines will provide the basic instructions that will apply to all applications.

- Ensure that the walls onto which the panels are to be attached are clean, smooth, plumb, and free of moisture. Do not attach Viatera to a wall that has damage caused by moisture or other deterioration.
- Allow room for expansion at all inside corners. All corners to be caulked with 100% silicone caulk. Allow 1/8” minimum joint between adjacent Viatera pieces.
- Provide a minimum of 1/8” expansion space (to be caulked with 100% silicone) at bottom of panel and interface of tub or shower pan.
- Provide a minimum of 1/8” expansion space at top of panel / ceiling interface.
- Cut all holes for faucets and plumbing using diamond core drill bits whenever possible. Maintain at least ½” clearance around all items penetrating the wall panel.
- Adhere the Viatera wall panel using 1” dia. spots or 2” circles of 100% clear silicone caulk, approximately 4” to 6” apart in all directions. Also apply a continuous bead of silicone at the perimeter and the edge of all cutouts.
- Press firmly into place and secure to wall studs using a positive, non-corrosive anchor (see detail). This can be as simple as a stainless steel screw and washer. Wall panels should be anchored in 2 to 4 locations each – depending on size of panel.
- Repeat this process for additional wall panels.
- When finished, caulk all perimeter panels (including inside corners) with 100% silicone.
- Add corner trim, batten strips, etc., using color matched silicone caulk.
14.2 Wall and Wainscot

- Ensure that the walls onto which the panels are to be attached are clean, smooth, plumb, and free of moisture. Do not attach Viatera to a wall that has damage caused by moisture or other deterioration.
- Allow room for expansion at all inside corners. All corners to be caulked with 100% silicone caulk. Allow 1/8” minimum joint between adjacent Viatera pieces.
- Provide a minimum of 1/8” expansion space (to be caulked with 100% silicone) at bottom of panel and interface of base or floor.
- Provide a minimum of 1/8” expansion space at top of panel / ceiling interface.
- For wainscot, leave a gap of 1/8” between the Viatera panel and any chair rail or transition material.
- Make cutouts for electrical outlets, etc. cutting from the back of the Viatera wall panel. Maintain at least 1/8” clearance around all items penetrating the wall panel.
- Adhere the Viatera wall panel using 1” dia. spots or 2” circles of 100% clear silicone caulk, approximately 4” to 6” apart in all directions. Also apply a continuous bead of silicone at the perimeter and the edge of all cutouts.
- Press firmly into place and secure to wall studs using a positive, non-corrosive anchor (see detail). This can be as simple as a stainless steel screw and washer. Wall panels should be anchored in 2 to 4 locations each – depending on size of panel.
- Repeat this process for additional wall panels.
- When finished, caulk all perimeter panels (including inside corners) with 100% silicone.
- Add corner trim, batten strips, etc., using color matched silicone caulk.

NOTE:
The details and instructions for Viatera vertical applications are for interior wall applications only. Never use Viatera in an exterior application. The LG Hausys warranty does not cover exterior applications.
**15 TRANSPORTATION and INSTALLATION**

All Viatera countertops and other Viatera materials should be fabricated in the shop to the greatest extent possible, however components should not be so large as to be a burden in transport and handling.

Substructure, reinforcements, supports, backsplashes and field seams are all items either installed or finished at the jobsite. Before leaving the fabrication shop, carefully clean the fabricated materials and inspect the finished product as carefully as possible. If necessary, the time to make repairs is before you place the top in the customers home. Cover or protect all finished components during transport.

**15.1 Tools and Equipment**

There is a wide variety of tools that can be utilized for installation of Viatera and ultimately, the selection is one of personal preference. The following list includes most basic tools but this list is not meant to be all inclusive.

- Safety Equipment including the following: First aid kit, Proper Safety Shoes, Safety Glasses, Dust Masks or respirators, Ear Plugs, Back Support
- Electric angle grinders
- Diamond polishing pads
- Portable screw gun
- Large circular saw (worm-drive)
- Diamond blades (various sizes)
- Extension cords
- Caulking gun
- Caulking (color matching & clear)
- Diamond core bits (1 ¼ ”, 1 ½ ”)
- Tape measure
- Screwdrivers
- Razor blades
- Suction cups – 9”
- Slab dolly, drywall cart, lifting clamps
- Grinding wheel
- Diamond cup wheel
- Epoxy (matching colors & transparent)
- Hardener
- Acrylic paints
- Lacquer thinner
- Clean rags
- Wood chisels
- Hand saw
- Masking tape
- Pencils, pens, markers
- 2’ & 6’ level
- Framing square
- Shims – various thickness
- Tie-down straps
- Tarps
- C Clamps
- Framing hammer, rubber mallet
- Wrenches, channel locks, and various other hand tools
- Cleaning solutions
- Broom and dustpan
- Wet/dry vacuum

A general note on the tools listed in this manual:

Even though the tools listed are recommended for use in fabricating, templating, and installing Viatera – this list is by no means absolute. There is a wide variety of equipment and tools available within the stone market. The best tool for the job will ultimately be determined by you, the user.

