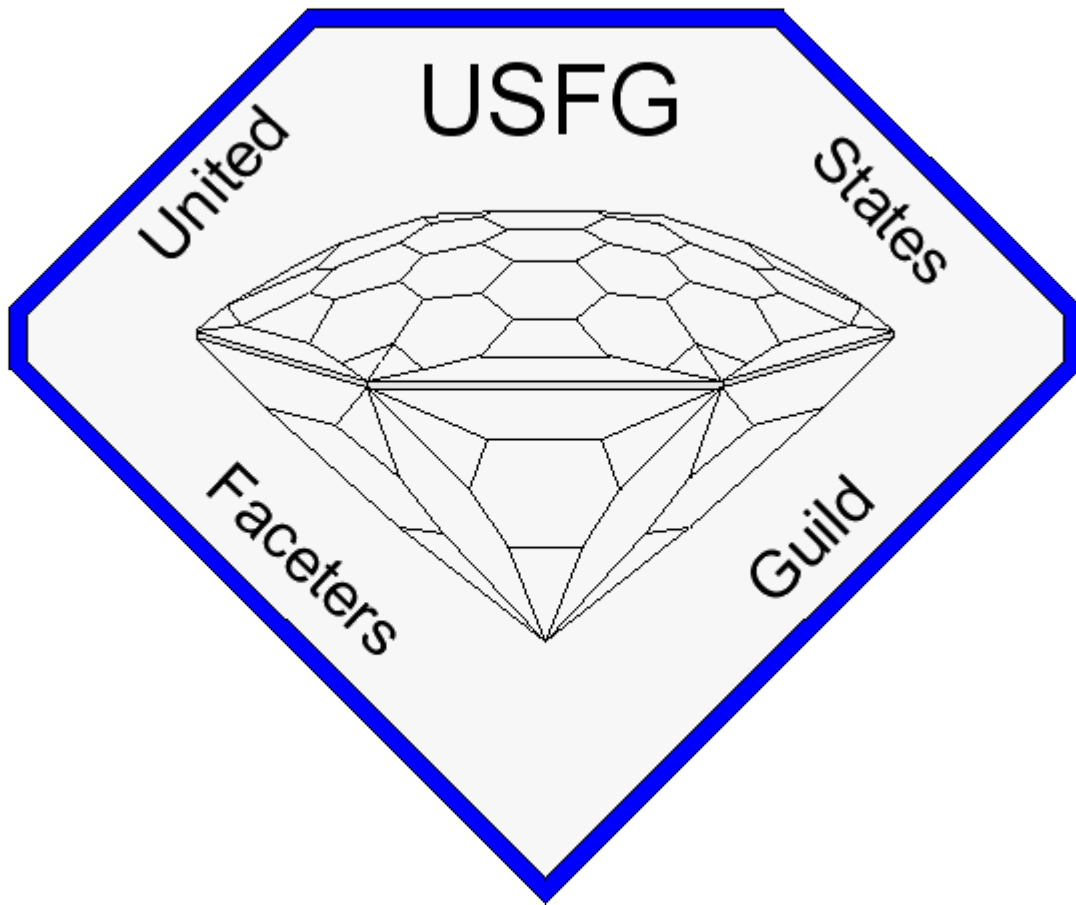


**United States Faceters Guild  
Competition Rules and Judging Criteria**

**USFG - Single Stone Competition**



**USFG SSC Rules  
Updated 2019**

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## **Introduction to United States Faceters Guild Single Stone Competition (SSC) Rules**

This document will outline the Rules used to govern the United States Faceters Guild (USFG) Single Stone Competition (SSC). Any USFG Single Stone Competition will be established and governed by the USFG Board (Board, BOD, or board) and its USFG Competition Committee. Anytime the term Competition Committee or committee is used, it means the **Competition Committee established by the USFG Board**.

**USFG Competition Committee Staff** – Used to mean Competition Committee in this document and any and all Appendix to the Rules or attachments, as approved by the Board. A committee formed to organize, supervise, and facilitate the faceting competitions of the USFG each year. The Committee shall be composed of a minimum of six (6) committee Staff members, who may or may not be Board members, or even a member of USFG, subject to Board approval. If during any year the Board cannot find a minimum of six (6) members to serve as Staff on the Competition Committee, then no USFG competition will be offered the next year.

