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Grading polished diamonds —

Part 1:
Terminology and classification

Diamants taillés —

Partie 1: Terminologie et classification

Please see the administrative notes on page iii

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In accordance with the provisions of Council Resolution 15/1993, this document is **circulated in the English language only**.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 11211 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11211-1 was prepared by Technical Committee ISO/TC 174, *Jewellery*.

ISO 11211 consists of the following parts, under the general title *Grading polished diamonds*:

— *Part 1: Terminology and classification*

— *Part 2: Test methods*

Part 3 of ISO 11211, dealing with the colour of naturally coloured diamonds, is in the course of preparation.

Annex A forms a normative part of this part of ISO 11211.

Grading polished diamonds —

Part 1:
Terminology and classification

1 Scope

This International Standard specifies the terminology and classification that shall be used for the grading and description of polished diamonds.

This International Standard shall only be used for natural, unmounted, polished diamonds. It shall not be used for synthetic diamonds (see 3.2), treated diamonds (see 3.3) (other than is allowed for in 8.4), or assembled stones (see 3.5).

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 11211. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 11211 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 11211-2:2002, *Grading polished diamonds — Part 2: Test methods*

3 Terms and definitions

For the purposes of this part of ISO 11211, the following terms and definitions apply.

3.1
diamond
natural mineral consisting essentially of carbon crystallized in the isometric (cubic) crystal system, with a Mohs' scale hardness of 10, a specific gravity of approximately 3,52 and a refractive index, n_D, of 2,417

3.2
synthetic diamond
man-made reproduction of diamond (3.1) that has essentially the same chemical composition, crystal structure, optical and physical properties as its natural counterpart

3.3
treated diamond
diamond (3.1) treated, other than by cutting, polishing and cleaning, to change its appearance by coating, filling, heating, irradiation or any other physical or chemical treatment

3.4
polished diamond
diamond (3.1) with a defined cut (3.12)

3.5
assembled stone
stone constructed of two or more parts, of which at least one is diamond (3.1), synthetic diamond (3.2) or treated diamond (3.3)

3.6
colour
relative absence (colourlessness) or presence of hue

3.7
fluorescence
degree of luminescence of a diamond (3.1) when viewed under a long-wave ultraviolet (UV) light source with a wavelength of 365 nm

3.8
clarity
relative degree to which a diamond (3.1) is free from internal characteristics/inclusions (3.9) and external characteristics/blemishes (3.10)

3.9 Internal characteristics/inclusions

3.9.1
bearding
tiny feathers extending in from the girdle

3.9.2
bruise
surface percussion mark, often accompanied by tiny, root-like feathers

3.9.3
cavity
large or deep opening

3.9.4
chip
relatively shallow indentation, usually occurring along the girdle or culet

NOTE An indentation could also be external.

3.9.5
cleavage
large feather occurring in a plane, parallel to a crystal face

3.9.6
cloud
hazy or milky area made up of a number of very small inclusions

3.9.7
crystal
mineral crystal included in a diamond

3.9.8
feather
fracture
separation or break due to either cleavage or fracture, often white and feathery in appearance

3.9.9
grain centre
small area of concentrated crystal structure distortion

3.9.10
graining
internal indications of irregular crystal growth

3.9.10.1
coloured graining
graining which appears as coloured streaks

3.9.10.2
reflective graining
graining which appears as a reflective plane

3.9.10.3
whitish graining
graining which may appear as whitish streaks or may give the stone a hazy (cloudy) appearance which decreases transparency

3.9.11
indented natural
natural that penetrates the stone

NOTE It might be considered as an external characteristic, depending upon depth.

3.9.12
knot
included diamond crystal which reaches the surface

3.9.13
laser drill hole
tiny tube made by a laser

NOTE The surface opening may resemble a pit, while the tube usually looks needle-like.

3.9.14
needle
long, thin included crystal which looks like a tiny rod

3.9.15
nick
notch near the girdle or a facet edge

NOTE It may be considered as an internal characteristic, depending upon depth.

3.9.16
pinpoint
very small inclusion, less than ten times the size normally seen as a tiny dot, either singly or in groups or strings

3.9.17
reduced transparency
cloudy, milky, or hazy appearance of the whole or part of a diamond due to internal features that may or may not be visible at 10 × magnification

3.9.18
twinning wisp
inclusions located in a plane, which occur as a result of the change in orientation of the diamond crystal structure

3.10 External characteristics/blemishes

3.10.1
abrasion
tiny nicks along the facet's junction or culet, producing white fuzzy lines instead of sharp facet edges

3.10.2
bruting lines
tiny lines on a girdle not displaying a feather-like appearance

3.10.3
burn mark
surface clouding caused by excessive heat or uneven polished surface

3.10.4
hip
relatively shallow indentation, usually occurring along the girdle or culet

NOTE This indentation could also be internal.

3.10.5
extra facet
facet placed without regard for symmetry and not required by the cutting style

3.10.6
natural
part of the original crystal surface remaining on the polished stone

3.10.7
nick
notch near the girdle or a facet edge

NOTE It may be considered as an internal characteristic, depending upon depth.

3.10.8
pit
tiny opening, often resembling a white dot

3.10.9
polish line
tiny parallel lines left by polishing, fine parallel ridges confined to single facet caused by crystal structure irregularities, or tiny, parallel, polished grooves produced by irregularities in the scaife surface

3.10.10
pitted girdle
very rough bruted girdle surface

3.10.11
scratch
linear indentation normally seen as a fine white line, curved or straight

3.10.12
surface grain line
surface indication of structural irregularity which is not seen internally and which may resemble faint facet-junction lines or cause a grooved or wavy surface

NOTE Often the lines cross facet junctions.

3.11
naked eye
unaided eye, or eye aided through glasses which adjust an anomalous eyesight to normal

3.12
cut
shape, proportions and finish of a diamond (3.1)

3.13
shape
form
outline of a diamond when viewed perpendicular to the table facet

3.14
weight
mass of a diamond (3.1)

3.15
diamond loupe
achromatic and aplanatic, triplet type, 10 × magnifying lens, the loupe of which is of a neutral tone

4 Test report

A description of a polished diamond (see 3.4) shall be established by grading its criteria in accordance with the rules specified in clauses 5 to 9 inclusive. The test report shall contain at least the following information:

— a reference to this part of ISO 11211;

— the results of the tests specified in this part of ISO 11211;

— clarity;

— colour;

— comments (if applicable);

— long-wave ultraviolet fluorescence;

— measurements;

— plot of internal characteristics/inclusions and external characteristics/blemishes;

— proportions (table size, crown height and/or crown angle, pavilion depth and/or pavilion angle, girdle thickness, culet size);

— reference code;

— shape and cut;

— symmetry;

— weight;

— the date of the test.