



**The most common defects
in the processing of acrylic stone**



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No.	Defect description	Cause of defect	Elimination method
1	The adhesive in the seams polymerizes partially	Ingress of air into the mixer when squeezing the adhesive into the seam	The adhesive must be stored at a temperature of +12-15°C <u>in a horizontal position and should be flipped to a vertical position a few hours before use</u> ; the air should be squeezed out of the tube before use
2	Polymerization time lower/higher than the norm (40-45 min. at the temperature of 18-20°C)	Ambient air temperature in the room, where gluing is performed is lower/higher than the norm; at a temperature below 18°C, add 15 minutes for each degree below 18°C; at the temperature above 25°C, the time of adhesive polymerization reduces.	Achieve optimal room temperature (18-23°C)
3	Side/edge breaks off from countertops along with adhesive	Poor adhesion with glue, poor degreasing before gluing, ingress of dust in the adhesion area	Roughen the surface of workpieces using coarse abrasive sanding paper (apply longitudinal guide lines, move back and forward 6 to 8 times) to improve adhesion, degrease using alcohol right before gluing and wait for the alcohol to completely evaporate; make as possible sure there is as little dust on the surface and in the air as possible
4	Visible seams during gluing	Inaccurate fitting of parts for gluing, insufficient pressure	Attach parts more accurately by gluing them <u>using the mirror milling</u> method, check the quality of fitted parts in a dry condition; if there are cracks, do additional fitting, increase pressure
5	Whitish seam when gluing materials of dark and <u>saturated colors</u> .	Burning of the edge during milling at the end due to overheating when removing a large amount of material; using a blunt milling cutter	Take a new milling cutter for milling; if the material to be removed is thick, milling should be done in several stages, <u>you may need to polish the burnt layer of the material</u>
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6	When gluing white and near-white colors, the seam in the form of a dark strip is visible	Degreasing is done using acetone or any other solvents; ingress of dust or some other dirt (for example, marking) in the adhesion area; using adhesive of a darker tone	Degrease using denatured alcohol; make sure your hands and the area around the product are clean; remove inscriptions and markings in the 50 mm area around the adhesive seam; use a lighter tone of adhesive
7	"Blurred" adhesive seam when gluing the material in two different colors	Wrong color of the adhesive selected	The adhesive should be selected based on the color of the lighter material
8	Non-removable stains on the countertop surface from any product; spider web-like lines can be seen	Insufficient sanding and polishing of the surface; dirt gets into the lines left after the first (rough) sanding stages using coarse-abrasive sandpaper; the surface wasn't wiped off the dust and crumbled abrasive in between sanding stages	Sanding and polishing should be done according to recommendations; every subsequent stage takes 1.5-2 times longer than the previous one; higher efficiency is achieved by using micron sandpaper (3M series 266); when the surface becomes matte and semi-glossy, finish polishing using Scotch Brite 7447 (burgundy) and 7448 (gray) 3M respectively, dark and saturated solid colors require longer polishing time
9	Gloss tarnishing, the appearance of whitishness during polishing	Overheating of the material during polishing	When polishing, control heating of the material surface in case of intensive heating; let the material cool down or blow it with compressed air
10	Microcracks, whitishness on the outer side of the bent part during thermal shaping	The material bend radius was selected incorrectly; the material was underheated at the time of heating	First, try this with a piece of material, check the heating temperature and time settings
11	The material changed its color during heating for the thermal shaping process	The material was overheated during heating	Check the heating temperature and time settings; the critical temperature is 204°C, heating time is calculated as 3 min. per 1 mm of material thickness, if the heating is double-sided, the time is reduced by half.
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12	Edge breakage, countertops during transportation/operation at low temperatures	Non-compliance with thermal compensation gaps. The gap is calculated using the formula $\Delta l(\text{mm})=L(\text{m})\cdot 0.035\cdot \Delta T(\text{C})$ where Δl is a calculated size change in mm; L is the size in m (length, width or height) for which the change is calculated; 0.035 is a coefficient of linear expansion; ΔT is a temperature drop in the product utilization area	Leave thermal compensation gaps between the base materials and the edges, as well as between the countertop and walls, which are calculated for 1 m of lengths and 1 mm on each side; for 2 m – 2 mm, etc. (linear expansion coefficient is 30.5×10^{-6} inch/inch/°C)
13	Deflection of the countertop during transportation at low temperatures	Material compression when exposed to low temperature; the base material is not compressed	Transport in a car with a warm body, keep in the installation premises for at least 4 hours
14	The countertop cracks in the cooking top area during use	Cutout corners for the cooking top were not made according to recommendations; thermal compensation tapes were not applied to the cutout; corner amplifiers are missing or were made in violation of recommendations	The cutout for the cooking top should be done in strict compliance with the recommendations; cut compensators in the corners; be sure to use thermal compensation tapes (3M 425 aluminum foil in 2-3 layers, 4941 acrylic tape)
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