
**Jewellery and precious metals —
Grading polished diamonds —
Terminology, classification and test
methods**

*Joannerie et métaux précieux — Classification des diamants taillés —
Terminologie, graduations et méthodes d'essai*

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 174, *Jewellery and precious metals*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The aim of a standard for grading unmounted polished diamonds is to set rules for determining with maximum precision and accuracy the mass, colour, clarity and cut of individual polished diamonds. On one hand, based on these four criteria - also known as "the 4C's" - the diamond trade evaluates the value of diamonds. On the other hand, some diamond grading reports may be issued based on different standards by different laboratories, potentially leading to different results for the same individual diamond. This situation damages the reputation of the whole diamond trade. Hence, the need for a unique ISO standard for grading polished diamonds.

Today, the need for an ISO standard for the grading of polished diamonds is supported by recent agreements between international and national diamond organizations with CIBJO (The World Jewellery Confederation) with the aim of adopting CIBJO's unique diamond grading and diamond nomenclature standard.

Together with ISO 18323, which sets the nomenclature for diamonds, synthetic diamonds and diamond simulants, an ISO standard for the grading of polished diamonds will strengthen the trust in the diamond industry worldwide.

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Jewellery and precious metals — Grading polished diamonds — Terminology, classification and test methods

1 Scope

This document specifies the terminology, classification and the methods that are used for the grading and description of single unmounted polished diamonds over 0,25 carat (ct).

This document applies to natural, unmounted, polished diamonds. It is not to be used for fancy coloured diamonds, synthetic diamonds, treated diamonds (other than is allowed for in 7.4), nor for assembled stones.

2 Normative references

The following document is referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 18323, *Jewellery — Consumer confidence in the diamond industry*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 18323 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

polished diamond

diamond with a defined cut (3.5)

3.1.1

diamond

mineral consisting essentially of carbon crystallised in the isometric (cubic) crystal system, with a hardness on the Mohs' scale of 10, a specific gravity of approximately 3,52 and a refractive index of approximately 2,42, created by nature

Note 1 to entry: The denomination "diamond" without further specification always implies "natural diamond". These two terms are equivalent and carry the same meaning.

3.1.2

treated diamond

diamond (3.1.1) having undergone any human intervention other than cutting, polishing, cleaning and setting, to permanently or non-permanently change its appearance

EXAMPLE Coating, fracture filling, heating, irradiation, laser drilling, HPHT treatment or any other physical or chemical process.

3.1.3

synthetic diamond

laboratory-grown diamond

laboratory-created diamond

artificial product that has essentially the same chemical composition, crystal structure and physical (including optical) properties as a *diamond* ([3.1.1](#))

Note 1 to entry: The English terms laboratory-created diamond or laboratory-grown diamond may be used synonymously with synthetic diamond. Where there is no acceptable local direct translation of the English terms laboratory grown diamond or laboratory created diamond then only the translation of the term synthetic diamond should be used.

Note 2 to entry: Abbreviations such as "lab grown", "lab created" "lab diamond" or "syn diamond" shall not be used.

Note 3 to entry: The word "laboratory" refers to the facility which produces the synthetic diamonds. This should not to be confused with a gemmological laboratory that is dedicated to the analysis, authentication, identification, classification (grading) of diamonds.

3.1.4

composite stone

assembled stone

stone constructed of two or more parts

3.2 Internal characteristics

3.2.1

bearding

tiny *feathers* ([3.2.8](#)) extending in from the girdle

3.2.2

bruise

surface percussion mark, accompanied by tiny, root-like *feathers* ([3.2.8](#))

3.2.3

cavity

large or deep opening

3.2.4

chip

damage, usually occurring along the girdle or culet, which alters the outline of the stone

Note 1 to entry: Also to be considered as an external characteristic (see 3.3.4) depending upon depth.

3.2.5

cleavage

large *feather* ([3.2.8](#)) occurring in a plane, parallel to a crystal face

3.2.6

cloud

hazy or milky area made up of a number of very small *inclusions* ([3.10](#))

3.2.7

crystal

mineral crystal included in a *diamond* ([3.1.1](#))

3.2.8

feather/fracture

separation or break due to either *cleavage* ([3.2.5](#)) or fracture, often white and feathery in appearance

3.2.9

grain centre

small area of concentrated *crystal* ([3.2.7](#)) structure distortion

3.2.10**internal graining**

internal indications of irregular *crystal* (3.2.7) growth

3.2.10.1**coloured graining**

graining which appears as coloured streaks

3.2.10.2**reflective graining**

graining which appears as a reflective plane

3.2.10.3**whitish graining**

graining which may appear as whitish streaks or may give the stone a hazy (cloudy) appearance which decreases transparency

3.2.11**indented natural**

natural (3.3.6) that penetrates the stone

Note 1 to entry: Also to be considered as an external characteristic (see 3.3.15) depending upon depth.

3.2.12**knot**

included *diamond* (3.1.1) crystal which reaches the surface

3.2.13**laser drilling**

burning a channel with a laser between the surface of a *diamond* (3.1.1) and an *inclusion* (3.10) (generally black), the channel being used as a conduit to allow a chemical treatment of the *inclusion* (3.10) with the purpose of making the *inclusion* (3.10) less visible

3.2.14**needle**

long, thin included *crystal* (3.2.7) which looks like a tiny rod

3.2.15**nick**

minor damage, occurring along the girdle, the culet or facet edge, which does not significantly affect the outline of the stone

Note 1 to entry: Also to be considered as an external characteristic (see 3.3.7) depending upon depth.

3.2.16**pinpoint**

very small *inclusion* (3.10); under 10x normally seen as a tiny dot, either singly or in groups or strings

3.2.17**reduced transparency**

cloudy, milky, or hazy appearance of the whole or part of a *diamond* (3.1.1) due to internal features that may or may not be visible at 10x magnification

3.2.18**twinning wisp**

inclusions (3.10) usually located in a plane, which occur as a result of the change in orientation of the diamond crystal structure

3.2.19

etch channel

high-temperature magma erodes the weak area of the *diamond* (3.1.1), leaving behind tubular traces extending from the surface to the inside, with a quadrangle opening

3.3 External characteristics

3.3.1

abrasion

tiny *nicks* (3.3.7) along facet junction's or culet, producing white fuzzy lines instead of sharp facet edges

3.3.2

bruting lines

tiny lines on a girdle not displaying a feather-like appearance

3.3.3

burn mark

surface clouding caused by excessive heat, or uneven polished surface

3.3.4

chip

damage, usually occurring along the girdle or culet, which alters the outline of the stone

Note 1 to entry: Also to be considered as an internal characteristic (see 3.2.4) depending upon depth.

3.3.5

extra facet

facet located without regard for symmetry and not required by the cutting style

3.3.6

natural

part of the original *crystal* (3.2.7) surface remaining on the polished stone

3.3.7

nick

minor damage, occurring along the girdle, the culet or facet edge, which does not significantly affect the outline of the stone

Note 1 to entry: Also to be considered as an internal characteristic (see 3.2.15) depending upon depth.

3.3.8

pit

tiny opening, often looking like a white dot

3.3.9

polish line

tiny parallel lines left by polishing; fine parallel ridges confined to single facet, caused by *crystal* (3.2.7) structure irregularities; or tiny, parallel, polished grooves produced by irregularities in the scarify surface

3.3.10

pitted girdle

very rough bruted girdle surface

3.3.11

scratch

linear indentation normally seen as a fine white line across a facet

3.3.12

surface grain line

surface indication of structural irregularity which is not seen internally; may resemble faint facet-junction lines, or cause a grooved or wavy surface; often the lines cross facet junctions

3.3.13**lizard skin**

transparent concave wave texture on the surface of a polished *diamond* (3.1.1), usually parallel to the direction of the *cleavage* (3.2.5) surface

3.3.14**inscription**

mark on the surface of or in a *diamond* (3.1.1)

3.3.15**indented natural**

natural that penetrates the stone

Note 1 to entry: Also to be considered as an internal characteristic (see 3.2.11) depending upon depth.

3.4**naked eye**

naked (unaided) eye, or visible to the eye through glasses adjusting an anomalous eyesight to normal

3.5**cut**

shape (3.6), proportions, polish and symmetry of a *diamond* (3.1.1)

Note 1 to entry: The term finish encompasses polish and symmetry.

3.6**shape/form**

outline of a *diamond* (3.1.1) when viewed perpendicular to the table facet

3.7**diamond loupe**

achromatic and aplanatic, triplet type, 10x magnifying lens

Note 1 to entry: The frame of the loupe shall be of a neutral 'colour'.

3.8**first generation masterstone**

diamond (3.1.1) that has been selected by direct comparison with the relevant masterstone in the set of masterstones originally used to establish the D to Z grades, as specified in 6.1 and equal in hue, tone and saturation to the relevant original masterstone

3.9**second generation masterstone**

diamond (3.1.1) that has been selected by direct comparison with the relevant *first generation masterstone* (3.8) and equal in hue, tone and saturation to the relevant *first generation masterstone* (3.8)

3.10**inclusion**

physical alteration to the interior of a *diamond* (3.1.1)

4 General**4.1 The use of the word "diamond"**

It is unnecessary to note the genesis of a diamond, as the use of the word "diamond" alone and without qualification states that it is natural.

The word "diamond" alone shall not be used to describe synthetic diamonds no matter which basic material or methods are used. Products made in this way shall be clearly referred to as "synthetic diamond" and shall not be graded according to this document.

4.2 Composite stones/assembled stones

Composite stones/assembled stones shall be clearly identified and shall not be graded.

5 Mass and measurements

5.1 Mass

The mass of a diamond shall be expressed in metric carats (ct), one carat is equivalent to 200 mg (1/5 g). The mass of a diamond shall be stated in carats to two decimal places.

NOTE It is acceptable verbally to express one-hundredth of a carat as a “point”.

Mass shall be rounded upwards if the third decimal is a 9.

EXAMPLES

— 0,996 → 0,99 ct

— 0,998 → 0,99 ct

— 0,999 → 1,00 ct

Mass may be stated to three decimal places if the accuracy of the weighing equipment is accurate to this degree.

5.2 Measurements

The measurements of a diamond shall be expressed in millimetres to two decimal places.

The following measurements shall be contained in the diamond grading report ([Clause 18](#)):

- round shape: minimum diameter, maximum diameter and depth (total height);
- fancy shape: length, width and depth (total height). Length shall be the maximum measurement in the vertical line of the plotted diagram and width shall be the maximum measurement in the horizontal line of the plotted diagram.

6 Colour

6.1 General

Diamond colours shall be divided into the following three main categories (see [6.1.1](#), [6.1.2](#) and [6.1.3](#)).

NOTE For all main categories (see [6.1.1](#), [6.1.2](#) and [6.1.3](#)), photometric measurements intended for colour grade determination have no conclusive value at present.

6.1.1 Colourless to yellow, brown and grey (D to L)

The colour of diamond within the D to L grade range shall be determined by visual comparison with masterstones of first or second generation which is equal in hue, tone and saturation to the official CIBJO set of masterstones for determining the colour grades. The determination shall be carried out by a trained observer with normal eyesight (see [3.4](#)) and colour discrimination, under an artificial light source, the specification for which ranges from D₅₅ to D₆₅ [International Commission on Illumination (CIE) standard illuminant].

The colour grade shall be described by the letter or letter range between D and L, (in capital letters) with or without the colour corresponding terms in [Tables 1](#) and [2](#).

Colour comparison shall refer to masterstones of first or second generation.

NOTE Optionally the hue of a diamond when different than yellow can be mentioned in addition to the colour grade.

6.1.2 Colourless to yellow, brown and grey (M to Z)

Those colour grades are not currently covered by the present document.

6.1.3 Other hues

Apart from those diamonds referred to in [6.1.1](#) and [6.1.2](#) there are those diamonds that are darker in tone and/or higher in saturation than the Z colour grade and diamonds with other noticeable hues or tones and these are coloured diamonds. In this category, the specific term “fancy” shall precede the colour description of a coloured diamond.

