

## Polishing Basics

- In general, it is always better to start with a finer stone. If a coarser stone is needed, you can always go coarser to achieve the best result.
- Use good quality stoning lubricants like our included Premium Stoning Oil (and don't skimp). This will prevent the mold polishing stone from loading, particularly with harder stones.
- Always shape the mold polishing stone on a bench grinder or coarse abrasive paper to provide maximum contact with the work surface.
- Hold the polishing stone firmly for directional control, but press hard enough to make the stone cut.
- All polishing stone marks from the previous grit size must be completely removed (crossed out). Change stoning direction by at least 45% with each successive grit.
- After each grit change, clean the work area thoroughly to remove all larger abrasive grain particles.
- Don't roll sharp edges and parting lines. Use masking tape to prevent stoning over parting lines.
- When using polishing equipment for stoning (profiler, ultrasonic polisher, etc.), use moderate speed and pressure only. Excessive speed/pressure can cause minute stresses of the metal surface resulting in "ORANGE PEEL".

## Things to Consider Before Polishing:

When choosing a stone to begin polishing a mold or die there are many factors that must be considered. A few of the most common are listed below:

- a. Mold Material** – see descriptions of our polishing stones to determine which stone is best for the material you're polishing.
- b. Material Hardness**
  - Soft – harder stone with more wear resistance and slower breakdown
  - Hard – softer stone with a quick breakdown allowing the stone to self sharpen for continuous cutting action
  - Heat Treated – Finish stoning with a 320 grit only prior to sending mold cavities/cores to be heat treated
- c. Finish quality left by the machining process**
  - EDM – start with a 150 grit to remove the hard recast layer
  - Milling – start with a 220 grit stone for conventional machined surfaces
  - Grinding – start with a 320 grit stone
- d. Shape of mold surface**
  - Flat – requires a harder stone that will hold its shape
  - Radius – softer stone that will conform to the shape of the mold surface
  - Rib or Slot – details stones / ceramic super stones
  - Detail area that requires a mold feature to be maintained – use a harder stone that will keep its shape
- e. Desired final finish** – This bundle will allow you to achieve a 600 grit stone finish. Need a diamond finish? We can get you there! Contact our sales team or your local BORIDE distributor to discuss our diamond compound and diamond finishing accessory products!

