LARGE FORMAT TILE WORKSHOP

Instructors:

Mario Ramirez
Neolith Factory Representative

Ronnie Flores
Neolith Training Technician

Mark Zevotek
Hard Rock Tool
Large Format Specialist

EXCLUSIVELY BROUGHT TO YOU BY

HARDROCK TOOLS FOR STONE, TILE & CONCRETE

neolith
SINTERED STONE

FOLLOW US ON 🌐
### 01. PRODUCT

#### 1.4 Thicknesses

<table>
<thead>
<tr>
<th>Thickness</th>
<th>3 mm - 1/8”</th>
<th>6 mm - 1/4”</th>
<th>12 mm - 1/2”</th>
<th>20 mm - 3/4”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor cladding</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Indoor flooring</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Outdoor natural stone facade</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Outdoor flooring</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Ventilated facade with exposed anchor</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Ventilated facade with hidden anchor</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countertops</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-traffic flooring</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor cladding over the material</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor flooring over the material</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
# 01. PRODUCT

## 1.5 Product Technical Characteristics

Product characteristics as per the finishes:

<table>
<thead>
<tr>
<th>TEST</th>
<th>STANDARD</th>
<th>DETERMINATION</th>
<th>Unit</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination of Dimensions and Surface Appearance</td>
<td>ASTM</td>
<td>Thickness*</td>
<td>mm</td>
<td>SATIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tolerance Flatness Slab width</td>
<td>mm</td>
<td>SILK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tolerance Flatness Slab length</td>
<td>mm</td>
<td>POLISHED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dimensional Tolerance**</td>
<td>mm</td>
<td>RIVERWASHED</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM</td>
<td>Boiling Absorption</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apparent Density</td>
<td>gr/cm³</td>
<td></td>
</tr>
<tr>
<td>Impact Resistance</td>
<td>ASTM</td>
<td>Coefficient of restitution</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Deep Abrasion Resistance</td>
<td>ASTM</td>
<td>Lost Volume</td>
<td>mm³</td>
<td></td>
</tr>
<tr>
<td>Surface Abrasion Resistance</td>
<td>ASTM</td>
<td>Visual Appearance</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td>Linear Thermal Expansion</td>
<td>ASTM</td>
<td>Expansion 25 - 100°C (Average)</td>
<td>10⁻⁶ · °C</td>
<td></td>
</tr>
<tr>
<td>Resistance to Sudden Temperature Change</td>
<td>ASTM</td>
<td>Damage</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Moisture Expansion</td>
<td>ASTM</td>
<td>Coefficient of Expansion</td>
<td>mm/m</td>
<td></td>
</tr>
<tr>
<td>Freeze Resistance</td>
<td>ASTM</td>
<td>Damage</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>ASTM</td>
<td>Cleaning Products</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pool Salts</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weak Concentrations</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High Concentrations</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td>Stain Resistance</td>
<td>ASTM</td>
<td>Visual Appearance</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td>Release of Lead and Cadmium</td>
<td>ASTM</td>
<td>Lead Concentration</td>
<td>mg/dm²</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cadmium Concentration</td>
<td>mg/dm²</td>
<td></td>
</tr>
<tr>
<td>Lightfastness</td>
<td>DIN 51094</td>
<td>Cambio Cromático</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Anti-Slip Properties</td>
<td>DIN 51130</td>
<td>Critical Angle of Slip (Shoes method)</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DIN 51097</td>
<td>Critical Angle of Slip (Barefoot areas)</td>
<td>Class</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANSI A137.1</td>
<td>Coefficient of Dynamic Friction</td>
<td>Class</td>
<td></td>
</tr>
</tbody>
</table>

* Slabs without mesh
** Cut Slabs/Tiles
01. PRODUCT

1.5 Product Technical Characteristics

Bending Resistance as per the slab thickness:

<table>
<thead>
<tr>
<th>TEST</th>
<th>STANDARD</th>
<th>DETERMINATION</th>
<th>Unit</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending Resistance</td>
<td>ISO</td>
<td>Breaking Force</td>
<td>N</td>
<td>5451</td>
<td>15748</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modulus of Rupture</td>
<td>N/mm²</td>
<td>51</td>
<td>55</td>
</tr>
</tbody>
</table>

2.3 Manually transporting a Neolith slab

* Only for 1/4" Slabs

Moving a Neolith countertop

- INCORRECT
- CORRECT

Raising a Neolith countertop onto a bench

- INCORRECT
- CORRECT
2.4 Suction frame

For easier handling of slabs and finished parts, using a suction frame is recommended (Only for 1/4” Slabs).

The suction cups can move easily along the frame which helps adapt the frame to any size slab needed.

This frame can be purchased from TheSize. Contact TheSize for more details.
2.5 Slab storage

Place the slabs length-wise on wooden beams to prevent the slabs from splintering.

The slabs need at least three support points, distributed evenly along the back of the slab.

The best way to maintain the integrity of the slabs is to keep them in their original packaging or use a full support on the rear of the slab such as an unused granite or marble slab which is wide enough.