6.2 Colour grades (colourless to yellow, brown and grey)

The colour grades that shall be used are given in [Table 1](#). The German, French, Italian, Chinese and Scandinavian equivalent terms shall be as given in [Table 2](#).

6.3 Colour grades (other than for yellow, brown and grey)

Diamonds with colours other than yellow, brown or grey, in which the colour is not visible in the face-up position, shall be graded in accordance with the colour grading scale (see [Table 1](#)). The grade shall be described either with the letter grade or by stating the term “faint” followed by the hue, or by both.

Table 1 — Colour grading scale

CIBJO The World Jewellery Confederation	GIA Gemological Institute of America	NOTES
Exceptional white +	D	NOTE 1 For diamonds weighing under 0,47 ct, the grades D EW+ and E EW can be combined into one grade as Exceptional White or D-E.
Exceptional white	E	
Rare white +	F	NOTE 2 For diamonds weighing under 0,47 ct, the grades F RW+ and G RW can be combined into one grade as Rare White or F-G.
Rare white	G	
White	H	
Slightly tinted white	I	NOTE 3 Combined letter grades including and below I can be used. NOTE 4 For grades I to J the term "equivalent colour grade" can be used in conjunction with the letter grade for those diamonds that have brown or grey present.
Slightly tinted white	J	
Tinted white	K	NOTE 5 Combined letter grades including and below K can be used. NOTE 6 For grades K to L the term "equivalent colour grade" can be used in conjunction with the letter grade for those diamonds that have brown or grey present.
Tinted white	L	
Tinted	M	NOTE 7 Combined letter grades including and below M can be used. NOTE 8 Descriptions indicating the presence of brown or grey can be given for Grades M and below with or without using the letter grades if the hue / tone description is prefixed with "light".
	N	
	O	
	P	
	Q	
	R	
	S	
	T	
	U	
	V	
	W	
	X	
	Y	
	Z	

Table 2 — Corresponding terms for colour grades

GIA ^a	CIBJO (The World Jewellery Confederation)						Chinese national standard	Scan.D.N	
	English		German		French		Italian		
D	Exceptional white +	D	Hochfeines Weiss +	D	Blanc exceptionnel +	D	Bianco extra eccezionale +	D	100
E	Exceptional white	E	Hochfeines Weiss	E	Blanc exceptionnel	E	Bianco extra eccezionale	E	99
F	Rare white +	F	Feines Weiss +	F	Blanc extra +	F	Bianco extra +	F	98
G	Rare white	G	Feines Weiss	G	Blanc extra	G	Bianco extra	G	97
H	White	H	Weiss	H	Blanc	H	Bianco	H	96
I	Slightly tinted white +	I	Leicht getöntes Weiss +	I	Blanc nuance +	I	Bianco sfumato +	I	95
J	Slightly tinted white	J	Leicht getöntes Weiss	J	Blanc nuancé	J	Bianco sfumato	J	94
K	Tinted white +	K	Getöntes Weiss +	K	Légèrement teinté +	K	Bianco leggermente colorito +	K	93
L	Tinted white	L	Getöntes Weiss	L	Légèrement teinté	L	Bianco leggermente colorito	L	92
M	Tinted	M	Getönt	M	Teinté	M	Colorito	M	91
N		N		N		N		N	90
O		O		O		O		O	<N
P		P		P		P		P	<90
Q		Q		Q		Q		Q	
R		R		R		R		R	
S		S		S		S		S	
T		T		T		T		T	
U		U		U		U		U	
V		V		V		V		V	
W		W		W		W		W	
X		X		X		X		X	
Y		Y		Y		Y		Y	
Z		Z		Z		Z		Z	

^a Gemological Institute of America.

6.4 Fluorescence

The fluorescence of diamond shall be determined by visual comparison with masterstones of first or second generation which is equal in hue and degree to the official CIBJO set of masterstones for determining the fluorescence. The determination shall be carried out by a trained observer with normal eyesight (see 3.4) and colour discrimination.

The degree of fluorescence shall be characterized in accordance with Table 3.

Table 3 — Description of degree of fluorescence

Degree of fluorescence	Colour of fluorescence
none or nil	optional
faint or slight	optional
medium	optional
strong	optional

The colour of fluorescence may be mentioned together with the degree of fluorescence.

7 Clarity

7.1 General

Clarity shall be determined by a trained observer with normal eyesight (see [3.4](#)) using a diamond loupe, under an artificial source of light, the specification of which is D55 to D65 (CIE standard illuminant).

The following aspects of the internal characteristics/inclusions and external characteristics/blemishes shall be considered when determining the clarity grade:

- size;
- nature;
- number;
- position;
- brightness/colour;
- mirrored images.

NOTE Diamonds that are beyond the P3/I3 grade are known as rejection grade and are considered as being outside the clarity grading scale.

7.2 Clarity grades

The clarity grades shall be distinguished and defined in accordance with [Tables 4](#) and [5](#).

7.3 Clarity characteristics

Clarity shall be considered in accordance with [Tables 4](#) and [5](#) and [A.1](#) and [A.2](#).

See also definitions [3.2](#) and [3.3](#).

7.4 Laser drilling

All diamonds that have been drilled with a laser shall be referred to as “Laser Drilled” in the Comment section, and can be graded. No other treated diamonds shall be graded according to this document.

Table 4 — Clarity characteristics

Flawless (FL) FL diamonds shall be free from internal characteristics/inclusions and external characteristics/blemishes when examined with the diamond loupe. NOTE 1 The following does not disqualify a diamond from the Flawless Grade: — an extra facet on the pavilion which cannot be seen face up; — naturals totally confined to the girdle, which neither thicken the girdle nor distort its outline; — internal graining which is not reflective, white or coloured and does not significantly affect transparency.	Loupe Clean (LC) LC diamonds shall be free from internal characteristics/ inclusions, when examined with the diamond loupe. NOTE 3 The following does not disqualify a diamond from the Loupe Clean grade: — Internal graining which is not reflective, white or coloured and does not significantly affect transparency.
Internally Flawless (IF) IF diamonds shall be free from internal characteristics/ inclusions and shall only possess external characteristics / blemishes, when examined with the diamond loupe. NOTE 2 The following does not disqualify a diamond from the Internally Flawless grade: — Internal graining which is not reflective, white or coloured and does not significantly affect transparency.	
Very Very Slightly Included/Very Very Small Inclusions (VVS) VVS diamonds shall contain minute internal characteristics/inclusions when examined with the diamond loupe. VVS1 diamonds shall contain minute internal characteristics/inclusions which shall be extremely difficult to observe when examined with the diamond loupe. VVS2 diamonds shall contain minute internal characteristics/inclusions which shall be very difficult to observe when examined with the diamond loupe.	
Very Slightly Included/Very Small Inclusions (VS) VS diamonds shall contain minor internal characteristics/inclusions when examined with the diamond loupe. VS1 diamonds shall contain minor internal characteristics/inclusions which shall be difficult to observe when examined with the diamond loupe. VS2 diamonds shall contain minor internal characteristics/inclusions which shall be somewhat easy to observe with the diamond loupe.	
Slightly Included/Small Inclusions (SI) SI diamonds shall contain noticeable internal characteristics/inclusions when examined with the diamond loupe. SI1 diamonds shall contain noticeable internal characteristics/inclusions which shall be easy to observe when examined with the diamond loupe. SI2 diamonds shall contain noticeable internal characteristics/inclusions which shall be very easy to observe when examined with the diamond loupe.	
Pique 1 or Included 1 (P1/I1) P1/I1 diamonds shall contain internal characteristics/inclusions which are prominent when examined with the diamond loupe. They shall also be visible face up to the naked eye. NOTE 4 Under certain circumstances, internal characteristics/inclusions may also be visible face up to the naked eye in higher grades.	
Pique 2 or Included 2 (P2/I2) P2/I2 diamonds shall contain internal characteristics/inclusions which are very prominent when examined with the diamond loupe. They shall also be easily visible face up to the naked eye, slightly reducing the brilliancy of the diamond.	
Pique 3 or Included 3 (P3/I3) P3/I3 diamonds shall contain internal characteristics/inclusions which are extremely prominent when examined with the diamond loupe. They shall also be very easily visible face up to the naked eye, reducing the brilliancy of the diamond.	

Table 5 — Clarity grades

LC	FL	
	IF	
VVS1		VVS
VVS2		
VS1		VS
VS2		
SI1		SI
SI2		
P1 or I1		P or I
P2 or I2		
P3 or I3		

The combined grades VVS, VS, SI, P or I may be used for diamonds weighing under 0,47 ct.

8 Cut

8.1 Cut characteristics

The cut shall be categorized by the following characteristics:

- shape: the outline of the diamond combined with the facet arrangement;
- proportions: the relationships between the various parts of a diamond and the girdle diameter;
- finish: the quality of the surface condition of a diamond, the exactness of its shape and the arrangement of the facets.

8.2 Shape

Common diamond shapes and cut are illustrated in [Figure 1](#) a) to j). A variety of other shapes exist and these shall be clearly described in detail.

The term “brilliant” without any additional description shall only be applied to round brilliant cut diamonds.

NOTE The term “fancy shape” is generally used to describe all shapes other than round.

The various parts and the facet arrangement of a round brilliant are explained in [Figure 3](#).

8.3 Proportions

8.3.1 Description

The proportions (see [Figure 4](#)) described in [8.3.2](#) to [8.3.9](#) shall be included in the diamond grading report of a diamond.

8.3.2 Basis for descriptions of proportions

For round diamonds, the basis for descriptions of proportions is the average of at least four measurements at different points of the diameter of the girdle.

For fancy shapes, this basis is the width of the diamond.

8.3.3 Table size (percentage)

The table size shall be the average size of the table facet, expressed as a percentage of the average girdle diameter. For round stones measurements to describe the table size shall be made from opposite corner to corner and expressed as an average of the four possible measurements. For fancy shapes, table size measurements shall be taken when viewing the profile of the diamond along its length ([Figures 1](#) and [2](#)).

8.3.4 Crown height (percentage) and/or crown angle (degrees)

For round stones, the crown height shall be the average of eight measurements reflecting the distance from the upper girdle level to the level of the table facet, measured where the bezel/upper main facets and upper girdle level meet, and expressed as a percentage of the girdle diameter.

The crown angle shall be the average angle formed where the bezel/upper main facets and upper girdle plane meet, expressed in degrees and shall be taken by an average of all bezel facets if applicable.

For fancy shapes, the crown height and angle measurements shall be taken when viewing the profile of the diamond along its length (see [Figure 1](#)).

8.3.5 Pavilion depth (percentage) and/or pavilion angle (degrees)

For round stones, the pavilion depth shall be the average of eight measurements reflecting the distance from the lower girdle level to the level of the culet, measured where the pavilion/lower main facets meet the lower girdle level, and expressed as a percentage of the girdle diameter.

The pavilion angle shall be the average angle formed where the pavilion/lower main facets and lower girdle plane meet, expressed in degrees and shall be taken by an average of all pavilion main facets if applicable.

For fancy shapes, the pavilion depth and angle measurements shall be taken when viewing the profile of the diamond along its length.

Optionally crown height and pavilion depth can be combined to total depth and expressed as a percentage of the girdle diameter.

8.3.6 Girdle thickness (percentage) and description

The thickness of the girdle shall be the average of sixteen measurements reflecting the distance between the levels where the related lower girdle facets and upper girdle facets meet the girdle and shall be expressed as a percentage of the girdle diameter, noting the minimum and maximum and/or the average percentage.

Optionally a description as "thin", "medium" or "thick" can be given instead.

A description of the nature of the girdle shall be noted if it is not bruted, as follows:

- faceted;
- polished.

For fancy shapes, girdle thickness measurements shall be taken when viewing the profile of the diamond along its length.

