

Magna Glaskeramik Processing Guidelines



The manner in which this glass ceramic is processed differs in many points from the production methods for granite and marble. We would like to share our know-how with our customers so that they may process this material successfully and benefit from the various design options available. The options and suggestions presented are all drawn from our own practical experience. They can be used as a guide but are not mandatory standards. All our customers will gain their own personal experiences from processing this glass ceramic.



Bidge Saw

After numerous tests with many well-known brands, we can now recommend the diamond-cutting blade from the company TYROLIT for processing this glass. It is type C2PG28 with 400 mm outer diameter. It has 3.2 mm strength, 60 mm mounting diameter and 15 mm Segment height (400 x 3.2 x 60 with 28 slits). These blades are sold at a net price of around 350.00 Euro. The main advantage of this diamond-cutting disc from TYROLIT is the time saving aspect. With a blade

strength of 3.2mm it is possible to cut through 20 mm thick glass and maintain a cleanly cut edge. It is advisable to minimize cutting pressure as much as possible. The recommended feed rate is approximately 30% for granite. The motor speed should lie somewhere between 1,400 and 2,200 rpm. In addition to this it is always important to ensure that the glass panel lies completely.

Water Jet Cutting

When using the water jet cutting method, it is advisable to lie a 10 mm, or even better a 20 mm polystyrene sheet under the glass panel, in order to compensate for slight unevenness in the material and support grid. Heat generation also plays a major role in water jet cutting. If possible, an additional water-cooling function should be used. This way cracks caused by tension in the material can be avoided. When processing smaller work pieces, a thin piece of foam padding under the



glass panel is sufficient. In both cases the supporting base layer prevents the abrasive corundum from damaging the base of the glass. This is essential for panels, which are to be polished from both sides. The feed rate is determined according to the required edge shape. A feed rate of 150 mm/m is sufficient for roughly sawn edges. Polished or bevelled edges should be cut at a feed rate of 110 mm/m.

The pressure at which the machine is set and the shape of the nozzle both play a significant role when processing this glass using the water jet cutting method. Our experience is based on machines with 3600 bar cutting pressure. The amount of abrasive cutting sand required is approx. 20 % less than the amount used for cutting granite.

Milling

When milling, the same tools can be used as with granite. The feed rate should however be reduced by 30-50 %. Our customers have had very good results when using this method.



Finishing the edges

The processing methods used for polishing the edges of glass products are the same as those used for granite and marble. It is possible to use marble stones from DIA KNOPF (synthetic-resin-bound) when finishing the edges with the polishing machine. The grinding pressure should be kept at 3.5 bar and the feed rate at 1 m/min. Our recommendation when polishing by hand is DIA OMEGA FLEX. The velcro sand paper with a granulation of K 80 to K 1000 can be used to polish by hand in a dry state.

Surface Finishing

During the manufacture of this sintered glass, the technological process means tiny air bubbles can become enclosed within the material. When the glass is cut, the little bubbles are halved and appear as holes in the edge. On customer request, these little cavities can be left open to leave a natural material edge or they can be processed further. If a natural material edge is not desired we can offer two options to close the holes.

The first is using an adhesive material, Type AKE-POX. This adhesive is good value for money; the disadvantage is that it has a long setting time. There is a choice between AKEPOX 5010 (gel-like, 2-component adhesive, colour-fast and non-yellowing, suitable for polishing, virtually shrink-free, possible to stain with a mixing ratio of 4:1 and a setting time of 12 hours) and AKEPOX 1005 (very thin flowing, 2-component adhesive, suitable for polishing, virtually shrink-free, solvent-free, possible to stain with a mixing ratio of 2:1 and a setting time of 24 hours). The second option is using a special resin from A.R.T. Stone Lux. This transparent and thin-flowing adhesive sets under exposure to ultraviolet light. The advantage of this surface finishing option is that it has a very short setting time, but it is expensive.



Visual Enhancement of Sintered Glass

Working with various types of light source can enhance the visual appearance of this high quality material even further. Different effects can be achieved; the customer enjoys a great deal of creative freedom. When the glass is illuminated from behind or underneath, subtle indirect lighting is achieved. This is something, which has attracted the interest of many architects and kitchen planners designing and installing modern kitchens and bathrooms in combination with stainless steel and natural stone surfaces. Indirect illumination through glass makes cold materials appear warm and cozy.

Another design option is to treat the illuminated side with a colour. Different effects can be achieved depending on which shade is selected. There are many ideas available involving colour. On request, we can provide you with small trial samples of glass where the back surface has been treated.



We hope you have huge enjoyment and success with this high quality sintered glass. We wish you great results following our processing recommendations, from the Team at MAGNA.