<p><b>U-LAP 70 Profiler</b></p>	<p><b>U-LAP 70</b></p>	<p>Air operated reciprocating profiler with a 0.7mm stroke length and speed of 35,000 RPM ideal for polishing, filing, lapping and honing applications. It is the most popular of our U-LAP models because it is seen as a general-purpose profiler perfect for use on small to medium size molds and die. The U-LAP 70 provides excellent performance with BORIDE polishing stones and ceramic super stones.</p> <p><b>Stroke Length:</b> 0.7mm  <b>Speed:</b> 35,000 RPM</p> <p>Requires a connection to an air filter, regulator, lubricator. Adjust the air pressure to a maximum of 90 psi for proper use. Use with light pressure. U-LAPs can be easily maintained and rebuilt.</p>
<p><b>AM-2 Standard Kit</b>  Bundle includes one 1/8 x 1/2 x 6" stone in each of the following grits:  <b>150, 220, 320, 400, 600</b></p>	<p><b>028956</b></p>	<p>An excellent all-around finishing stone and the most popular of our general purpose line. Fast cutting and versatile for general polishing on nearly any material. Quick breakdown allows the stone to conform to the shape of the mold.</p> <ul style="list-style-type: none"> <li>• <b>Available Grits:</b> 100-1200</li> <li>• <b>Methods:</b> Hand Polishing or Air Profiler</li> <li>• <b>Materials:</b> All types of mold and die steel including P20, H13, S7, T-420, and SAE 1030 pre-heat treated, as well as aluminum and other non-ferrous metals such as beryllium, kirksite, and high chrome/nickel stainless steel</li> <li>• <b>Use:</b> Wet or Dry</li> <li>• <b>Breakdown:</b> 4</li> <li>• <b>Hardness:</b> 2</li> </ul>
<p><b>AS-9 Standard Kit</b>  Bundle includes one 1/8 x 1/2 x 6" stone in each of the following grits:  <b>150, 220, 320, 400, 600</b></p>	<p><b>028954</b></p>	<p>AS-9 is our most popular EDM stone. It is an aluminum oxide stone engineered for hand stoning EDM scale surfaces as well as cutting and machining marks on all types of mold and die steels. It offers a fast breakdown and the ability to conform to the shape of the tool being polished while providing fast, smooth cutting action during hand stoning and flat lapping. Best used for hand polishing but can also be used in reciprocating profilers.</p> <ul style="list-style-type: none"> <li>• <b>Available Grits:</b> 100-1200</li> <li>• <b>Methods:</b> Hand Polishing or Air Profiler</li> <li>• <b>Materials:</b> EDM surfaces and all types of mold and die steel</li> <li>• <b>Use:</b> Wet or Dry</li> <li>• <b>Breakdown:</b> 3</li> <li>• <b>Hardness:</b> 3</li> </ul>
<p><b>Golden Star Standard Kit</b>  Bundle includes one 1/8 x 1/2 x 6" stone in each of the following grits:  <b>150, 220, 320, 400, 600</b></p>	<p><b>028993</b></p>	<p>Made with premium aluminum oxide grain and a proprietary treatment process, the Golden Star delivers exceptional performance on EDM surfaces, milling and machining marks. It offers superior breakdown characteristics and is known for it's smooth, silky finish. The Golden Star contours quickly to the shape of the mold surface and is terrific when used during hand stoning. Works well on all tool steels.</p> <ul style="list-style-type: none"> <li>• <b>Available Grits:</b> 150-1000</li> <li>• <b>Methods:</b> Hand Polishing or Air Profiler</li> <li>• <b>Materials:</b> EDM surfaces and all types of tool steel</li> <li>• <b>Use:</b> Wet only</li> <li>• <b>Breakdown:</b> 4</li> <li>• <b>Hardness:</b> 3</li> </ul>
<p><b>CS-HD Standard Kit</b>  Bundle includes one 1/8 x 1/2 x 6" stone in each of the following grits:  <b>150, 220, 320, 400, 600</b></p>	<p><b>028969</b></p>	<p>CS-HD is a green silicon carbide stone that can be used to polish even the hardest die and mold steels. Polishers claim excellent results finishing dies ranging in hardness from 47 to 63Rc. Many mold makers also use CS-HD for removal of EDM scale.</p> <ul style="list-style-type: none"> <li>• <b>Available Grits:</b> 120-1200</li> <li>• <b>Methods:</b> Hand Polishing or Air Profilers</li> <li>• <b>Materials:</b> All mold and die steels, as well as H-13, cast iron, heat treated nitrite P20, tungsten, chromium, and titanium</li> <li>• <b>Use:</b> Wet or Dry</li> <li>• <b>Breakdown:</b> 3</li> <li>• <b>Hardness:</b> 3</li> </ul>
<p><b>Ceramic Stone Kit 1x4</b>  Bundle includes one of each of the following stones in size 1x4x100mm:  <b>120 Grit / Green</b>  <b>180 Grit / Gold</b>  <b>300 Grit / Light Brown</b>  <b>800 Grit / Blue</b>  <b>1000 Grit / White</b></p>	<p><b>674644</b></p>	<p>Made from long, natural ceramic fibers, Ceramic Super Stones are long lasting, extremely durable, and incredibly flexible, making them ideal for polishing ribs, slots, sidewalls, and other intricate areas. They are non-loading, will not break or dull and can be shaped to a very fine point. Excellent for EDM removal.</p> <ul style="list-style-type: none"> <li>• <b>Available Grits:</b> 80-3000</li> <li>• <b>Available Profiles:</b> Flat or Round</li> <li>• <b>Methods:</b> Hand Polishing, Air Profiler, or Ultrasonic Polisher</li> <li>• <b>Material:</b> All types of mold and die materials, including stainless steel, aluminum, and other soft material</li> </ul>
<p><b>Stoning Oil Pint</b></p>	<p><b>336040</b></p>	<p>Petroleum based lubricant that helps prevent stones from loading up allowing the stone to cut more consistently and freely. It's nearly odorless formulation is less hazardous than many stoning oil options such as kerosene and not as harsh on the hands. Does not promote oxidization on molds &amp; dies.</p>
<p><b>Hand Holder</b>  Holder for 1/8 x 1/4, 1/4 x 1/4 and 1/8 x 1/2 sizes</p>	<p><b>029910</b></p>	<p>High quality plastic stone holders are for use when hand polishing with BORIDE Polishing Stones.</p>
<p><b>Ceramic Stone Holder</b>  Hold 4mm detail stones</p>	<p><b>029930</b></p>	<p>For hand polishing with detail polishing stones like the Ceramic Super Stone. A must for good control during the polishing process.</p>