NOTE When applicable, the qualifier "partly" can be added to the girdle description.

8.3.7 Culet size (percentage) and description

The culet size shall be expressed as a percentage of the girdle diameter. Optionally a description as "pointed", "small", and "large" can be given instead.

The culet size shall be the diameter for round stones or the culet width for fancy shapes (See 5.2).

A description of the nature of the culet shall be added as "pointed", "polished", "natural", or "linear".

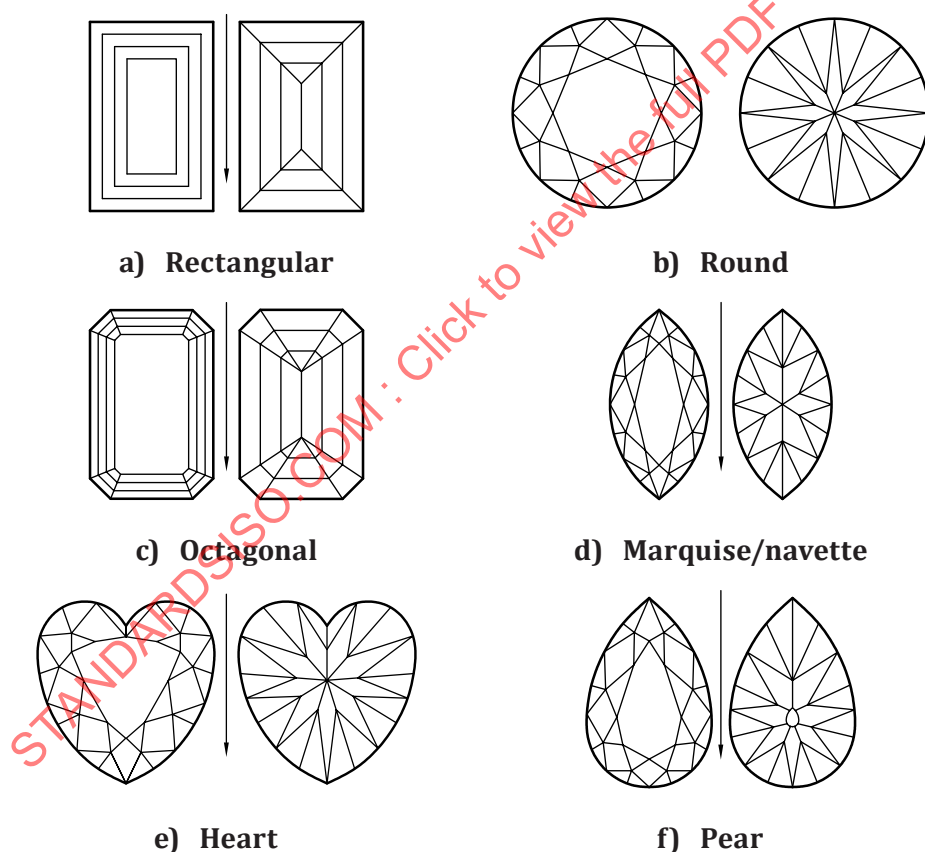
8.3.8 Total depth/height

The total depth shall be the distance between the table facet and the culet, expressed as a percentage of the girdle diameter.

8.3.9 Proportions comment

A comment describing the proportion parameters of round brilliant cut diamonds shall be given in accordance with the criteria set out in [Clause 14](#) and [Table 10](#).

The downward arrows indicate the direction in which fancy cut stones shall be viewed when determining crown height (See [Figure 1](#)).



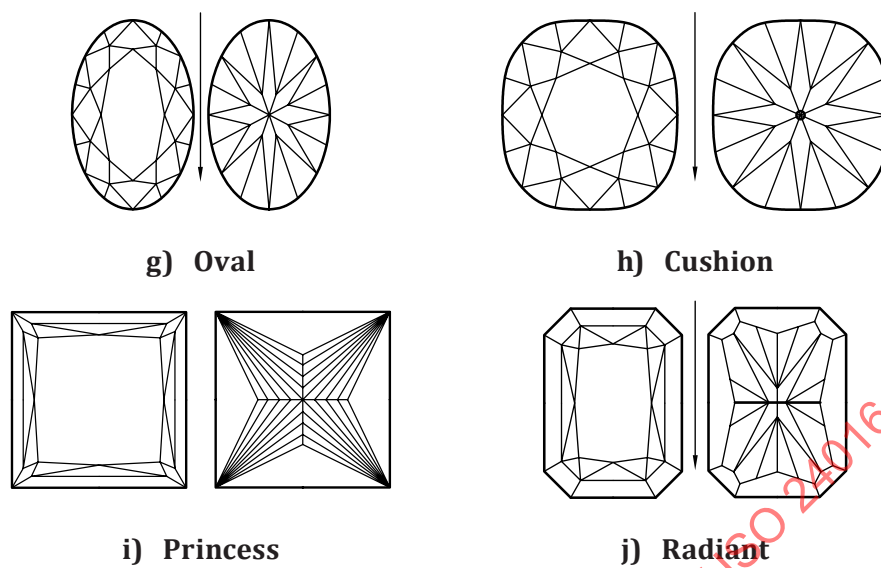


Figure 1 — Some common diamond shapes and cuts with the direction for the determination of crown height

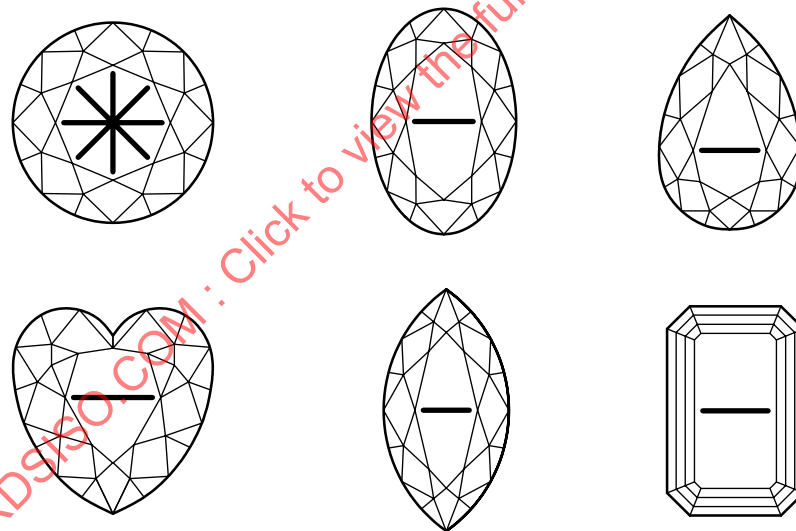
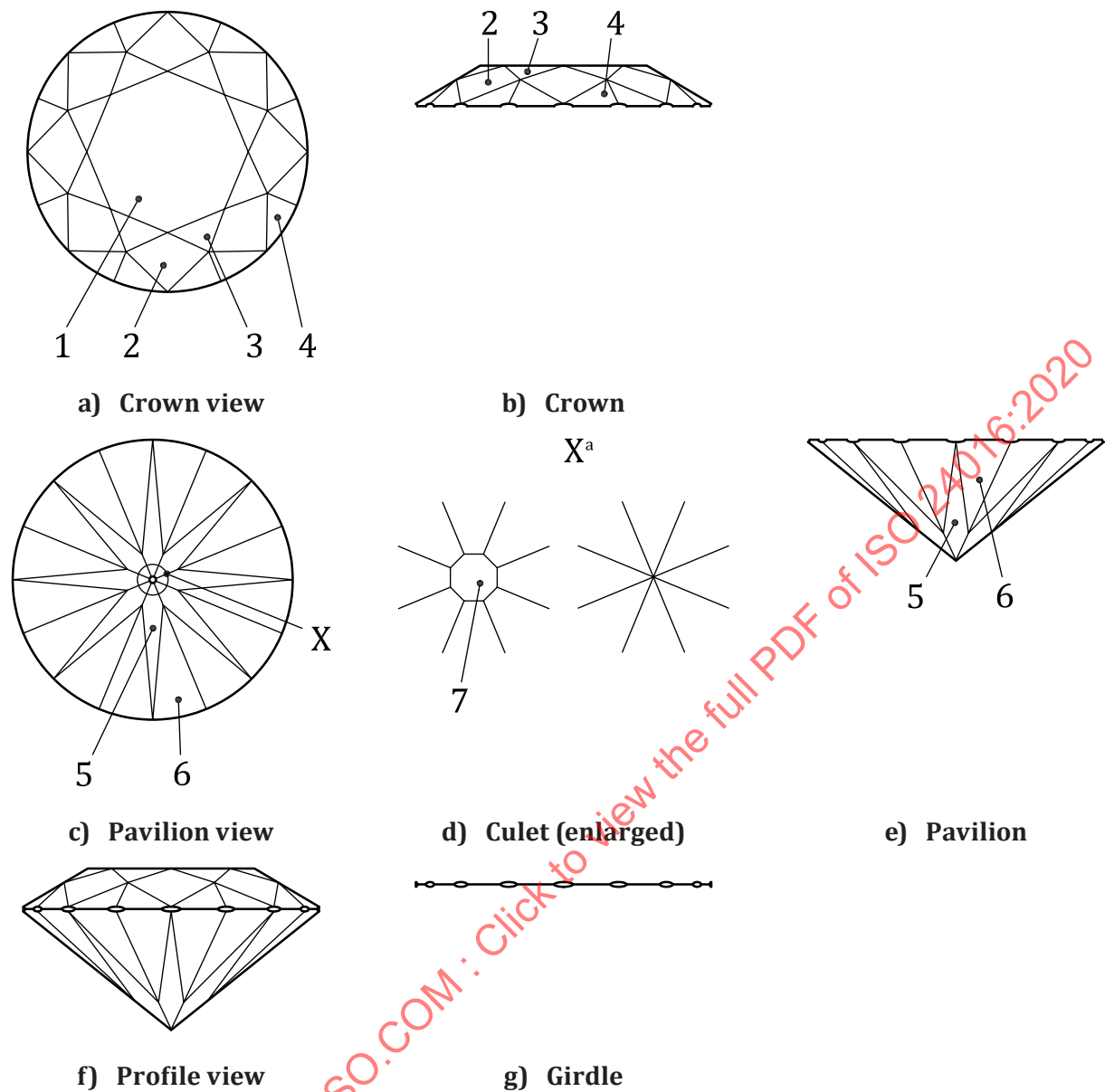


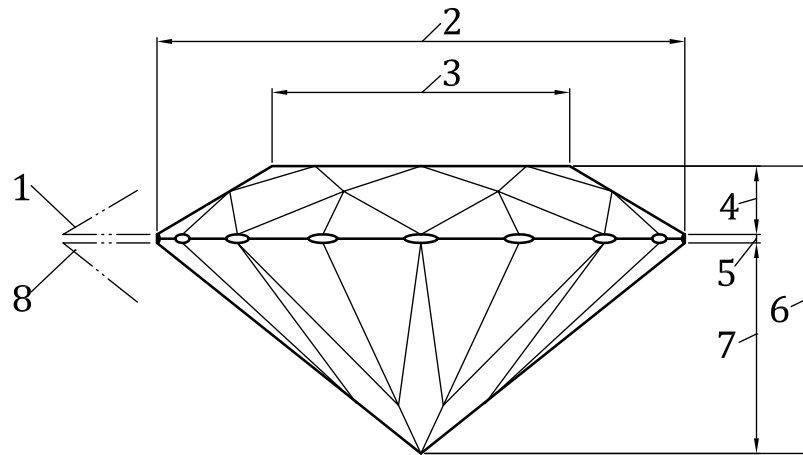
Figure 2 — Common diamond typical facet arrangements

The thick lines indicate the directions in which table size shall be determined.



