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The Basics of Diamond Manufacturing by Iris Levi

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Few people looking for a diamond ring realize the elaborate process entailed in the manufacturing of the ring. This process usually involves advanced machinery, and must take into consideration countless aspects, such as proportions, symmetry, size, color, clarity, brilliance, weight and inclusions.

The first stage is the measuring and analysis of the rough stone. This can be done by advanced software accompanied by a HR viewing system. This software gives you a 3D image of the rough stone, and provides all the cutting options of the diamond, taking into account any inclusions, such as holes and grooves, and provides you with different possibilities for polishing. This way you can gain the most profit from the stone. The information you get is the shape of the planned polished diamond, the number of stones you can achieve from one single rough diamond, and the estimated value of the polished stone based on Rapaport standards. The information is presented in charts and diagrams, so it is very clear and enables you to make the smartest decisions.

After deciding on the shape and size of your stone, the next stage is to mark the stone for sawing and polishing. With today's advanced technology, this is usually done with a laser marker for maximum accuracy. The marking is done with the aid of suitable lenses and internal led lighting, and you can view the 3D analysis of the stone during the entire process and make changes accordingly.

Following the designing and marking of the stone, it can be shaped by a green laser sawing & shaping machine, which is the best solution for smooth surface sawing. The sawing is done in accordance with the laser marking lines.

Once the diamond is cut and polished, it can be measured again, but this time for a different purpose. The software measures all the different aspects of the stone, such as facet symmetry, proportions, clarity, color and weight, and based on its analysis it produces a special certificate of authenticity.

The certificate of authenticity can be upgraded with laser inscription on the diamond's girdle. This is usually an inscription of a serial number, to prove ownership and to prevent counterfeiting. After the inscription is made, a snapshot is taken and it can be uploaded to the certificate. Some people like to inscribe more romantic things, such as dedications, words of love or secret messages (The inscription cannot be seen with the naked eye, but with a special loupe).

About the Author

OGI Systems Ltd., the leading global company for diamond computerized tools, provides smart solutions for every stage of the diamond's design and manufacturing.

OGI Systems Ltd. was established in 1990 with the goal of inventing advanced technologies for the diamond industry. Today, the emphasis remains on innovation as well as continuous improvement of existing technology in order to suit customer needs.

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