CONCRETE MIX DESIGN RECIPES:

Mix design and recipe formulas are offered here at www.Expressions LTD.com as a reference. Expressions LTD is not liable for any results obtained by following mix designs outlined below. Mixes should be tested, and adjusted if desired, at each fabricator’s discretion. PSI rating for each mix is approximate, based on general data based on cements and additives, and their respective strength ranges. Actual strengths of concrete are greatly affected by cement quality, sand/aggregate quality, water content used, etc. and cannot be pre-determined. Sample pieces should be made and tested using your locally sourced cement/sand/aggregates for strength verification, if needed.

Standard Expressions Concrete Countertop Mix: @6,000 psi

Start with the basic bag mix:

<table>
<thead>
<tr>
<th>Coverage/Yield @ 1.5&quot; Thickness</th>
<th>3.6 sq. ft.</th>
<th>4.8 sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage/Yield @ 2&quot; Thickness</td>
<td>2.7 sq. ft.</td>
<td>3.6 sq. ft.</td>
</tr>
</tbody>
</table>

Add this stuff:

| Extra Portland Cement (Type I/II) | 4 lbs.     | 5 lbs.     |
| Riteks Evotek Plasticizer/Water Reducer | 0.75 oz. (1.5 Tablespoons) | 1 oz. (2 Tablespoons) |
| Chopped AR Glass Fibers | 1.5 oz. (0.1 lbs) | 2 oz. (0.125 lbs) |

- Use the basic bag of standard concrete mix from your local hardware store (don’t pay the extra for ‘5000’ or ‘Countertop’ brand concrete mix). You will also want to get extra straight Portland Type I/II cement from your hardware store.
- Combine concrete mix with extra Portland Cement. In clean 5-gallon bucket, add about 2 quarts of clean water, and mix in the Riteks Plasticizer/Water Reducer. Combine this mix water with the concrete, and begin mixing. Add small amounts of additional water until concrete mix resembles that of thick oatmeal. Sprinkle Chopped AR Glass Fibers into mixing concrete and mix an extra few minutes.

Concrete Tips (at no charge!):

- Some applications may require a drier concrete mix (such as pressing very dry concrete into a form with the goal of creating large voids - to be filled later with a different colored cement slurry), or a wetter mix (filling a vessel sink 2-part sink mold), so adjust the water accordingly.
- If doing concrete right in place (on the cabinets) it is often a good idea to not add any Chopped Fiber into the last bit of concrete you put on top - about the top ½” of concrete, to prevent the fibers from showing on the surface. Precast concrete doesn’t have this issue with fiber, but working the concrete surface with a trowel will often bring some of the fiber onto the visible surface.
- Wet curing the concrete will increase strength and reduce cracking. When cast, cover piece with plastic. Periodically dump/spray water on the concrete and recover for around 2 days while it cures.
- Typical demold time for this mix is 2 days (@48 hours). If you can’t scratch the concrete surface with your fingernail, and instead the concrete starts filing down your fingernail, then that is a good indication it’s cured enough to demold safely.
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Ultimate Expressions Concrete Countertop Mix: @7,500 psi

<table>
<thead>
<tr>
<th>Start with the basic bag mix:</th>
<th>60 lb. bag mix</th>
<th>80 lb. bag mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage/Yield @ 1.5&quot; Thickness</td>
<td>3.6 sq. ft.</td>
<td>4.8 sq. ft.</td>
</tr>
<tr>
<td>Coverage/Yield @ 2&quot; Thickness</td>
<td>2.7 sq. ft.</td>
<td>3.6 sq. ft.</td>
</tr>
</tbody>
</table>

Add this stuff:

<table>
<thead>
<tr>
<th>Extra Portland Cement (Type I/II)*</th>
<th>8 lbs.</th>
<th>10 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riteks Evotek Plasticizer/Water Reducer</td>
<td>.9 oz. (1.75 Tablespoons)</td>
<td>1.25 oz. (2.5 Tablespoons)</td>
</tr>
<tr>
<td>Chopped AR Glass Fibers</td>
<td>1.75 oz. (0.11 lbs)</td>
<td>2.25 oz. (0.14 lbs)</td>
</tr>
<tr>
<td>Acrylic Polymer</td>
<td>32oz.</td>
<td>40 oz.</td>
</tr>
</tbody>
</table>