Key	Facet name	Number of facets	
1	table	1	} Total number of facets 57 or 58
2	bezel/upper main	8	
3	star	8	
4	upper girdle/upper halves	16	
5	pavilion main/lower main	8	
6	lower girdle/lower main	16	
7	culet	0 or 1	

Figure 3 — Parts and facet arrangement of a round brilliant

**Key**

1	crown angle	5	girdle thickness
2	girdle diameter	6	total depth
3	table size	7	pavilion depth
4	crown height	8	pavilion angle

Figure 4 — Proportions involved in the description of a diamond**8.4 Finish**

Finish includes the polish and symmetry categories. The external characteristics/blemishes which shall be taken into consideration under polish or symmetry are listed in [A.3](#) and [A.4](#). They shall also be taken into consideration for clarity determination but only to distinguish between “flawless” and “internally flawless”.

8.4.1 Polish

Polish refers to the quality of the facet surface condition and, as an option may be, graded according to the following categories:

- very good;
- good;
- fair/medium;
- poor.

An optional grade of excellent may be used.

8.4.2 Symmetry

Symmetry refers to the exactness of the shape of a diamond and the arrangement of the facets and shall be graded according to the following categories:

- very good;
- good;
- fair/medium;
- poor.

An optional grade of excellent may be used.

9 Identification

It shall be the responsibility of the institution/laboratory to establish that the stone under examination is a diamond in accordance with ISO 18323 before it is graded and be aware of the possibilities of the stone being a synthetic diamond, a treated diamond, or an assembled stone.

10 Testing mass and measurements

10.1 Testing mass

Maintain all balances used to establish the carat mass of diamonds to ensure accuracy. Prior to weighing, all diamonds shall be clean.

10.2 Testing measurements

Use instruments accurate in millimetres to two decimal places to measure the dimensions of a diamond. Measurement parameters are specified in 5.2. For round stones, determine minimum and maximum diameters by making at least four measurements at differing points on the diameter of the diamond. Clearly establish minimum and maximum diameter measurements.

For stones other than rounds determine minimum and maximum diameters by making two measurements (or more if applicable) across the apparent length and width of the diamond. Clearly establish the length and width plus any other descriptive measurements.

For determining depth (total height) make measurements perpendicular to the table facet and record the established maximum figure on the report.

11 Testing and grading colour and fluorescence

11.1 Cleaning of masterstones

Prior to grading, clean each masterstone with an organic solvent. Masterstones with dirty girdles and encrusted diamonds shall be cleaned by appropriate means.

Keep the masterstones clean.

11.2 Masterstones for colour

Use only round brilliant-cut diamonds for this purpose.

First generation masterstones shall be not smaller than 0,60 ct. Second generation masterstones shall be not smaller than 0,30 ct. Masterstones shall not have internal characteristics that are eye visible under normal or corrected to normal vision or otherwise affect colour or decrease the transparency when viewed through the pavilion. The fluorescence shall be not greater than the grade "Faint". Finish shall be at least "Good". Proportions shall be in the "Range (a)" in Table 10. All stones in a set shall be of similar mass and proportions, and the nature of the girdles shall be the same.

Masterstones shall be of the "yellow series" and shall be positioned preferably at the lower limit for each grade (maximum saturation).

The second generation of masterstones shall be the last generation that shall be used by laboratories for the issuing of diamond grading reports.

NOTE For the formation of first or second generation of masterstones, contact CIBJO - The World Jewellery Confederation.

11.3 Procedure

11.3.1 Precautions

Do not grade for colour immediately following grading for fluorescence.

Persons colour grading diamonds shall be aware of the “tiring factor” and limit the time spent grading according to their individual capabilities.

11.3.2 Cleaning

Prior to grading, clean each submitted diamond with an organic solvent. Diamonds with dirty girdles and encrusted diamonds shall be cleaned by appropriate means.

11.3.3 Comparisons

The colour of the diamond to be graded shall be determined by visual comparison with masterstones and shall be observed from the pavilion side perpendicular with the pavilion facets (see [Figure 5](#)). Place the stone between two of the masterstones and move the stone until the correct position is found. Only view the diamond through the crown side to determine if it is a “coloured diamond”.

11.3.4 Round stones

Round stones shall be examined in several directions. If different colours are observed, the predominant D to Z grade shall be conclusive.

11.3.5 Fancy shapes

The colour of fancy-shaped diamonds shall be graded in the directions indicated in [Figure 6](#). In the case of cuts with points or corners, these directions shall not be taken into account. If different colours are observed, the predominant D to Z grade shall be conclusive.

11.3.6 Colours

Colours like brownish, brownish yellow, greyish, greyish yellow (in the D-Z grades) shall be graded as if they were within the same colour series as the masterstones. However, for grades M and below such stones shall also be evaluated in the face-up position for the description indicating the presence of these hues.

11.3.7 Lighting

Colour grading shall be carried out under an artificial light source with a stable light output and simulating illuminant D₅₅ to D₆₅, in a light intensity of approximately 2 200 lx.

NOTE A convenient artificial light source is a commercial tubular fluorescent lamp with colour temperature of 5 500 K to 6 500 K.

The masterstones and the stone to be graded shall be placed with the table down on a non-fluorescent and non-reflective white background under the central area of the tube. Reflections and distractions from the environment shall be excluded.

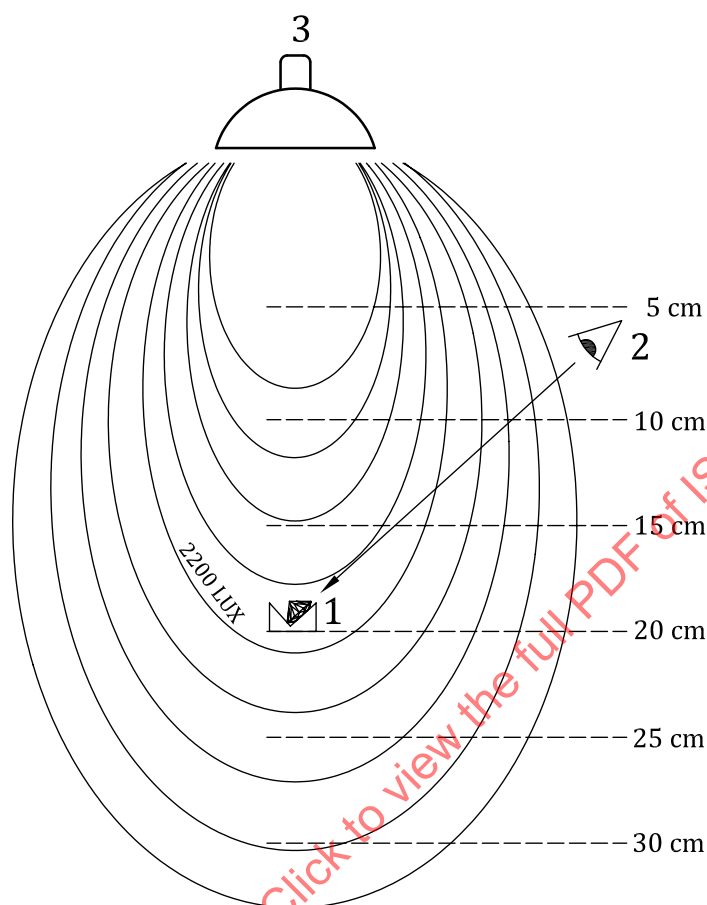
Prevent direct view of the light sources.

11.3.8 Positioning

The diamond being graded and the masterstones shall be placed directly below the light source. For an observer with normal eyesight the distance between the light source and the diamond being graded shall be approximately 20 cm and the light intensity at that point shall be approximately 2 200 lx ([Figure 5](#)).

11.3.9 The grade

The colour grade shall be given with one full colour grade or colour corresponding term in accordance with 6.1.1 and 6.2. Combined grades shall be used in accordance with Table 1.



Key

- 1 colour comparison
- 2 naked eye
- 3 light source

Figure 5 — Colour grading criteria

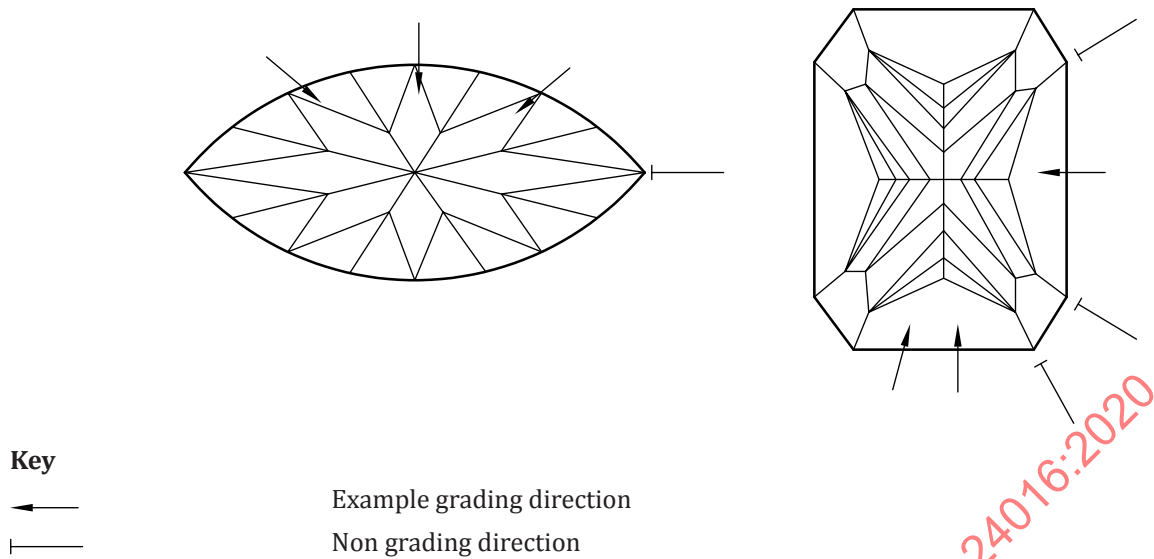
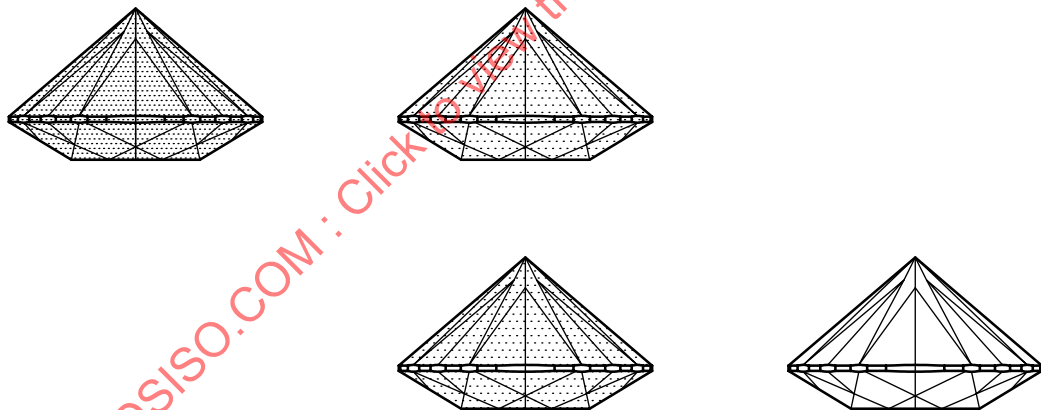