Remember, when using any tool, always comply with the manufacturer’s instructions, safety guidelines, and recommendations.
15.2 Loading and Delivery

Vehicles used for transportation should not only be adequately outfitted for safely hauling material, they are a reflection on your business and your company. Keep them neat, clean, and well maintained.

• Review all job paperwork prior to loading to determine the scope of the installation. Inspect all Viatera pieces to check for finish, color match, edges, etc.
• Wear closed-toed shoes or boots when loading, handling, and installing Viatera.
• Transport large components vertically on “A” frames. Use carpet or padding to protect the finished edges. Tie down and secure all components during transport. If not transported in an enclosed truck, tarp materials.
• Do not try to load or unload the materials by yourself.
• Always plan for adequate manpower for handling and lifting at the jobsite.
• Brace or otherwise secure all cutouts during transit.
• Be on time. Call the customer if you are running late.
• Allow the materials to reach room temperature before installing.
• Seam adhesive works best in a temperature range of 60 degrees F (15 C) to 90 degrees F (32 C).

15.3 Support, Layout, and Install

• Attach substrate and support materials (if required) prior to installation. Refer to Chapter 13 COUNTERTOP SUPPORT for more detail and specific instructions.
• Remember that the cabinets must be leveled and shimmed where necessary to 1/16” tolerances prior to countertop final installation. Check all cabinets for level.
• After the support system is installed and leveled, you will be ready to begin installation of the Viatera top.
• Measure cabinets and verify that the pieces will fit prior to placing the Viatera on the countertop.
• Plan the movement of pieces into the house, taking care to allow for which edge will be facing up and what side of the top you will be standing on. Trying to twist in or out of position while holding a heavy piece of Viatera can result in;
  a. Accidents
  b. Broken pieces
  c. Both
• Bring the pieces in one at a time and test fit them in place on the cabinets. Adjust as necessary to insure a good fit and proper alignment. Always make any necessary cuts outside, cutting wet to control dust.
• After all of the pieces have been adjusted for fit, you will need to attach the tops to the cabinets or support strips using 100% silicone caulk. Apply silicone caulk approximately every 12” at perimeter and intermediate support. Do not use Epoxy, Liquid Nails or similar non flexible panel adhesives. The purpose of the silicone is to allow the top to expand/contract as it needs to. Silicone allows for this to take place. Epoxy or panel adhesive restricts this motion resulting in failure to the top and voiding the warranty.

15.4 Seams

Please note that all of the items in chapter 8 about seams and seam placement also apply to this section. Refer to Chapter 8 SEAMING for addition details and instructions.

• Prior to seaming pieces place a piece of tape on the bottom of the pieces spanning the seam. This will help to catch adhesive squeezed through the bottom of the seam.
• Make sure to clean the joining edges with denatured alcohol and a clean white rag.
• Viatera pieces to be seamed together should be held apart by ¼” to ½” to allow for adhesive to be placed in the seam.
• Assemble the cartridge in the seaming gun with a fresh disposable mixing tip. After each use, remove and replace this tip. As you get ready to apply adhesive, remember to purge the tip. This is done by squeezing out a bead of approximately the length of the tip. This ensures that any trapped air has worked itself from the mixing tip and that the catalyst and adhesive have properly mixed and are ready.
• Squeeze seam adhesive into the space between the two pieces to be seamed together.
• Pull the pieces together using clamps so that the seam adhesive squeezes out uniformly. Also refer to chapter 8 for more information on seams and clamping.
• Clean up some of the excess epoxy from either side of the seam. The adhesive will shrink slightly, so do not completely clean off the seam of excess adhesive.
• Create sharp, accurate seams and tight seams. Do not construct the seam too tight. You want to ensure the adhesive is not all squeezed out.
• Apply seam adhesive evenly and thoroughly so that all seaming surface areas are properly covered.
• Allow the seam adhesive to completely cure before filing or scraping flush with the countertop.
• Always leave 3-4 inches between the seams and sink or countertop cutouts. Do not place a seam above the dishwasher.
15.5 Tolerances

Install countertops to fit as closely as possible to adjacent finishes.
Fabrication and installation tolerances, if not specified elsewhere in this manual, should comply with the following:

• Provide a 1/8” nominal expansion gap at the interface of all walls, cabinets, or dissimilar materials. Note: This gap can vary where back walls are bowed or do not align. It is not standard practice in quartz installation to scribe cut to a wall or other out of tolerance surface. Caulk all gaps with 100% silicone sealant.
• Seams will not be inconspicuous. They will be visible, however should be level and smooth.
• Seam tolerance is as follows;
  1. Recommended seam width is 1/16” and tolerance is +/- 1/32”.
  2. Adjacent pieces should be level across a seam, with a tolerance of +/- 1/32” (non-additive). That is to say that one side of a seam could be slightly raised or one side can be slightly lowered, but not both.
• Tops should be installed level. Maximum variation should be +/- 1/16” in 6’. Note: If cabinets are not level (+/- 1/16”) have this corrected prior to installation of Viatera top.
• As long as base cabinets are in a straight plane, standard overhangs (front edge) should vary no more than ¼” in 8’ Non-standard overhangs (over 2”) should comply with the maximum overhang sizes specified in chapter 13

15.6 Caulking

Caulk all Viatera countertops to non Viatera material using 100% Silicone sealant.

• Provide a 1/16” to 1/8” expansion gap at the interface of all walls, cabinets, or dissimilar materials. These expansion gaps should be caulked.
• Caulk loose Viatera backsplash to the countertop using a color matched silicone caulk. Make sure to caulk behind faucets. Smooth or “rake” the caulk joint to remove excess sealant and provide a finished appearance.
• Backsplash should be caulked to the wall. Gaps at this interface have the potential to exceed the maximum allowable due to variations in the wall surface.

15.7 Completion

Fabricators that pay close attention to details and quality throughout the fabrication process will ensure their customer’s satisfaction and minimize costly call backs while at the same time maximizing the relationship for future work and/or referrals from the customer.
Establish a procedure of good will after the job is completed by providing them with the following information and reassurances;

• Thoroughly clean the work area and the countertops when you are finished installing.
• Inspect the entire job upon completion with customer. Review any quality check list you may have The customer will get a chance to appreciate the craftsmanship and care you put into their top.
• Review care and maintenance procedures with the customer.
• Describe the dangers of placing hot pots, pans, etc on the countertop.
• If the customer has any issues or concerns with the work, address them and try to fix any problems before you leave. Always try to address any concerns the customer may have. This will help to eliminate a return trip.
• Contact the customer after a month or two to see if they have any questions or concerns.
• Provide your company sticker or label to the inside cabinet door or inside cabinet wall below the sink for future maintenance or other questions relating to their top. This is helpful especially after the original customer has moved.
• Thank the customer for their business.

The impression you leave on your customers is a reflection of LG Hausys. Your professionalism will help us to attain the highest level of customer satisfaction, which will benefit your company as well as ours.
16 BASIC REPAIRS

Viatera slab material is manufactured and finished using a technologically advanced, state-of-the-art plant. Very few methods of repair can be accomplished that are inconspicuous. Never attempt to re-polish the face of a Viatera top unless you have been properly trained to do so.

16.1 Drill and Fill

One of the simpler repairs that can be done in the shop or field is a “Drill & Fill”. This procedure describes how to repair a resin pool that can occur in Viatera slabs. It can also be used to remove small areas of foreign or non-conforming material.

1. Drill a series of small non-uniform holes X 1/8” deep throughout the resin pool using a dremel tool and small diamond bit. These holes should be sized and spaced similar to the particulate distribution within the specific material. For example, holes would be smaller in a fine grained material like Cairo, than they would be in coarser grained Palermo.
   a. For foreign or non-conforming material, carefully drill out all of the objectionable area to a minimum depth of approximately 1/8”.
2. Clean the void using acetone or lacquer thinner.
3. Mix up 2 part polyester epoxy and hardener in a color that closely matches a particulate color in the material, but also contrasts with the color of the resin pool.
4. You may need to use 2 or more colors to more closely match the slab and blend the repair into the surrounding material.
5. Fill in the holes with epoxy so that the epoxy is above the surface and allow it to fully harden (20 minutes) before attempting to work the material.
6. Using a flat bastard file, remove the excess epoxy so that it is flush with the top.
7. Using fine (00) steel wool, gently rub the repair until it begins to shine.
8. Repeat steps for additional colors as required.
9. The repair is finished when it is made inconspicuous with the surrounding material.
10. Note: for a quicker repair you may elect to use Hot Stuff® (Super “T”). Make certain to mix and place any color just below the top layer of hot stuff. Scrape off the Hot Stuff with a razor blade using a strumming motion. You may use steel wool (step #7) but generally with the use of Hot Stuff this step is not necessary.