Avoid positioning large slabs against smaller slabs:
6.1 Cutout design

The minimum distance between a cutout and the edge of the slab must be at least 2”.

TheSize recommends distances greater than 2” when the kitchen design allows as it makes the countertop firmer.

**IMPORTANT**

All cutout corners must have a minimum diameter of 1/4”.

Never leave 90º angles.

We recommend radiuses of more than 1/4” when the kitchen design allows as it makes the countertop firmer.

The correct way to create a cutout, except with waterjet and digital control bits, is to first drill the corners and then the rest of the cuts.
Guidelines for cutouts:

- Two straight cuts must never be joined.
- No squared inner corners.
- All inner corners must have one radius.

If the countertop design so allows, avoid large cutouts. Experienced manufacturers make large cutouts but following their own risk assessment.

If the countertop design so allows, avoid Neolith countertops with unbalanced weights:

Incorrect

Correct

Irregular cuts are also not recommended such as for a “farmhouse sink”; in these cases, add joints to the countertop design:

Correct
Other types of designs to be avoided:

**Sockets and switches:**

Gaps made to insert accessories (sockets, switches, etc.) should be done using circular drills; they may overlap.
6.2 Reinforcement

The countertops must have a total, level and flat support throughout the structure. To achieve this total support, a continuous surface like a wooden plank, Kerdi-Board or similar element should be placed over kitchen furniture.

- Countertops with 45º edges:

Reinforcements for 45º edges must be made with Neolith strips or dense granite; be careful when using other materials for reinforcement. The difference in the thermal expansion can cause the countertop to curve or the 45º edges may open over time.

NEVER USE QUARTZ REINFORCEMENT.

Mitered design:

- Countertops with a straight edge:

For straight edge countertops, where no inner structure can be hidden, a continuous surface like a wooden plank, Kerdi-Board or similar element should be placed over kitchen furniture.
6.4 Edges and Joints

Edges

TheSize recommends using the following edge for Neolith countertops. It is the perfect compromise between esthetics and functionality.

The edge is formed by a 1/8” bevel and by two rounded edges with a radius of 1/64”. The radius is barely visible but increases the edge impact resistance.

In high impact risk areas (sinks and dishwashers, for example), the edges could be as follows:

The greater the radius, the better it will bear any impacts. Remember that the greater the bevel, the more base color in the slab.

The edges can be wet or dry polished using standard granite or marble discs.

Recommended edges for Neolith:

Round edge, R 1/8”

45° edge with a bevel, 1/8”

Inverted fluted peak

IMPORTANT

Polished edges must be treated with water repellant to permanently seal the edge.
6.4 Edges and Joints

- **Joints**

  Given the texture of Neolith slabs, a micro-bevel for all joints is recommended. Even if the straight edges are perfect, they may seem “splintered” due to the texture of Neolith slabs.

  Each joint requires additional support (any technique will work).

  The oven finish may not be “touched-up”; once the Neolith surface is polished or ground, there is no way back.

  Producing samples so your customer can approve the edges and joints is highly recommended. (Joint with a micro-bevel, 45° edge with a 1/8” bevel or a round 1/8” edge).
6.5 Glass-ceramic / induction stovetops

The minimum distance between the countertop and a stovetop must be 1/4”.

Use the right heat-resistant silicone or the joints supplied by the stovetop manufacturer.

Removing more than 1/4” on a 1/2” slab or 3/8” on a 3/4” slab is not recommended.

6.6 Countertop Installation

- **Furniture:**

  Furniture must be in perfect conditions and level before installing the countertop.

  Cabinets must be secured to each other and then secured to the wall.

- **Expansion joints:**

  Given the irregularities in the wall and possible structural movements in the building, leaving a 1/8” perimeter expansion joint on the countertop is recommended. The point where the crown and countertop meet shall be sealed with a line of silicone:

  Flexible adhesive should be used such as 100% transparent adhesive to fill these joints and secure the countertops to the furniture and the floor or to secure the Neolith crowns to the wall. This will enable adequate thermal expansion.

  **Using flexible adhesives such as epoxy or liquid nails to secure the countertop is not recommended.**
6.5 Observations

- L-shaped countertops

Dividing L-shaped countertops into several parts is recommended to avoid 90° corners in one part.

L-shaped countertops made of a single piece without a 45° angle must have a minimum radius of 2”.

Make sure the furniture is in perfect conditions and level before installing this type of countertop.
09. REPAIRS

9.1 Chip repair:

Ceramic surfaces can be damaged for many reasons. Most of the time it is due to a defect caused by a plate that falls down or a heavy object.

Keep in mind that no repair is perfect; it’s very difficult to duplicate the tone and texture of a surface with resins.

**Step 1:**
Mix the bi-component epoxy resin, adding the color to color the epoxy so it matches the Neolith countertop.

**Tip:**
Repair all defects at the same time as the bi-component epoxy will cure quickly. And only mix enough to fill the defects with a little left over; epoxy resin cannot be stored once mixed.
Step 2:
Use a Neolith fragment to imitate the surface finish and fill the defect with the mixed resin.