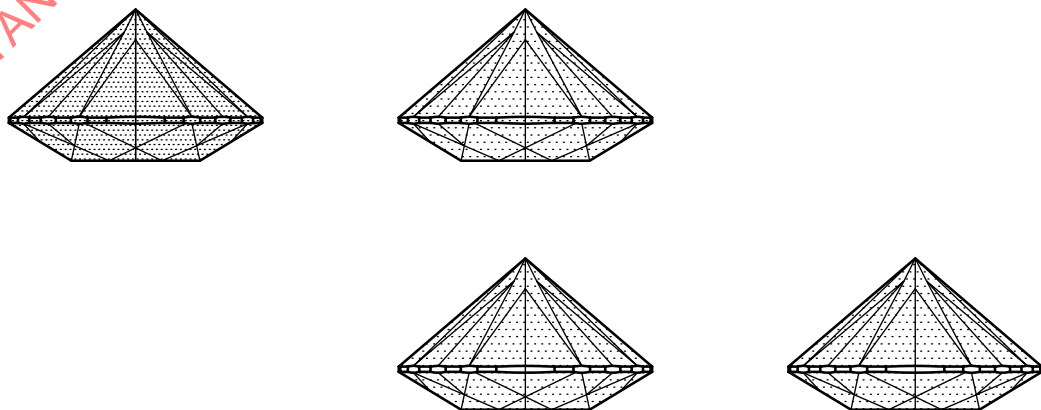
Figure 6 — Examples of colour grading directions, and the directions in which colour grading shall not be made for fancy-cut diamonds within the D-Z range

11.3.10 Master-eye effect

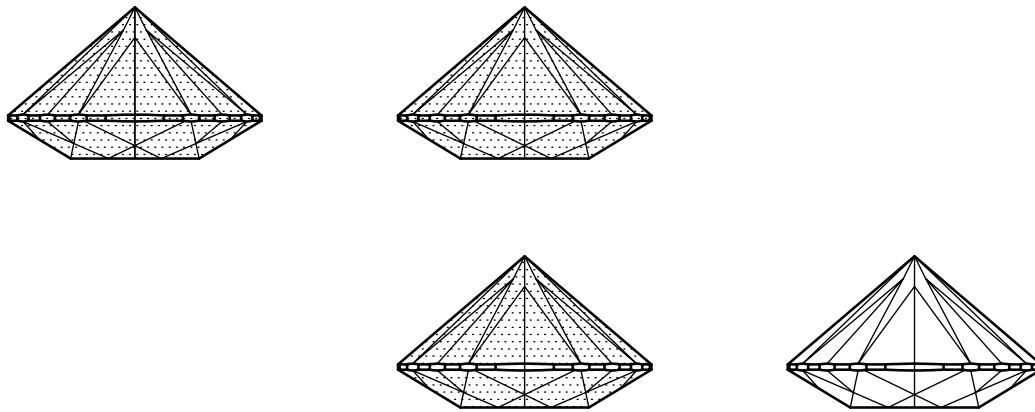
When comparing diamonds with a masterstone the master eye effect can occur (see [Figure 7](#)).



- a) Stone appearing darker on the left side of the master and appearing equally lighter on the right, the stone is graded the same colour as the masterstone



- b) Stone appearing darker on the left and the same as the masterstone on the right, the stone is graded darker than the masterstone



- c) Stone appearing to be the same on the left side of the masterstone and lighter on the right, the stone is graded lighter than the masterstone

Figure 7 — Master-eye effect

11.4 Description of fluorescence

11.4.1 Equipment and References

The fluorescence description of a diamond shall be recorded when the stone is observed under a long wave UV lamp (approximately 365 nm) that has an output of 4 W to 8 W.

The description shall be made by comparison with a series of masterstones that characterize the intensities "none" or "nil", "faint" or "slight", "medium", and "strong" in accordance with 6.4.

Three masterstones shall be required to achieve the correct fluorescence description for each diamond (see 11.4.2).

The masterstones and the stone under examination shall be positioned on a matt black background.

11.4.2 Masterstones for fluorescence

The masterstones shall be positioned at the maximum intensity of fluorescence for the intensities "none", "faint", and "medium", and have a blue type fluorescence. The mass of each masterstone shall be a minimum of 0,25 ct., and the shape shall be round.

11.4.3 Working conditions and methodology

The lighting conditions in the room used for comparing the fluorescence of a diamond against the fluorescence masterstones shall not have an effect upon the stone under examination or the masterstones. The stone under examination and the masterstones shall be positioned at a distance of approximately 10 cm from the UV source and examined from the pavilion side from being almost parallel to the level of the girdle to perpendicular with the pavilion facets, and an overall impression gained.

11.4.4 Fluorescence, other than blue

If the hue of the fluorescence is other than blue, the intensity shall be considered in relation to the masterstones.

NOTE The hue can also be registered.

12 Testing and grading clarity

12.1 General

Clarity grading shall be determined in accordance with [Clause 7](#) and examples of diagrams are given in [Annex B](#). The practical grading for clarity shall be made with the greatest caution and shall not be made under time pressure. Experience and regular practice shall be required to achieve accurate and consistent results. Before it is graded the stone shall be properly cleaned (See [11.3.2](#)). A thorough examination through and on each of the diamond's numerous facets, and along the entire girdle, shall be carried out.

12.2 Apparatus

The basic tool for clarity grading shall be the diamond loupe. A microscope may be used to 'find' internal and external characteristics, but only those characteristics seen with the diamond loupe shall determine the grade.

NOTE The use of tweezers is suggested for holding a diamond.

12.3 Procedure

12.3.1 General

To determine the clarity grade of a diamond no factors other than visibility shall be taken into account.

NOTE Generally, inclusions observed through the crown side of a diamond have a greater effect upon the clarity grade than those seen through the pavilion side only.

12.3.2 Lighting

Clarity grading shall always be carried out under an artificial light source with a stable light output.

The light intensity at a distance of 20 cm shall be approximately 2 200 lx (see [Figure 8](#)).

NOTE A convenient artificial light source is a commercial tubular fluorescent lamp with corrected colour temperature of 5 500 K to 6 500 K.

12.3.3 Distance

A diamond being graded shall be held under the lamp at a distance of between 5 cm and 10 cm. Reflections and distractions from the environment shall be excluded. To determine the visibility of internal and external characteristics with the naked eye the diamond shall be held at a distance from the lamp of approximately 30 cm, in a position that allows light to enter through the crown, and only minimally through the pavilion (see [Figure 8](#)).

12.3.4 Plotting

The plotting is optional for diamonds under than 0,47 ct.

Plot clarity grading characteristics on a diagram that describes the crown and pavilion facet arrangement of the diamond being graded. Common shapes of various diamond cuts are specified in [8.2](#). The plot diagram on the report shall generally reflect the outline of the diamond combined with the facet distribution, without necessarily reflecting the ratios of length and width.

Place the diagram on the report with the crown and pavilion views orientated so that an identical point on the girdle of the two is positioned respectively at 6 and 12 o'clock.

NOTE The purpose of plotting clarity characteristics on a report is only to describe the concluded grade.

Plot internal and external characteristics placed on the report diagram as accurately as possible in terms of size, position and nature.

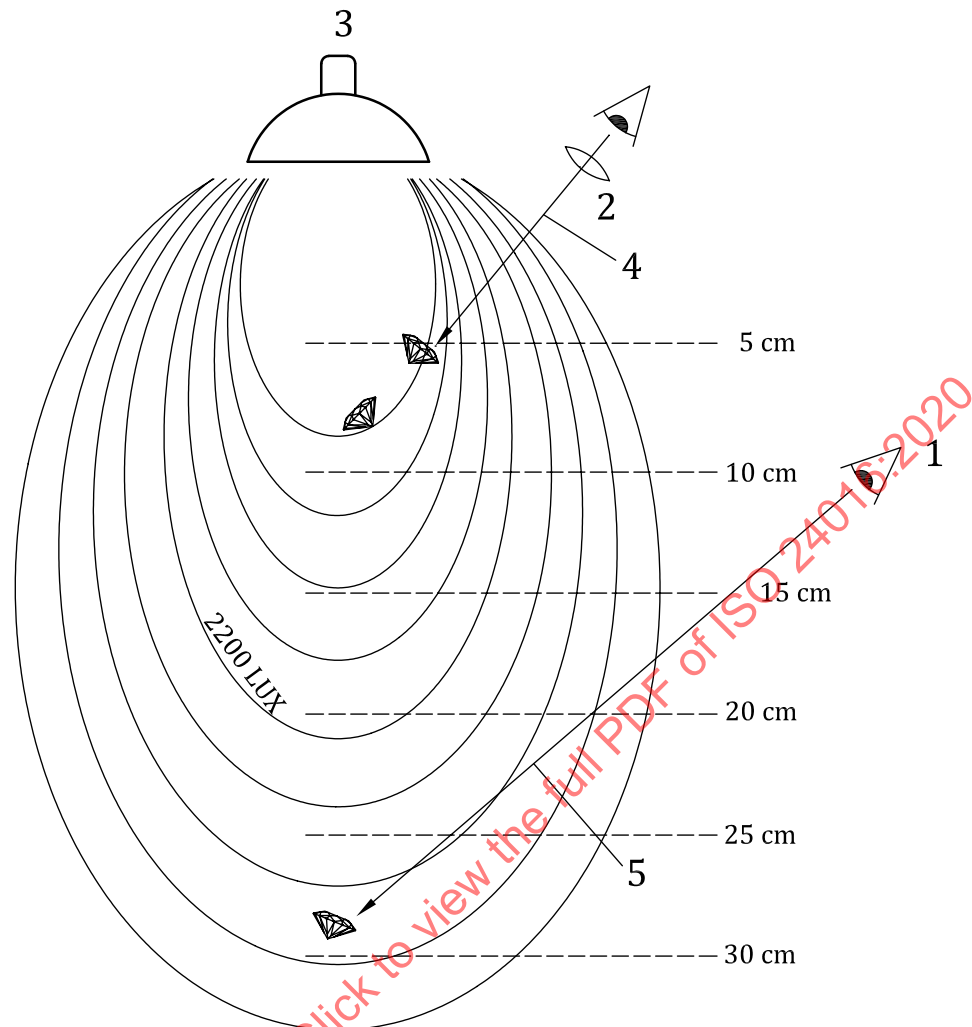
Plot internal characteristics in red (see [Table 6](#)). Plot external characteristics in green (see [Table 7](#)). Plot characteristics found to be in the crown and/or girdle portions of the diamond on the crown diagram, and those in the pavilion portion on the pavilion diagram. Plot any characteristics visible through the crown to the naked eye on the crown diagram. If an inclusion cuts the pavilion then it shall be plotted on the pavilion even if it is visible with the naked eye from the crown.

Plot reflecting or mirrored internal characteristics in their actual position only.

Accurately record in terms of position, size, and nature, all internal and external characteristics on worksheets.

Plot external characteristics, such as affect the symmetry grade on the report using the same plot diagram used to plot the clarity characteristics, or mention them in the comments section.

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**Key**

- 1 naked eye
- 2 diamond loupe
- 3 light source
- 4 distance for grading the clarity with the loupe
- 5 distance for grading the clarity with the naked eye

Figure 8 — Clarity grading criteria**12.3.5 Plotting symbols**

Use the following plotting symbols to record internal and external characteristics on reports and worksheets.

Table 6 — Internal characteristics

Key	C ^c , P ^p Plot in red	P ^c , C ^p Plot in red
pinpoint		
group of pinpoints		
crystal inclusion		
dark inclusion		
cloud		
cleavage		
bearded girdle		
laser drilling		
growth lines, graining, grain planes		
bruise		
cavity		
chip		
nick		
feather		
grain centre		
knot		
needle		
internal laser inscription		
indented natural		
C^c : Located in crown as seen through the crown. P^p : Located in pavilion as seen through the pavilion. P^c : Located in pavilion as seen through the crown. C^p : Located in crown as seen through the pavilion.		

Table 7 — External characteristics

Key	C ^c , P ^p Plot in green	P ^c , C ^p Plot in green
bruting line		
pit or cavity		
scratch		
abraded facet-edge		
abraded culet		
pitted girdle		
polishing lines		
burn mark		
extra facet		
natural/indented natural		
natural on girdle		
chip		
nick		
external laser inscription		
surface grain lines, knot lines		
C ^c : Located on crown as seen through the crown. P ^p : Located on pavilion as seen through the pavilion. P ^c : Located on pavilion as seen through the crown. C ^p : Located on crown as seen through the pavilion.		