Required Tools and Supplies
a. Dremel or other rotary tool
b. Small conical diamond bit.
c. 2 part polyester epoxy (“clear”)
d. Epoxy colors
e. Flat bastard file
f. 00 steel wool
g. Razor blades
16.2 Chip or Void Repair

The following procedure describes how to repair a chip or void in Viatera countertop. It is quite similar to the procedure outlined above.

1. If the chip is on an edge, use masking tape to create a “dam” for the repair material. If the chip or void is too small it may require drilling to enlarge so that the repair material will adhere. Use a Dremel tool with a diamond tipped bit to create a void of at least 1/8” diameter X 1/16” deep.
2. Clean the void using acetone or lacquer thinner.
3. Mix up 2 part polyester epoxy and hardener, according to the manufacturer’s instructions, in a color that closely matches a particulate color in the material. A “flowing” grade of epoxy works best.
4. You may need to use 2 or more colors to more closely match the top and blend the repair into the surrounding material.
5. Fill in the void with epoxy so that the epoxy is above the surface and allow it to fully harden (20 minutes) before attempting to work the material.
6. Using a flat bastard file, remove the excess epoxy so that it is flush with the top.
7. Using fine (00) steel wool, gently rub the repair until it begins to shine.
8. The repair is finished when it is made inconspicuous with the surrounding material.
9. Note: for a quicker repair you may elect to use Hot Stuff® (Super “T”). Use without color to imitate clear quartz. Make certain to mix and place any color just below the top layer of hot stuff. Scrape off the Hot Stuff with a razor blade using a strumming motion. You may use steel wool (step #7) but generally with the use of Hot Stuff this step is not necessary.

Required Tools and Supplies
a. Dremel or other rotary tool
b. Small conical diamond bit.
c. 2 part polyester epoxy (“clear”) or Super T w/ accelerator
d. Epoxy colors
e. Flat bastard file
f. 00 steel wool
g. Razor blades
17 TECHNICAL DATA

17.1 Specifications

Product Features

• Durability
Thanks to the unique technology, Viatera withstands most everyday stains, and is scratch and crack resistant.

• Low Maintenance
Non-porous and easy to clean, it will not promote the growth of bacteria, making it ideal for kitchens and baths. Unlike other stone products, Viatera requires no regular sealing.

• Heat Resistance
Viatera will not burn or scorch under normal cooking temperatures. (See below for further information)

• Versatility
Available in a rainbow of colors, Viatera combines beautifully with any design project. All colors are available in ¾” (2cm) and 1 ¼” (3cm) thickness

Specification

Viatera Quartz Surface is a product of LG Hausys.

Viatera is produced in our state-of-the-art manufacturing plant in Adairsville, GA. The product is then shipped from the factory to domestic warehouses where it is distributed to retailers, fabricators, and customers on demand.

In order to create the hardest, most impervious natural countertop material, we combine 93% natural quartz with technologically advanced polymers. The result is Viatera, a beautiful nonporous material that’s more hygienic and stain-resistant than other stone countertop materials such as granite. And unlike granite, Viatera quartz does not require sealants in order to maintain its non-porous characteristics. Made with natural quartz, Viatera surfaces offer unparalleled beauty and extraordinary benefits that far exceed those of any other natural stone.

Standard Slab Thicknesses: ¾” (2cm nominal), and 1 ¼” (3cm nominal)

Slab Dimensions: Jumbo
130” x 63”

Slab Dimensions: Standard
120” x 55”

Applications
Food Service
Viatera is ideal in the food service industry. Countertops, table surfaces, work stations and restrooms need to take the traffic and abuse that servers, kitchen staff, and customers parcel out on a busy day. Viatera gives restaurants, bars, buffets, and cafeterias the durability and the resistance to stains and bacteria needed in the food service industry. Viatera products have passed all NSF testing allowing its use with all food types.

Restaurant
Viatera is not only functional; it is also elegant. When patrons sit down for a nice dinner together, atmosphere and ambiance are everything. The details matter. Whether it is the touch and feel of the bar tops and table tops or the appearance of the restroom vanities, the little things are what make an impression. These features combine to make Viatera the ideal surface for all types of restaurants. Because of the elegant appearance of Viatera, along with its stain resistance and durability, it becomes a perfect match for any restaurant.

Lodging
In the lodging industry Viatera is a perfect surface for hotel suites and rooms, superior to laminate for its ability to portray elegance (without the cost) while maintaining the long-term durability necessary for this kind of heavy traffic area. Viatera has been used for everything from vanity tops, to shower and bath surrounds, to windowsills, to nighttime counter tops. Viatera is not just for use in hotel rooms, reception counters, hotel restaurants and bars, entertainment and recreation areas can all benefit from the durability, elegance, and design flexibility of Viatera.