Step 3:
Use an acetone-soaked cloth to add additional texture to the resin to imitate the adjacent surface even better. Make sure the level of resin does not exceed the surface. Clean the excess resin from the surface before it hardens with an acetone-soaked cloth.

Step 4:
Once the resin hardens, remove the excess resin in the edge mechanically. For surface repairs, it’s best to work manually to prevent damage to the surface.
A Precision Grinding and Polishing Tool

- Create a Precise Edge whether Mitered, Beveled or Straight
- Perfect on all Materials including Sintered Slabs and Thin Porcelain Panels
- Fabricator’s Choice for Seamless Countertop Installations
- Precision Grinding for Perfect Mitered Edge for Lamination
- High-Quality Polishing Results
- Cost Savings when Compared to Expensive Machinery

PART NUMBER: 5480-2200
You’ve heard about it. You’ve read the articles. You’ve seen the pictures. You’ve seen the Certification from **Neolith®** factory.

**Buy today & see for yourself!**

- The DIATEX Gres Cut Blade was designed to cut **NEOLITH®**.
- Proven Quality & Durability.
- Field testing has shown the ability to cut **DEKTON®** & other *Ultra* Compact surfaces.
- Available in sizes 14” & 16” blades

**As seen on the article from Stone World Magazine™**

Rey Matos - Head of Technical Training in North America

“Another point to take in account is that tools are very important. We wish that all the products in the industry were the same hardness to cut, but that’s not the case and that needs to be taken into account with your blades.”

StoneWorld.com/articles

**Diatex Gres Cut Neolith® Blade, Field tested at the SFA (Stone Fabricator’s Alliance) Workshop demo in Davenport, Iowa.**
EASY-MOVE MKII Full Vacuum Frame

- Is the ideal solution for safely handling large format tiles.
- Stain free 6" vacuum suction cups (8 total) make it perfect for smooth and textured tiles.
- Maximum versatility thanks to the adjustable extention and two cross-bars (maximum tile length: 10.5' (320 cm), minimum 6' (180cm)).
- Equipped with safety hooks to prevent slab slippage.
- Can be completely disassembled for easy transport.

MODULAR WORKBENCH

Easy to set-up (10 minutes). The steel structure and the worktop made of anodized aluminum guarantees sturdiness and stability. Legs provided with adjustable rubber feet. Provided with adjustable aluminum profiles to avoid interfering with diamond disc if cutting tile/slabs with grinder or drilling holes. Provided with special connection devices to join multiple BM180 MKII to expand worktop dimensions.

MODULAR BM180 MKII WORKBENCH

Call us today to place your order. phone: 714-772-2490 www.hardrocktool.com
FASTLINE LM
Hybrid Diamond Flap Discs from SORMA

- WORKS ON MARBLE, GRANITE, ENGINEERED STONES, CERAMIC AND GLASS
- CONSIDERABLY REDUCES VIBRATIONS AND EFFORTS OF OPERATOR
- WORKS EITHER ON FLAT OR CURVED PARTS
- HIGH STOCK REMOVAL WITH GOOD FINISH
- REDUCES WORKING TIME
- USE DRY OR WET
- DOES NOT CLOG
- COLOR CODED
- LONG LIFE

Available in 4.5”
60 Grit, 120 Grit & 200 Grit

(phone: 714-772-2490 / 877-30-TOOLS)
www.hardrocktool.com
email: promos@hardrocktool.com
Announcing exclusive USA distribution of the DIATEX POKER LINE BLADES. Sandwich technology guarantees an excellent speed and quality cutting on materials like Dekton®, Neolith®, Lapitec® and Porcelain.

Proven Quality & Durability.
Field testing has shown the ability to cut DEKTON & other Ultra Compact surfaces.

Ceramic big slabs are innovative materials, increasingly present in the market as an alternative to stone materials.

Thanks to Sandwich technology, an exclusive Diatex, the POKER LINE guarantees an excellent speed and quality cutting on materials like:

- Neolith
- Dekton
- Lapitec
- Laminam
- Maxfine
- Coverlam
- Slimtech
- Sapienstone
- Kerlite
- Techlam
- Ultra
- Zero.3
- Hi-Lite
- Maximum
- Project Evolution
- Porcelain Gres

Call us today to place your order.
phone: 714-772-2490 / 877-30-TOOLS
FOLLOW US on www.hardrocktool.com
EVERYTHING FOR WORKING WITH LARGE PORCELAIN TILES

RAIMONDI EASY-MOVE VACUUM FRAME

RAIMONDI RAIZOR CUTTING SYSTEM 10.9ft TC10Raizor

RAIMONDI BM180 MKII MODULAR WORKING BENCH

DIATEX NEOLITH BLADE available in 14”, 16”, 18” & 20”

AGUILA 5in. THIN TURBO BLADE

RUBI TZ TILE CUTTERS

RUBI SLIM SYSTEM EASYTRANS

phone: 714-772-2490 / 877-30-TOOLS

FOLLOW US on

email: promos@hardrocktool.com
1808 E. Ball Road
Anaheim, CA 92805
714-772-2490 / 800-927-2490
www.hardrocktool.com