- Use the basic bag of standard concrete mix from your local hardware store (don’t pay the extra for '5000' or 'Countertop' brand concrete mix). You will also want to get extra straight Portland Type I/II cement from your hardware store.
- Combine concrete mix with extra Portland Cement*.
  - *Some may wish to add a pozzlan in place of some cement to claim the concrete is 'green' and has less of a carbon footprint. VCAS (Vitro Minerals, available on our website by the full pallet only) can be added in place of up to 25% of the cement, which would mean adding 5 lbs. VCAS and 3 lbs. Portland Cement to the 60 lb. mix, or adding 6 lbs. VCAS and 4 lbs. Portland Cement to the 80 lb. mix)
- In clean 5-gallon bucket, add about 2 quarts of clean COLD water, and mix in the Riteks Plasticizer/Water Reducer and the Acrylic Polymer (cold water helps reduce air entrapment in the concrete from the Acrylic Polymer). Combine this mix water with the concrete, and begin mixing. Add small amounts of additional water until concrete mix resembles that of thick oatmeal. Sprinkle Chopped AR Glass Fibers into mixing concrete and mix an extra few minutes.

Concrete Tips (at no charge!):

- Some applications may require a drier concrete mix (such as pressing very dry concrete into a form with the goal of creating large voids- to be filled later with a different colored cement slurry), or a wetter mix (filling a vessel sink 2-part sink mold), so adjust the water accordingly.
- If doing concrete right in place (on the cabinets) it is often a good idea to not add any Chopped Fiber into the last bit of concrete you put on top- about the top ½” of concrete, to prevent the fibers from showing on the surface. Precast concrete doesn’t have this issue with fiber, but working the concrete surface with a trowel will often bring some of the fiber onto the visible surface.
- Wet curing the concrete will increase strength and reduce cracking. When cast, cover piece with plastic. Periodically dump/spray water on the concrete and recover for around 2 days while it cures.
- Typical demold time for this mix is 1-2 days. If you can’t scratch the concrete surface with your fingernail, and instead the concrete starts filing down your fingernail, then that is a good indication it’s cured enough to demold safely.
**CONCRETE MIX DESIGN RECIPES:**

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**From-Scratch / Sand-Only Countertop Mix:** @6,000-7,500+ psi

This recipe is good if you want to make white concrete (use White Portland Cement), add custom aggregate (to expose when polishing) or just want to make your own concrete mix and need a starting point that you can fine-tune later.

- **25 lbs. Portland Cement** (Try to use Type I instead of Type I/II for pre-cast, but remember that Type I has higher strength, but a faster set time so you will need to work faster or have extra help!)
- **60 lbs of sand/pea gravel.** Make sure it’s washed so there is no dirt or fine dust. It’s okay for the sand to be damp when weighing it. A good starting point is 40 lbs. sand 20 lbs. pea gravel (or all 60 lbs sand if doing a sand-only mix).
  - Consider using quartz sand (it’s white) if using White Portland Cement, to help the concrete piece be as white as possible.
- **2 oz. AR Glass Fibers** (about a golf-ball sized portion).
- **2 Tablespoons Riteks Evotek Superplasticizer/Water Reducer**.
  - Optional: (For a stronger, better concrete) Add 40 oz. of Acrylic Polymer with mix water prior to combining with concrete.
- **MIX:** Combine sand/gravel in mixer and let mix a few minutes. Add in Portland Cement. In clean 5-gallon bucket, add about 2 quarts of clean water and 2 Tablespoons of Riteks Superplasticizer (and add the Acrylic Polymer if used). Combine mix water with concrete, and begin mixing. Add small amounts of additional water** until concrete mix resembles that of thick oatmeal. Sprinkle Chopped AR Glass Fibers into mixing concrete and mix an extra few minutes.
  - **Some applications may require a drier concrete mix (such as pressing very dry concrete into a form with the goal of creating large voids- to be filled later with a different colored cement slurry), or a wetter mix (filling a vessel sink 2-part sink mold), so adjust the water accordingly.**
- **Coverage:** At 1.5” thickness, it will yield roughly 4.8 square feet. At 2” thickness, it will yield roughly 3.6 square feet.

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- **Notes:** Most Portland Cement bags are 94 lbs. Sand and Gravel can be purchased at a hardware store, already bagged, for a premium price. The more economical way to get sand/gravel is to get it from a gravel pit, or often times a concrete plant (the guys with the concrete trucks driving around) will let you come buy some very cheap, or give it to you at no cost for small amounts.