Healthcare
Because Viatera is resistant to stains, bacteria, and chemical spills, it is ideal for use in healthcare settings. It is inviting to the touch, elegant and beautiful, as well as fully capable of handling the requirements of a bacteria-intensive and chemical-rich environment. Viatera has been used in patient and public restroom vanities, patient bath and shower surrounds, laboratory work surfaces, cafeteria counters and tables, operating room walls, nurse’s stations and transaction counters. Anywhere sanitary codes are an issue, Viatera is a valuable product because of its ability to combine safety with an aesthetically pleasing design.

Retail
Viatera is a unique alternative from other surfaces when consistency, durability, and elegance are the combination your retail client is looking for. The affordability of Viatera allows your client to incorporate an upgraded surface product into their branded appearance, combining beauty with functionality. Viatera is ideal for wall cladding, countertops, displays, transaction counters, and any other place customers roam. With a color palette that is professionally designed and maintained, the availability of ¾” and 1 ¼” thicknesses allow coordinated designs to flow seamlessly through the environment. Viatera works well for high traffic areas that require a counter to be both durable and beautiful.

Commercial
Libraries, airports, museums, aquariums and other busy places need surfaces that are long lasting and can handle heavy traffic. Viatera is, by design, a highly durable surface, made especially for heavy traffic areas. Composed of 93% quartz, it is impact, scratch, and heat resistant and requires very little maintenance over the course of its lifetime. Unlike some other products, Viatera offers customers a 15 year commercial limited warranty – a vital guarantee for any application that aims for permanence. Viatera’s durability makes it an ideal surface for transaction areas and public restrooms. Viatera can be fabricated to fit most any custom built work area, such as teller lines, transaction counters, restroom vanities, and entertainment applications. Unlike other materials, its durability is exceeded only by its elegant beauty. Viatera versatile color palette is available in either ¾” or 1 ½” thicknesses, allowing the seamless flow of your design.

Education
Viatera is engineered to withstand the wear and tear of an active student lifestyle. Each semester, year in and year out, the school’s facilities appear brand new. Given the need for schools and their various accompanying facilities to be long-lasting while minimizing lifetime costs, it’s necessary to go with a material that is durable, aesthetically pleasing and cost-effective. Viatera is ideal for these types of environments – for use in dormitories, laboratories, public restrooms, cafeterias, and even areas of prestige like the dean’s office.
Military
Military housing units see a lot of turnover in any given year, these installations need to be durable and easy to care for. Our military personnel deserve a place that looks and feels like home – a place to live that will make their time at the base enjoyable and pleasant. Viatera’s appearance and versatility make it an ideal choice for military housing, barracks, showers and wall surrounds as well as for other types of government applications. It is durable and resistant to scratching and staining. A Viatera surface requires little maintenance over its lifetime. Expect residents to feel at home in a kitchen covered with beautiful and durable Viatera surfaces. Applications in the past have included vanity tops, showers and wall surrounds, kitchen countertops, and windowsills. Also, our manufacturing plant in Adairsville GA allows you to “Buy American” with confidence.

Vertical – Wet Wall
Viatera is a perfect solution for tub surrounds or showers whether it is in a commercial or residential setting. Viatera extensive color line offers quartz surface in both ¾” and 1 ¼” thicknesses that fit in any bathroom design. Viatera’s non-porous, high gloss surface is easy to clean and durable. Viatera is functionality and beauty combined in a very affordable package.

- Residential Tub and Shower
- Hospital Bath
- Hotel Room Tub and Shower
17.2 Technical and Test Data