12.3.6 Laser drill holes

Grade laser drill holes as internal characteristics.

12.3.7 Surface grain lines

For the effect of surface grain lines on the final grade see [Table 8](#), as well as [A.2](#) and [A.3](#).

Table 8 — Surface graining visibility, effect upon the clarity grade and comments

Visibility with the diamond loupe	Option 1	Option 2
not found or very hard to find	Loupe Clean (LC)	Flawless (FL)
hard to find	Loupe Clean (LC) minor surface grain lines ^a	Internally Flawless (IF) minor surface grain lines ^a
fairly easy to find	Loupe Clean (LC) surface grain lines are present ^a	Internally Flawless (IF) surface grain lines are present ^a
easy to find	To be regarded as internal graining	
^a Comment only to be mentioned with Loupe Clean (LC) and Flawless (FL), and the most important description alone shall be mentioned.		

12.3.8 Internal graining

In the instances of loupe clean grade stones, when minor internal graining which is not reflective, white, or coloured is observed, the remark “minor graining present” shall be made in the comments section, (see [Table 9](#)).

In the instances of loupe clean grade stones when internal graining which is not reflective, white, or coloured is observed, the remark “graining present” shall be made in the comments section (see [Table 9](#)).

Table 9 — Graining visibility, the effect upon the clarity grade, and comments

Visibility with the diamond loupe	Option 1	Option 2
not found or very hard to find, not reflective, white, coloured	Loupe Clean (LC)	Flawless (FL)
hard to find not reflective, white, coloured	Loupe Clean (LC) minor graining present ^a	Flawless (FL) minor graining present ^a
fairly easy to find, hardly or not reflective, white, coloured	Loupe Clean (LC) graining present ^a	Flawless (FL) graining present ^a
easy to find, reflective, white, coloured	VVS1 Structural phenomena influencing clarity grade	VVS1 Structural phenomena influencing clarity grade
^a Comment only to be mentioned with Loupe Clean (LC) and Flawless (FL), and the most important description alone shall be mentioned.		

When internal graining is at least fairly easy to find with the diamond loupe the following remark “Structural phenomena influencing clarity grade” shall be made in the comments section (see [Table 9](#)).

12.3.9 General

Grade all those clarity characteristics specified [Annex A](#) in accordance with [7.2](#) and [7.3](#).

NOTE Clarity examples are given in [Annex B](#).

13 Testing shape

Minor deviations from the common diamond shapes specified in [8.2](#) shall not be remarked upon in the report. Major deviations shall be noted in the report by adding in parenthesis after the shape description, the word “variation” or “modification”.

14 Testing and grading proportions

14.1 Appropriate instruments

Appropriate instruments shall be used to establish the measurements required to describe the proportions of a diamond.

14.2 Description

14.2.1 Table sizes

The table size shall be expressed as a percentage of the girdle diameter.

14.2.2 Crown height

The crown height shall be expressed as a percentage of the girdle diameter.

14.2.3 Pavilion depth

The pavilion depth shall be expressed as a percentage of the girdle diameter.

14.2.4 Girdle thickness

The girdle thickness shall be expressed as a percentage of the girdle diameter.

14.2.5 Culet size

The culet size shall be expressed as a percentage of the girdle diameter, in accordance with [8.3.7](#).

14.3 Proportions comments

In order to maximize the beauty of the finished stone, diamonds are cut to a particular set of proportions. Beauty is a personal impression and will vary from person to person and from time to time. Proportions may therefore vary in accordance with an individual perception of beauty.

Optionally a comment on proportions may be given for round brilliant cut stones if this is a regional requirement or custom. When a comment on proportions is given the ranges of proportion parameters for the round brilliant cut set out in [Table 10](#) shall apply. Depending upon regional requirements, language or custom the descriptive terms “range (a), range (b), and range (c)” can be replaced by alternative terms.

A combination of proportions comments and finish grade is sometimes named “cut grade”.

Table 10 — Examples of proportions ranges for the round brilliant cut

Criterion	Range (c)	Range (b)	Range (a)	Range (b)	Range (c)
Crown angle (°)	up to 26,9	27,0 to 30,6	30,7 to 37,7	37,8 to 40,6	40,7 and up
Pavilion angle (°)	up to 38,4	38,5 to 39,5	39,6 to 42,2	42,3 to 43,1	43,2 and up
Table size (%)	up to 50	51 to 52	53 to 66	67 to 70	71 and up
Crown height (%)	up to 8,5	9 to 10,5	11 to 16	16,5 to 18	18,5 and up
Girdle thickness (%)	up to 0,5	1 to 1,5	2 to 4,5	5 to 7,5	8 and up
Pavilion depth (%) (for pointed culet)	up to 39,5	40 to 41	41,5 to 45	45,5 to 46,5	47 and up
Culet size (%)			pointed to 1,9	2 to 3,9	4 and up
Total depth (%)	up to 52,9	53 to 55,4	55,5 to 63,9	64,0 to 66,9	67,0 and up

NOTE 1 The numbers concerning table width, crown height, girdle thickness and pavilion depth set out in [Table 10](#) are subject to international norms concerning “rounding”.

NOTE 2 The brilliancy and fire of a diamond are largely determined by the angles of inclination and the proportional relationship between various parts of the stone. If these are not optimal specific undesirable effects, such as “fish-eye”, “culet visible in bezels”, etc., can occur. When judging the proportions of a polished diamond the main issue is to evaluate if and to what extent these effects occur.

15 Grading of symmetry and polish (Finish)

15.1 Symmetry

When determining symmetry the characteristics of the shape and the distribution of facets shall be taken into account, as well as extra facets and naturals. The diamond shall be graded in accordance with [Tables 11](#) and [12](#).

The observation techniques used to assign the categories listed in [Tables 11](#) and [12](#) are:

— naked eye;

- diamond loupe;
- measurements.

Examples of the symmetry deviations that shall be considered are set out in [Table 13](#).

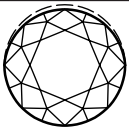
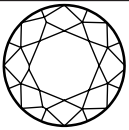
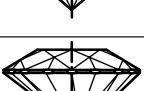
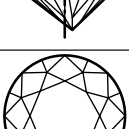
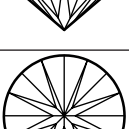
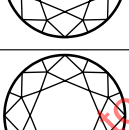
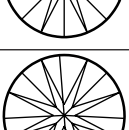
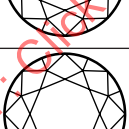
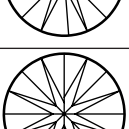
Table 11 — Symmetry deviations

Visibility with the diamond loupe	Option 1	Option 2
No symmetry deviations	Very Good	Excellent
Negligible visible symmetry deviations		Very Good
Hardly visible or minor symmetry deviations	Good	Good
Visible symmetry deviations	Medium/Fair	Medium/Fair
Major symmetry deviations	Poor	Poor

Table 12 — Symmetry: extra facets – naturals

Location – size	Visibility through crown side with the diamond loupe	Option 1	Option 2	Flawless (FL) or Internally Flawless (IF) - Loupe Clean (LC)	
Cs ^a – Exceptionally small	Very hard	Very Good/ negligible external characteristic ^c	Excellent	Flawless (FL) - Loupe Clean (LC)	
Ps ^b – Very small	Not		Very Good/ negligible external characteristic ^c	Very Good/ negligible external characteristic ^c	Flawless (FL) – Loupe Clean (LC)
Ps – Small	Not				
Cs – Very small	Hard			Good	Good
Cs – Small	Easy				
Ps – Large	Hard	Medium/Fair important extra facet/natural	Medium/Fair important extra facet/natural		Internally Flawless (IF) – Loupe Clean (LC)
Ps – Very large	Easy				
Cs – Large	Very easy also with naked eye	Poor important extra facet/natural	Poor important extra facet/natural	Internally Flawless (IF) – Loupe Clean (LC)	
Ps – Exceptionally large	Very easy				
Cs – Very large	Very easy disturbing to the naked eye				
^a Crown side. ^b Pavilion side. ^c Comment only to be mentioned with Loupe Clean (LC) and Flawless (FL).					

Table 13 — Examples of symmetry deviations

Girdle outline not circular		Crown facets not pointing up	
Slanting table		Varying girdle thickness	
Sloping (illustrated) or wavy girdle		Alternative girdle thickness	
Culet out of centre		Crown side not aligned to pavilion side	
Table out of centre		Cone-shaped girdle	
Table and culet out of centre either in the opposite (illustrated) or same direction		Girdle partly faced	
Table and/or star facets not symmetrical		Pavilion facets not symmetrical	
Bezels not symmetrical		Lower girdle facets not symmetrical	
Upper girdle facets not symmetrical		Pavilion main facet not pointing up	

15.2 Polish

When determining the polish grade the characteristics listed in [A.3](#) shall be taken into account. The diamond shall be graded in accordance with [Table 14](#).

A combination of the diamond loupe and naked eye observations shall be used to assign the categories listed in [Table 14](#).

Table 14 — Polish characteristics

Visibility with the diamond loupe	Optional Polish grade			Polish grade not given	
	Option 1	Option 2	Flawless (FL) or Internally Flawless (IF) - Loupe Clean (LC)	Comment to be made	Flawless (FL) or Internally Flawless (IF) - Loupe Clean (LC)
Not found or very hard to find	Very Good	Excellent	Flawless (FL) - Loupe Clean (LC)		Flawless (FL) - Loupe Clean (LC)
Hard to find		Very Good	Internally Flawless (IF) - Loupe Clean (LC)	negligible external characteristic ^a	Internally Flawless (IF) - Loupe Clean (LC)
Fairly hard to find	Good	Good	Internally Flawless (IF) - Loupe Clean (LC)	external characteristic ^a	Internally Flawless (IF) - Loupe Clean (LC)
Easy to find	Fair/Medium, specified description	Fair/Medium, specified description	Internally Flawless (IF) - Loupe Clean (LC)	specified description	Internally Flawless (IF) - Loupe Clean (LC)
Very easy to find easily visible to the naked eye	Poor, specified description	Poor, specified description	Internally Flawless (IF) - Loupe Clean (LC)	specified description	Internally Flawless (IF) - Loupe Clean (LC)

^a Description only to be mentioned with Loupe Clean (LC) and Internally Flawless (IF), specified description: e.g. "important burn mark", "important polishing lines"; the most important description alone shall be mentioned.

16 Expression of results

Results or grades shall be expressed in a diamond grading report in accordance with the manner and wording indicated in the present document.

17 Comments

The sections in a diamond grading report that are reserved for the insertion of additional comments shall be used.

EXAMPLES

- Structural phenomena (growth characteristics) (see [Tables 8](#) and [9](#));
- Proportions comments (see [Table 10](#));
- External characteristics (see [Table 15](#));
- Laser-drilled diamond (see [Table 6](#))
- Presence of laser inscription (see [Table 6](#) and [7](#))

Table 15 — External characteristics (Naturals and extra facets)

Naturals and extra facets visible with the diamond loupe	Comment
Very small and located on the pavilion	No mention
Small and located on the pavilion or girdle. Not visible from the crown side	Optional mention
Visible from the crown side	"Small external characteristics"
Clearly visible from the crown	Specified description
NOTE Also related to symmetry categories (see 15.1).	

18 Diamond grading report

A description of a polished diamond shall be established by grading its criteria in accordance with the rules specified in [Clauses 4](#) to [8](#) inclusive.

The diamond grading report shall contain at least the following information:

- the name and a valid address where a user can contact the institution/laboratory;
- diamond grading report (as a title);
- unique diamond grading report reference;
- the results of the following tests:
 - mass;
 - colour;
 - clarity;
 - shape & cut;
 - proportions comment (only for round brilliant cuts);
 - measurements;
 - symmetry;
 - polish;
 - proportions (such as table size, total depth, crown height and/or crown angle, pavilion depth and/or pavilion angle, girdle thickness, culet size);
 - nature of the girdle;
 - nature of the culet;
 - fluorescence (degree of and if applicable colour of);
- comments (if applicable);
- plot of internal characteristics/inclusions and external characteristics/blemishes (optional for diamonds under 0,47 ct.);
- reference to this document: ISO 24016:2020;
- the date and (highly recommended) the place of issue of the diamond grading report.

