

DIAMOND CUTTING

Barashko A.A., student
Scientific supervisor – Lichevskaya S.P., senior lecturer
English language department №1
Belarusian National University of Technology
Minsk, Republic of Belarus

Cutting is a process that is necessary to give a gemstone the correct shape that will maximise the refraction of the rays in its facets and give it the specific gloss for which they are loved.

In Belarus, diamond production began to gain popularity in 1955. After 70 years, our industry has achieved great success in this area. Now all types of diamonds are made in our laboratories. There are a total of 30 diamond cutting options, but there are only 3 basic types. All the rest are considered mixed [1].

According to jewelers and gemologists from Hatton Garden, there are 10 most popular diamond cuts: round cut is the most popular type of cut around the world, and is most often used to create wedding rings; cushion cut has a rounded rectangular or square shape; princess cut can be set in different orientations due to its clear right angles; emerald cut is one of the most durable and difficult cuts because it requires a high quality gemstone; oval cut makes the gemstone appear larger; marquise cut differs in that it has the largest surface area; pear cut still remains one of the most significant cuts in jewellery craft; asscher cut is a square version of the emerald cut; radiant cut is most often used for colored diamonds; heart cut is also a very unusual form of cut, but nevertheless has great popularity [2].

Before cutting precious stone, a jeweler must inspect it and determine the defects and potential of the material. In addition to the diamond defects themselves, it is also necessary to take into account such aspects as the size, type and location of this defect. Such an accurate determination of the quality of diamonds serves to determine the defect groups and, accordingly, the value of the precious stone. For gems without defects or with minor defects, visible traces of grinding. If such damage is visible on the surface of the diamond due to poor processing, the defect group increases, and the value of the gem decreases.

It is also necessary to determine the classification of the diamond by color. There are the following types of diamonds by color: colorless, with a slightly yellowish shade, with slight yellowish-green, purple, gray, aquamarine shades, with yellow, green and lemon shades, with visible shades. To determine these properties, special scanners are used that create a model on a computer [1].

After analyzing the material and choosing the type of cut, the laser marking process begins. Marking is the process of drawing lines on the diamond for further sawing.

Next, you need to split or saw the gem. At the same time, it is during sawing that defective parts of the gemstone can be removed. For this process, a specialist must designate for himself a flatter facet of the stone and the edge with the largest diameter.

Next comes the main and most important part of the entire stone processing process. Cutting is the application of facets to a precious stone. It is on this stage that the precious stone is given its shine and its marketable appearance.

Then comes polishing of the precious stone on a special circle with an abrasive paste. This stage is needed for the final removal of roughness of the diamond. Also, with the help of polishing, a high coefficient of light reflection is achieved. The last stage of working with the gem is boiling in hydrochloric acids. At this stage, the diamond cutting technology is complete. The gem is completely ready for installation in a piece of jewelry [3].

References

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