PRODUCT: Viatera® Quartz Surface

<table>
<thead>
<tr>
<th>Test Category</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasive Wear</td>
<td>ASTM C-501</td>
<td>150 - 200</td>
</tr>
<tr>
<td>Dimensional Stability</td>
<td>ASTM D-1024</td>
<td>Class A</td>
</tr>
<tr>
<td>Freeze-Thaw Cycling</td>
<td>ASTM C-1026</td>
<td>No % of weight loss</td>
</tr>
<tr>
<td>Flaming Mode</td>
<td>ASTM E-662</td>
<td>189</td>
</tr>
<tr>
<td>Modulus of Rupture</td>
<td>ASTM C-99</td>
<td>6,410 psi</td>
</tr>
<tr>
<td>Non-Flaming Mode</td>
<td>ASTM E-662</td>
<td>67</td>
</tr>
<tr>
<td>Flame Spread</td>
<td>ASTM E-84</td>
<td>17 Class 1 / Class A</td>
</tr>
<tr>
<td>Coefficient of Friction</td>
<td>ASTM C-1028</td>
<td>0.61 - 0.75 (Dry, Polished)</td>
</tr>
<tr>
<td>Stain Resistance</td>
<td>ASTM D-54384</td>
<td>No change after 9 days</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td>ASTM C-848</td>
<td>Meets requirements</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM C-97</td>
<td>0.01%</td>
</tr>
<tr>
<td>Weather Resistance/Hardness</td>
<td>ASTM C-291</td>
<td>78.87</td>
</tr>
<tr>
<td>Resistance to Deicing Salts</td>
<td>ASTM C-672</td>
<td>No change</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM C-307</td>
<td>Not less than 1,650 psi</td>
</tr>
<tr>
<td>Compression Strength</td>
<td>ASTM D-695</td>
<td>14,500 psi</td>
</tr>
<tr>
<td>Mohs Scale of Hardness</td>
<td></td>
<td>6 to 7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Features / Benefits</th>
<th>Viatera®</th>
</tr>
</thead>
<tbody>
<tr>
<td>93% Natural Quartz</td>
<td>Yes</td>
</tr>
<tr>
<td>Warranty - Commercial</td>
<td>15 Years</td>
</tr>
<tr>
<td>National Sanitation Foundation</td>
<td>Food Zone Approved</td>
</tr>
<tr>
<td>NSF-51</td>
<td></td>
</tr>
<tr>
<td>Manufactured in USA</td>
<td>Yes</td>
</tr>
<tr>
<td>GreenGuard Certified</td>
<td>Yes</td>
</tr>
</tbody>
</table>
1. PRODUCT AND COMPANY DESCRIPTION

Product: Agglomerate of natural quartz and polyester resin
Preparation Trade Name: Viatera®
Supplier: LG Hausys, Ltd
Address: 20 Yeoido-dong, Yeongdungpo-gu, Seoul, Korea 150-721
Telephone: (+82) 43-261-7431
Emergency: As Above

2. INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>% Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, Quartz</td>
<td>14808-60-7</td>
<td>&gt; 90</td>
</tr>
<tr>
<td>Pigmented cured polyester</td>
<td>N/A</td>
<td>Balance</td>
</tr>
</tbody>
</table>

3. HAZARD IDENTIFICATION:

The powder generated during dry cutting may cause irritation to eyes, skin and respiratory tract.

The adverse health effects from crystalline silica exposure are chronic effects (silicosis, cancer, scleroderma, tuberculosis and nephrotoxicity).

4. FIRST AID MEASURES:

Eye contact: Flush immediately with plenty of water for 15 minutes minimum and obtain medical attention..

Skin exposure: Wash skin with soap and water, Seek medical attention if adverse effect occurs.

Inhalation: Remove to fresh air, obtain medical attention if fresh air does not relieve irritation.

Ingestion: give two glasses of water. Obtain medical attention.
5. FIRE FIGHTING MEASURES:

Suitable Extinguishing Media: Normal media as available (Water mist, extinguishing powder, sand).

Special Exposure Hazards in Fires: N/A

Equipment for Fire Fighters: N/A.

6. ACCIDENTAL RELEASE MEASURES:

Collect for disposal.

7. HANDLING AND STORAGE:

Precaution to be taken in handling and storing:

1) The surface should be protected from direct sunshine, rain and any harmful material.
2) Product should be stored inside or be covered with proper cover materials to protect from any damage.
3) Wash hands before eating, drinking, or using toilet facilities.
4) Handle with care to avoid injury and prevent damage.

8. EXPOSURE CONTROLS:

Eye protection: Avoid eye contact with powder generated by dry cutting and grinding. Wear goggles with air valves.

Skin protection: avoid prolonged skin contact with powder generated by dry cutting and grinding.

Wear safety gloves and steel-toed shoes.

Respiratory protection: avoid inhalation of powder generated by dry cutting. Wear a respirator.

Ingestion: do not ingest.

9. PHYSICAL AND CHEMICAL PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Multi-colored solid and granular texture</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>2350 ~ 2450 kg/m³ (ASTM C97)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>ND</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water Insoluble</td>
</tr>
<tr>
<td>Melting point</td>
<td>NA</td>
</tr>
<tr>
<td>Freezing point</td>
<td>NA</td>
</tr>
<tr>
<td>Boiling point</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>NA</td>
</tr>
<tr>
<td>Flash point</td>
<td>490°C</td>
</tr>
<tr>
<td>Self-ignition</td>
<td>At temperature &gt; 490°C</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>NA</td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>NA</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>NA</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Chemical Stability: Stable

Condition to Avoid: None

Materials to avoid

Alkaline solution, Methylene Chloride, Paint Remover, Cleaners that contain pine oil, abrasive scrubs, Cleaners containing either soft or hard abrasive particles, bleach.

11. TOXICOLOGICAL INFORMATION

N/A

12. ECOLOGICAL INFORMATION

Ecological-toxicity data: not available.