Anti-forgery measures shall be taken when issuing a diamond grading report. Such measures include and are not restricted to: lamination, anti-forgery labels, stamps, signatures, etc.

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Annex A

(normative)

Clarity, polish and symmetry characteristics

A.1 Internal characteristics

The following may be considered as internal characteristics/inclusions (see [3.2](#)):

- bearding;
- bruise;
- cavity;
- chip;
- cleavage;
- cloud;
- crystal;
- etch channel;
- feather;
- fracture;
- grain centre;
- graining;
- indented natural;
- knot;
- laser drill hole;
- needle;
- nick;
- pinpoint;
- reduced transparency;
- twinning wisp.

A.2 External characteristics

The following may be considered as external characteristics/blemishes (see [3.3](#)):

- abrasion;
- bruting lines;
- burn mark;

- chip;
- extra facet;
- lizard skin;
- natural/indented natural;
- nick;
- pit;
- polish line;
- pitted girdle;
- scratch;
- surface grain line.

A.3 Polish determination

The following characteristics shall be taken into consideration for polish determination:

- abrasion;
- bruting line;
- burn mark;
- lizard skin;
- nick;
- pit;
- polish line;
- pitted girdle;
- scratch.

These characteristics shall also be taken into account for clarity determination, when distinguishing between “flawless” and “internally flawless”.

A.4 Symmetry determination

The following characteristics shall be taken into consideration for symmetry determination:

- chip;
- extra facet;
- natural/indented natural.

When grading symmetry, examples of major deviations that shall be taken into consideration are as follows:

- imperfect roundness/uneven outline;
- variation of crown height;
- deviation of the central table position;

- deviation of the central culet position;
- wavy girdle.

These characteristics shall also be taken into account for clarity determination, when distinguishing between “flawless” and “internally flawless”.

A.5 Clarity determination and surface grain lines

For clarity determination, surface grain lines shall be taken into consideration, only to distinguish between “flawless” and “internally flawless”.

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Annex B (informative)

Clarity examples

B.1 Clarity examples

The grading of internal or external characteristics specified in 7.2 is explained through the following examples. When comparing the following examples with a diamond being graded, the transparency, colour, and brightness of the diamonds internal or external characteristics shall be taken into account. The following diagrams are based upon observations made with diamonds weighing approximately 1 ct and shall be used in conjunction with the grade descriptions given in 7.2.

The example diagrams that follow are artistic impressions of observations made for individual diamonds, and shall not be confused with report plotting requirements, (see 12.3.4 and 12.3.5).

For the example diagrams given here from VVS to P3/I3, extra facets and naturals are included either as identification characteristics or expressions of polish and/or symmetry deviations. Graders are reminded that the purpose of plotting clarity characteristics on a report is only to describe the concluded grade.

B.1.1 Flawless (FL) or Loupe Clean (LC)

FL diamonds shall be free from internal characteristics/inclusions and external characteristics/blemishes when examined with the diamond loupe. LC diamonds shall be free from internal characteristics/inclusions when examined with the diamond loupe.

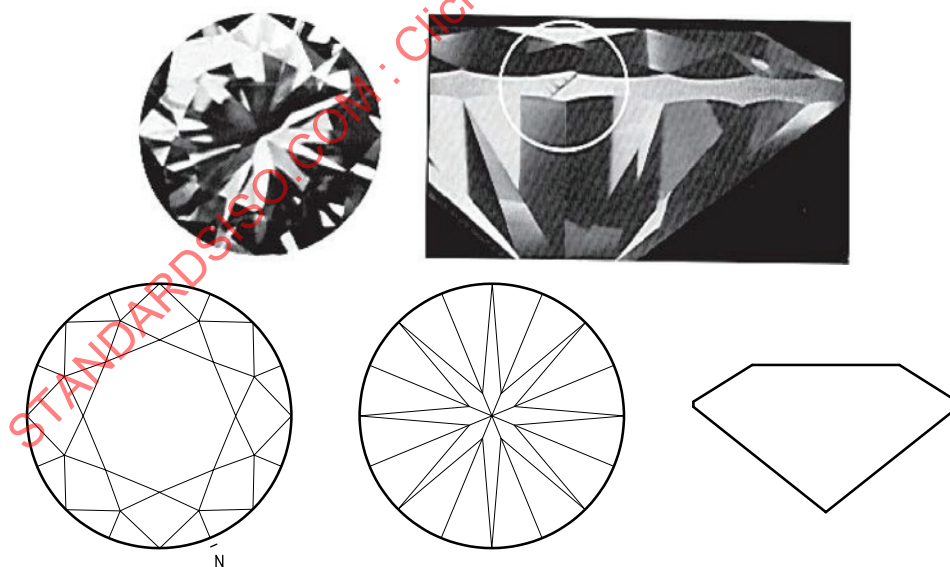


Figure B.1 — Minor natural

B.1.2 Clarity Grade "Flawless (Fl)", or "Loupe Clean (LC)" (example diagrams)

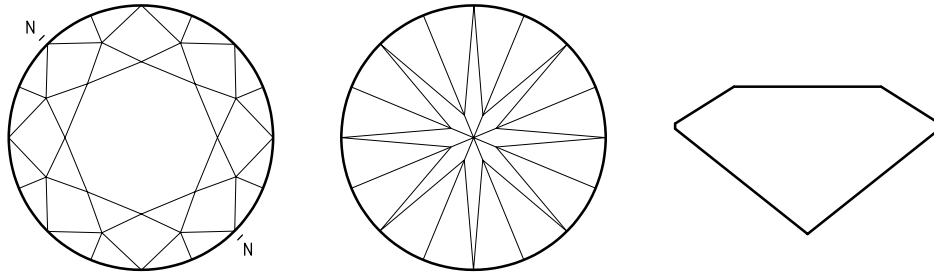


Figure B.2 — Minor naturals

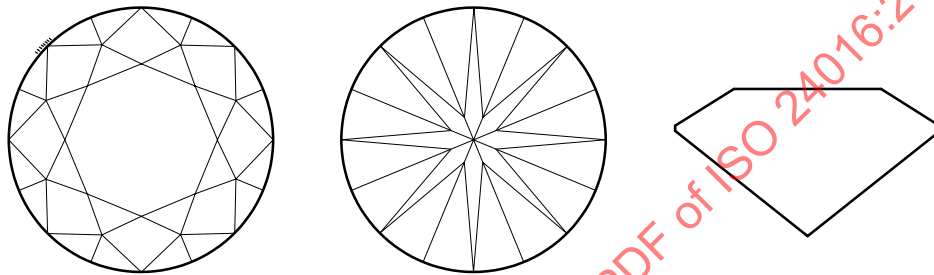


Figure B.3 — Minor pitted girdle

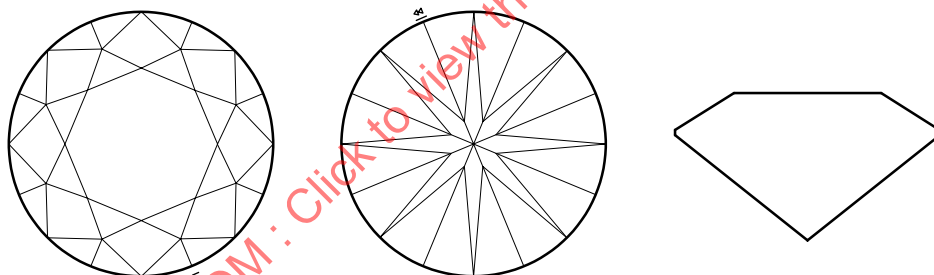


Figure B.4 — Minor naturals, one with trigons

B.1.3 Internally Flawless (IF) or Loupe Clean (LC)

IF diamonds shall be free from internal characteristics/inclusions and only possess external characteristics/blemishes when examined with the diamond loupe. LC diamonds shall be free from internal characteristics/inclusions when examined with the diamond loupe.



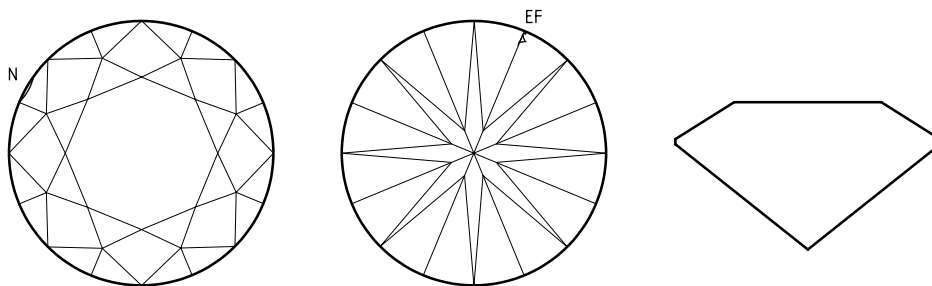


Figure B.5 — Natural and minor extra facet

B.1.4 Clarity Grade "Internally Flawless (IF)", or "Loupe Clean (LC)" (example diagrams)

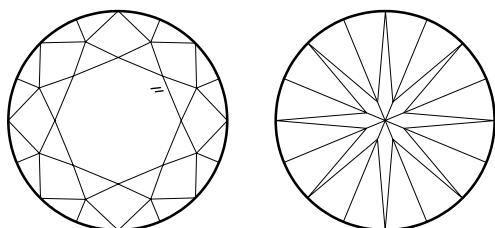


Figure B.6 — Minor scratches

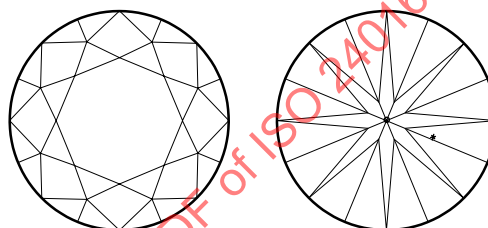


Figure B.7 — Minor pit and slightly rough culet

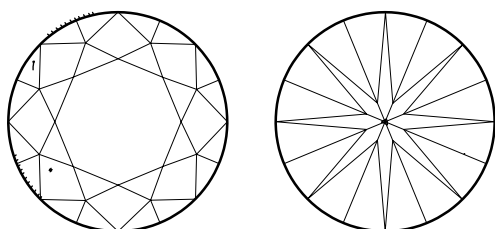


Figure B.8 — Minor scratch, pitted girdle and slightly abraded culet

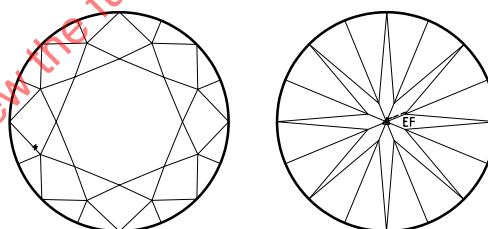


Figure B.9 — Minor pit, a minor extra facet and a slightly rough culet

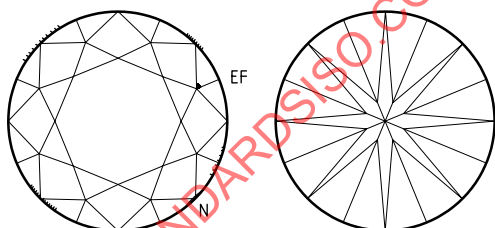


Figure B.10 — Natural, pitted girdle and a minor extra facet

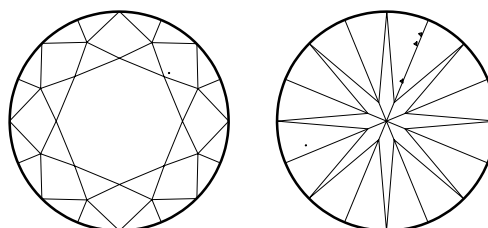


Figure B.11 — Minor pits

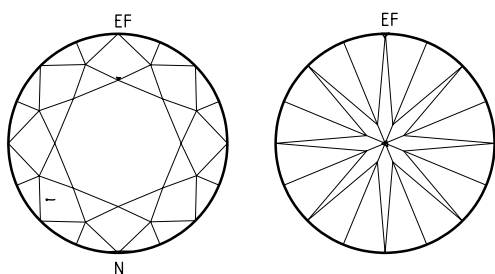


Figure B.12 — Minor scratch, minor extra facets, a small natural and a slightly rough culet

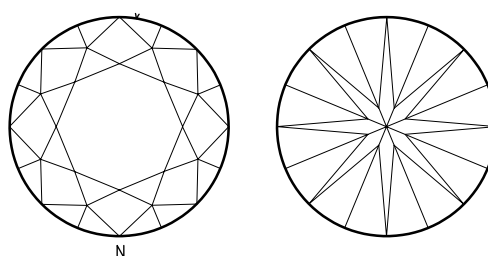


Figure B.13 — Minor girdle nick and a small natural

B.1.5 VVS1 (Very Very Slightly Included/Very Very Small Inclusions)

VVS1 diamonds shall contain minute internal characteristics/inclusions which shall be extremely difficult to observe when examined with the diamond loupe.

