



GIA
GEMOLOGICAL INSTITUTE OF AMERICA®

Thomas M. Moses
Senior Vice President, GIA Laboratory and Research
580 Fifth Avenue | New York, NY 10036-4794
T: 212-221-5858
F: 212-575-3095

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Dear Client,

In an effort to provide access to most of the key information related to GIA's cut grading system for round brilliants, we have developed new charts and booklets.

The GIA Diamond Cut Grading System uses the proportion combination and a number of other factors to derive the overall cut grade for a round brilliant diamond. The charts and booklet with this letter summarize the system, and discuss each aspect of it. The charts show examples of different proportion combinations in each grade category, and the methods used to assess the additional parameters that can affect the overall cut grade. The booklet explains how to use information available online, some of which is also printed in the booklet, to estimate a cut grade. Both charts are also available to download in booklet format.

The first chart, "Estimating a Cut Grade Using the GIA Diamond Cut Grading System," explains the system, gives definitions, and displays the proportions listed on a diamond grading report. It shows twenty-five example photographs of round brilliant diamonds – five in each of the five grade categories – and gives their proportion combination, values for additional parameters, and a short caption about why that diamond belongs in that grade category.

Grade-limiting values for all the proportion parameters to which such limits are applied are displayed on the right side of this chart. When the value of one of these parameter exceeds a limit, the overall cut grade is limited as shown, but not all proportion combinations within these individual limits yield the higher grade. For example, the highest grade achievable for a round brilliant with a pavilion angle of 40.4° is Very Good. Also, while some proportion combinations with a pavilion angle of 40.6° achieve a grade of Excellent, many combinations with this pavilion angle yield lower grades.

The second chart, "Finish, Culet Size and Girdle Thickness: Categories of the GIA Diamond Cut Grading System," explains and discusses the additional parameters that may limit the cut grade derived from the proportion combination: polish and symmetry, culet size, girdle minimum and maximum, and painting and digging out (brillianting variations). The criteria used in the GIA Laboratory for assessing polish and symmetry are given, along with photographs and diagram illustrations of the various features and how they relate to the grade categories. This chart shows the visual criteria and additional features applied to the assignment of culet size and girdle minimum and maximum; the numerical values displayed by each diagram are representative of the range.

Variations in brillianting, known as painting and digging out, are explained at the bottom of the second chart. Diagrams and photographs of the round brilliant in profile show the affect on the girdle shape, and face-up photographs show some of the appearance effects related to painting and digging out on the crown, pavilion, or both. These illustrations show how painting and digging out may be observed visually, however GIA calculates the extent of painting and digging out for application in the cut grading system. The chart provides visual cues for the trade until software is widely available for measuring devices to calculate these parameters.

Six proportion parameters are needed to find an estimated cut grade. The booklet, titled “GIA Cut Grade Estimation Tables for Standard Round Brilliant Cut Diamond,” contains tables showing the dependence of the cut grade on three of them: table size, crown angle, and pavilion angle. The remaining three, average girdle thickness, star length, and lower girdle length, were kept constant at the values listed to derive the grades shown here. These tables, and many more like them, are available at www.diamondcut.gia.edu, through the links for Estimating a Cut Grade and Tools for the Trade (GIA Facetware Look-up Tables). The booklet explains how to locate a particular proportion combination, and determine whether it is close to a boundary in the cut grading system. It also discusses how to use Facetware online to obtain a more accurate estimate of the cut grade.

We hope this information will help you to understand the cut grading system more fully, and to make the best use of it in your business. Additional copies of the charts and booklet can be downloaded at www.diamondcut.gia.edu. We look forward to your feedback and suggestions on how we can provide you better service.

Sincerely,

A handwritten signature in black ink that reads "Thomas M. Moses". The signature is written in a cursive, flowing style.

Thomas M. Moses
Senior Vice President
GIA Laboratory and Research