Avoid litter after use.

13. DISPOSAL CONSIDERATIONS

The disposal must be in compliance with national and local regulations.

14. TRANSPORT INFORMATION

No particular guidelines.

15. REGULATORY INFORMATION:

EEC Classification.

16. OTHER INFORMATION:

The data contained in this Safety Data Sheet has been supplied as required by the Chemical (Hazard Identification and Packaging) Regulations 1993, as amended, for the purpose of protecting the health and safety of industrial and commercial users who are deemed capable of understanding and acting on the information provided. The user should not assume on the basis of the information provided in this sheet. The information contained herein has been compiled to the best of our knowledge but we do not warrant or certify it for completeness.
18 WARRANTY

Viatera slabs are backed by a 15 year warranty that covers all manufacturing defects.

18.1 Warranty

LG Hausys offers a 15-year limited warranty on Viatera quartz surface, warranting that the material will be free of manufacturing defects. This warranty covers product defects for a period of fifteen years after the date of installation. If it is determined by LG Hausys or its authorized warranty service agent that a defect in the material exists within the fifteen year period, LG Hausys will, at its sole option, repair or replace the defective Viatera materials in accordance with the following warranty provisions and exclusions.

Terms and Conditions

- The 15 year limited warranty applies to Viatera Quartz Surface materials only.
- The 15 year limited warranty applies to Viatera Quartz Surface materials that have been fabricated and installed in accordance with the Fabrication Guide Book for transportation, storage, handling, fabrication, and installation. Improper fabrication or installation is the responsibility of the fabricator/installer.
- This warranty applies to Viatera Quartz Surface materials that have been properly maintained in accordance with the Care & Maintenance Guidelines available at: http://www.lghausys.com
- This warranty applies to Viatera Quartz Surface materials that have been permanently installed in an interior application and have not been moved from the original location.

Exclusions

This warranty shall not apply to:

1. Products and/or materials that have not been paid in full.
2. Issues or occurrences that are inherent characteristics of Quartz Surface, regardless of whether viewed as a defect by the purchaser.
3. Damage caused by faulty or improper fabrication and installation, including but not limited to, seams, seam performance, and caulking.
4. Damage caused by any instability or improper support occurring in the property in which the product has been installed, including but not limited to, shifting, settling, or movement of the substrate.
5. Damage caused to any materials that have been moved, removed or relocated from its original place of installation.
6. Damage caused by any form of abuse, exposure to excessive heat, accidents, or misuse, including but not limited to, scratches, stains, chips, or cracks.
7. Products in which the factory applied surface finish has been altered in any way, and/or damage caused by chemicals.
8. Products installed with known or visible manufacturing defects at time of installation.
9. Color variance or variations in color, shape, size, or distribution of particulates inherent in the natural quartz or natural variations in background color or pattern.
10. Other repairs and modifications, including but not limited to, plumbing, electrical, tile, and cabinets that may need to be performed to properly repair or replace the Viatera Quartz Surface materials.
11. All outdoor or non-interior applications, regardless of coverage or exposure to the elements. Damage caused by any form of abuse, accidents, or misuse, including but not limited to, scratches, burns, stains, or cracks.
12. Damage caused by exposure to heat, including but not limited to, white rings or marks, and cracking that occurs near a cook top that transmits heat through a cooking device that extends over or near the countertop for an extended period of time.
13. Damage or cracking caused by thermal shock.
14. Color variance or variations in color and/or pattern on repairs. Exact matching of color on repair work performed in conjunction with this warranty is not guaranteed.
LG Hausys is not responsible for damage or injury caused in whole or part by acts of God, job site conditions, architectural or engineering design, structural movement, acts of vandalism, or accidents.

This warranty is extended to the original purchaser and may be transferred or assigned. A purchase receipt or other acceptable proof purchase will be required before warranty service is rendered. If transferred, a new warranty registration must be submitted with proof of the original purchase. The new warranty will be valid for the remaining time since the original purchase.

No other express or implied warranties of merchantability or fitness for a particular purpose are made by this warranty except for those expressly provided herein. Under no circumstances shall LG Hausys be liable for any loss or damage arising from the purchase, use or inability to use this product, or for any special, indirect, incidental or consequential damages.