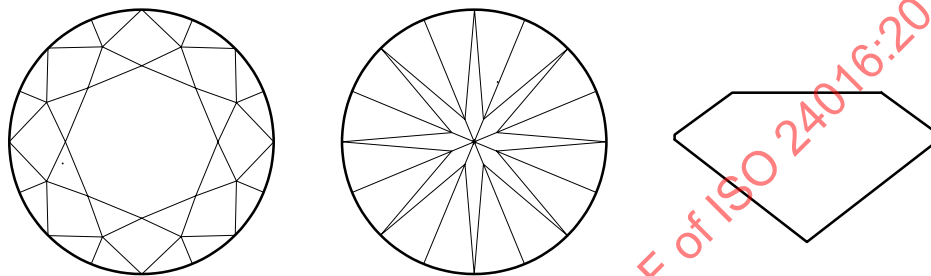
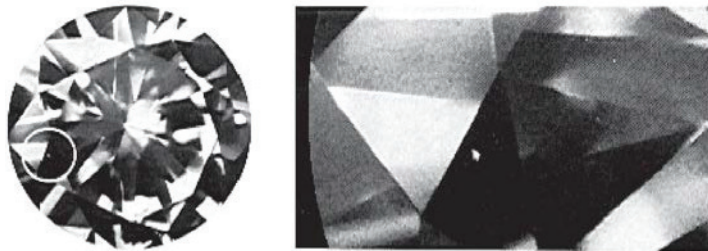


Figure B.14 — Pinpoint outside the table and a slightly rough culet

B.1.6 Clarity Grade "VVS1" (example diagrams)

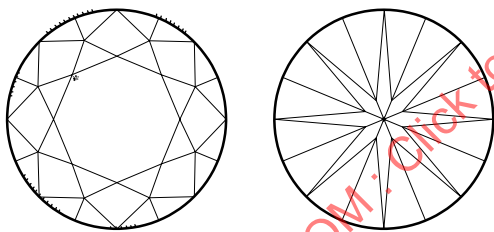


Figure B.15 — Small groups of minute pinpoints, pitted girdle and a slightly rough culet

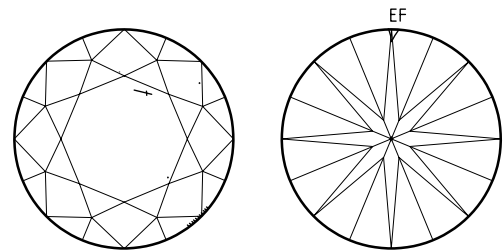


Figure B.16 — Minute pinpoint, a pinpoint outside the table, a small scratch, pitted girdle, and a small extra facet

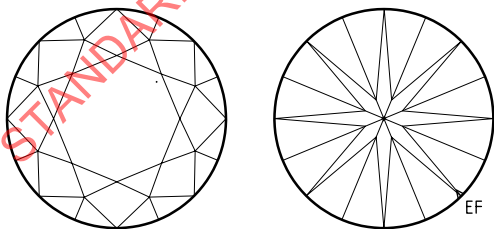


Figure B.17 — Minute pinpoint and a small extra facet

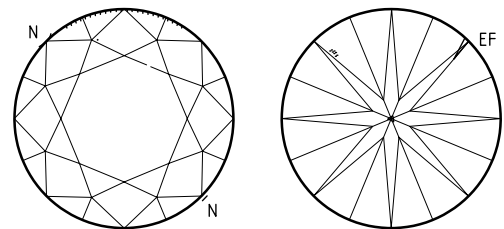


Figure B.18 — Minor natural, a natural, pitted girdle, a tiny feather not visible from above, a small extra facet and a slightly rough culet

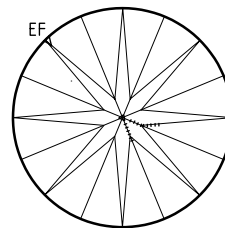
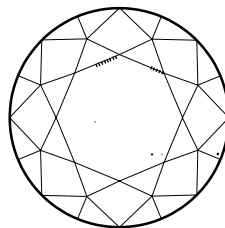
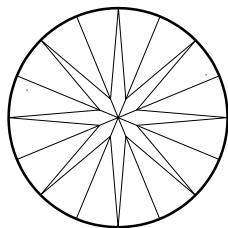
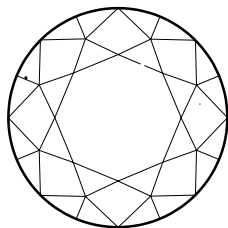


Figure B.19 — Minute colourless crystal under a facet edge

Figure B.20 — Pinpoint outside table, roughness on the facet edges, a small extra facet and a slightly rough culet

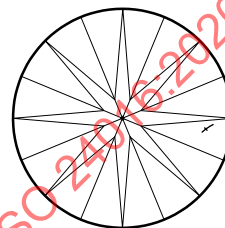
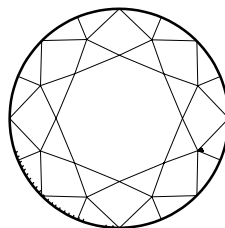
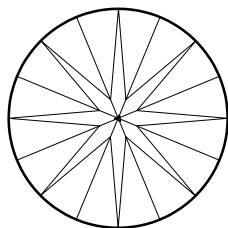
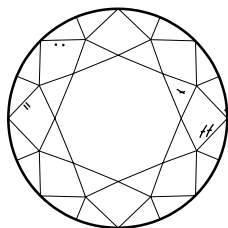


Figure B.21 — Minute pinpoints, a minute nick, small scratches and a slightly abraded culet

Figure B.22 — Minor girdle bearding, pitted girdle, a small scratch and a minor extra facet

B.1.7 VVS2 (Very Very Slightly Included/Very Very Small Inclusions)

VVS2 diamonds shall contain minute internal characteristics/inclusions which shall be very difficult to observe when examined with the diamond loupe.

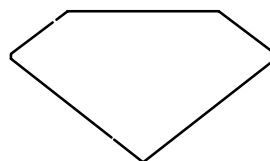
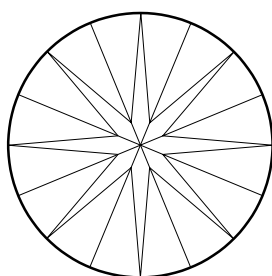


Figure B.23 — Minute crystal

B.1.8 Clarity Grade "VVS2" (example diagrams)

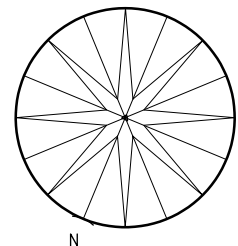
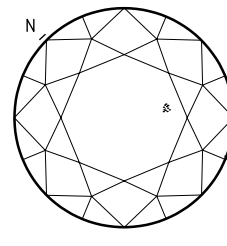
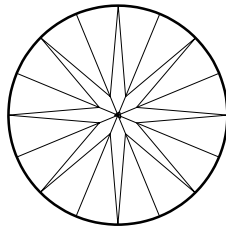
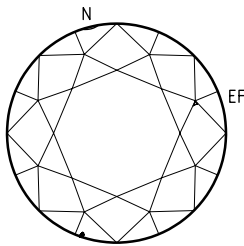


Figure B.24 — Clearly visible bearding, a natural, a minor extra facet and a slightly abraded culet

Figure B.25 — Small group of minor pinpoints, a nick, a minor natural, a natural, and a slightly rough culet

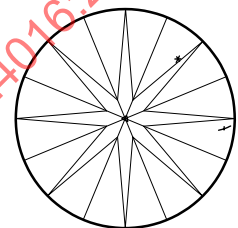
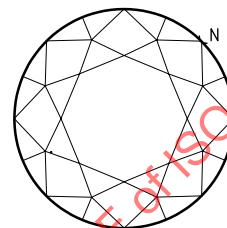
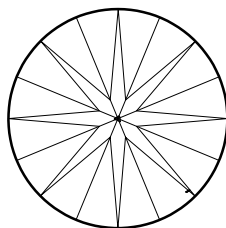
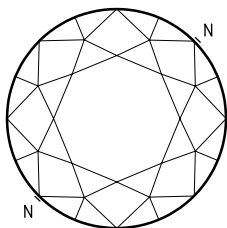


Figure B.26 — Minor pinpoint, a minor cleavage visible only from below, minor naturals, and a slightly rough culet

Figure B.27 — Minor crystal, natural, a minor pit, a small scratch and a slightly rough culet

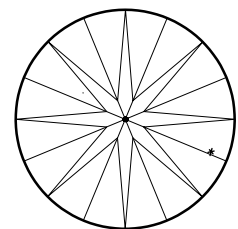
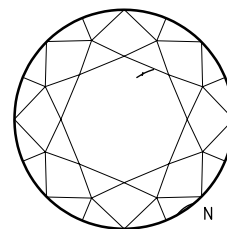
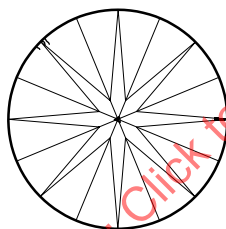
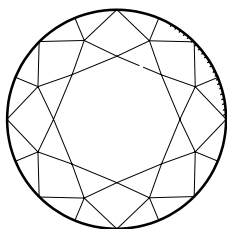


Figure B.28 — Bearding visible only from below, and pitted girdle

Figure B.29 — Distinctly indented natural with minor nicks, a scratch, a pit, and a rough culet

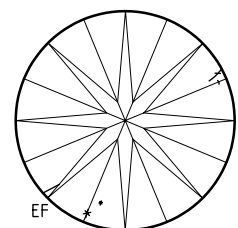
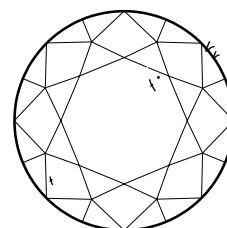
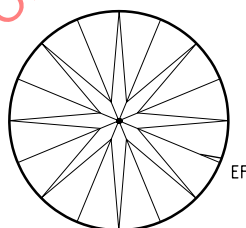
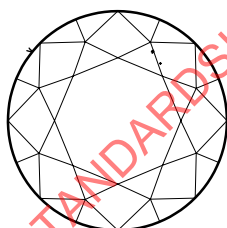


Figure B.30 — Pinpoints, a small nick, an extra facet, and a rough culet

Figure B.31 — Minor crystal, small nicks, scratches, pits, an extra facet and a minor cleavage under a facet edge visible only from below

B.1.9 VS1 (Very Slightly Included/ Very Small Inclusions)

VS1 diamonds shall contain minor internal characteristics/inclusions which shall be difficult to observe when examined with the diamond loupe.