This warranty entitles the purchaser to specific legal rights. Other rights may also be available, which may vary from state to state. Some states do not permit the exclusion or limitation of implied warranties or of incidental or consequential damages, so the above limitation or exclusion may not apply to you. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

To obtain service under this limited 15-year warranty, please contact the source from which you purchased your Viatera product. You must permit your Certified Installer or LG Hausys authorized agents to inspect your Viatera product, and you must reasonably cooperate with your installer and LG Hausys agents in the efforts to provide service in conjunction with this limited 15-year warranty. If the problem is not handled to your satisfaction, please contact our representative directly by writing or calling:

LG Hausys America Inc.
900 Circle 75 Pkwy, Suite 1500
Atlanta GA, 30339
(877) 842-8372

Please include your name, address, a description of the problem, and the phrase "Viatera, 15 year limited warranty" in all correspondence. We will respond to all inquiries within 30 days.
18.2 Care & Maintenance

Viatera Care & Maintenance Guidelines

Viatera® brand quartz surface, comprised of 93% natural quartz, helps to make your countertop a low maintenance surface that is resistant to scratches and stains. Viatera® is also heat-resistant, making it capable of enduring heat from a hot pan for short durations, however to avoid possible damage, a trivet or hot pad is recommended. With proper care and maintenance, Viatera® will remain beautiful and durable for many years.

Regular Cleaning
Normal cleaning of Viatera® requires only a damp cloth and mild household detergent. A list of acceptable cleaning products is located at the end of this document. For best results, clean spills as soon as possible. Viatera® is resistant to most stains including wine, lemon juice, tea, and fruits and vegetables without permanently staining or damaging the counters.

Cleaning Stains and Dried Spills
For tougher stains, mild non-abrasive cleansers are a good solution to keeping the surface looking new. Recommended cleaners include: Formula 409 Glass & Surface Cleaner, Bar Keeper’s Friend, Lysol, and Greased Lightning. For dried spills, a non-abrasive scrub pad can be used. Rinse thoroughly and wipe with a damp cloth to remove all residue. While Viatera® is generally able to withstand most household chemicals, avoid using harsh chemicals or products that contain bleach. For tough spots from items such as gum, grease, paint, food, etc., scrape off the residue with a razor blade or putty knife prior to cleaning. The scraping may leave a gray metal mark on the countertop and can be cleaned off by using a recommended cleaner and a soft non-abrasive scrub pad. Buff with a damp cloth. For stubborn spots or stains, soak a pad of paper towels in water and any of the recommended cleansers and apply the towel to the stain and let soak for a few minutes. Deeply clean with a non-abrasive scrub pad and cleanser, rinse thoroughly, and buff with a damp cloth.

Waxes and Sealing
One of the many benefits of Viatera® is that it requires no sealants or waxes to be applied during its lifetime. Because it is non-porous, a sealer will not absorb into the material and would be ineffective. With normal cleaning procedures, your countertop will always retain its luster.

Honed Finishes
Honed finishes require more frequent cleaning to maintain their appearance. Metal marks, finger prints and other signs of daily living will be more apparent. However, visible marks such as these can be removed by using a non-abrasive pad and any of the recommended cleaning products.

Viatera® is NOT Indestructible!!

- Viatera® can be damaged when in contact with strong chemicals and solvents. Avoid products containing trichlorethylene or methylene chloride including paint removers, car battery liquid, furniture strippers, oven cleaners, and products containing bleach. These products can cause permanent discoloration and damage to the surface. In the event that these agents come into contact with the surface, wipe immediately, rinse with water, and then clean with vinegar based cleaner. If the stain persists, contact the supplier/installer of your Viatera® product. Do not use abrasive and/or alkaline cleaning products. Do not use 3M ScotchBrite® green scrub pads or similar products, as they can dull the surface. When trying a new cleaning product, it is recommended that you always try the cleaner first on a hidden place of the surface and follow the cleaner manufacturer’s instructions.
- Viatera® can be damaged by excessive heat which causes the polyester binder to contract, leaving the surface exposed to heat feeling rough to touch and/or discolored. Avoid possible problems by using a trivet between the countertop and any hot pan or heat source.
- Viatera® is scratch resistant but can be scratched by materials harder than the quartz which makes up 93% of the product. For example, the bottom of some ceramic dishes may be abrasive enough to scratch your Viatera countertop.
- Viatera® can also be damaged by impact causing the material to chip or crack.

By following the simple care guidelines above, you can enjoy the beauty and luxury of your Viatera® quartz surface for many years to come.
The following are recommended commercial cleansers that are available for the routine care of your Viatera® quartz surface:

**Non-bleach, non-abrasive liquid household cleaners:**

- Simple Green Lime-scale remover
- Vinegar cleaner (diluted)
- Bar Keeper’s Friend
- Formula 409 Glass and Surface Cleaner
- Lysol
- Greased Lightning

If you have any questions about the care and cleaning of Viatera®, please contact the supplier/installer of your Viatera® surface or write to us at:

LG Hausys America Inc.
900 Circle 75 Pkwy, Suite 1500
Atlanta GA, 30339

(877) 842-8372