- At least one of the Competition Committee members shall be a USFG Certified Master Cutter. If a master cutter cannot be found each year, the Board may waive this requirement.
- The Competition Committee members are not required to be current or past members of the Board.
- Any committee members not on the USFG Board shall hold the status of Advisory Committee Member serving the USFG Board.
- The USFG Competition Committee shall be responsible for the organization and implementation of all USFG single stone cutting competitions.
- The USFG Board shall have oversight responsibility over the action and activities of the USFG Competition Committee

**The Competition Committee Staff will be established by the USFG Board “ideally” consisting of a minimum of 6 with the following skills and/or responsibility:**

- **USFG President** - acting as Chairman of the Committee who has the option to assign that responsibility to another member of the committee, with Board approval. The Board will authorized the Chairman to hold a competition each year and approve the designs and publications offered in e-mail, newsletters, website, Facebook, and any other authorized forms of communication.
- **Stone Handler** – a Staff person responsible for handling the delivery of stones to and from the cutters and judges; oversee the creation and publication of competition paperwork that goes out to members/cutters, judges and back to the cutters; collect and report scoring data to Board, and once approved, publish it to the membership and the public; oversee the Staff involved in the distribution of awards and certificates; and any other duties assigned by the Board.

- **Award/Certificate Staff** – person or persons who will process the award metals and certificates to the cutters, as confirmed by the Board.
- **Judging Staff** – a person or persons who are actively judging SSC Competition, who has achieved an SSC certified skill level of Master or above, or a World Class cutter approved by the Board. This person(s) should be a member of USFG, but not required if approved by the Board each year. This person will provide input to the committee from the perspective of a master cutter and the experience of a SSC judge.
- **Facet Diagram Design Staff** – a person or persons experienced in cutting competition, and who design diagrams for flat and/or concave facets. This Staff person(s) should be a USFG member, but if not, must be approved by Board each year. This person(s) will work with the committee to evaluate stone designs that work best at skill levels for Novice, PreMaster, Master, and Grandmaster classifications, in either flat or concave facet competition. The designs will first be approved by the committee and then by the Board.
- **Novice Competition Staff** – a Staff person who achieved the Novice cutter certification level during the prior year’s SSC competition. This person to provide input to the committee from the perspective of a beginning level cutter. This position will be replaced each year.
- **PreMaster Competition Staff** – a Staff person who achieved the PreMaster cutter certification level during the prior year’s SSC competition. This person to provide input to the committee from the perspective of a more experienced advanced cutter. This position will be replaced each year.
- **Board Member/Instructor Staff** – a member of the Board who has experience teaching faceting at both the beginner and advanced skill level. This Staff person to provide input to the committee from an instructor’s perspective and one who can share the goals and views of the Board.

# Rules and Information

## **1.0 Introductory Guidelines**

1.1 Committee Responsibilities - To run an orderly and professional competition, both the competitors and the judges must abide by the same rules. Both should study these rules thoroughly and understand their respective responsibilities to comply with them. These rules are constructed to assist the Novice up through Grand Master cutter to understand, promote skills, and give guidance to technical competition cutting, and judging thereof.

1.2 Gender - In this document all cutters (faceters), judges, and various support persons will be described in a non-gender specific manner.

1.3 Scoring - All scoring described is based upon a perfect score of 100 points. Some competitions will express the score as a percentage. For the sake of consistency in this document, scoring will be expressed as percentage (less the % sign) scored out of a possible of 100 points.

## **2.0 Purpose of Competition**

2.1 We acknowledge that some cutters compete for the honor of winning, that others prefer to compete against themselves to see how much they can improve from year to year, and that others compete to earn a title that will allow better promotion of their goods.

2.2 The spirit of the USFG Single Stone Competitions is to promote fair and balanced objective evaluation of single stones for each class of competition, to give USFG members the opportunity to determine their own level of skill. Competitions should have a friendly and constructive environment, yet remain a competitive and professional event.

2.3 An individual who competes should receive direct, actionable feedback to improve his or her skills. Cutters who participate should be able to see themselves improve as they compete in higher classes.

### **3.0 USFG Single Stone Competition Skill Level Classes**

3.1 The USFG Single Stone Competition program has four difficulty levels. From least to most challenging, these are “Novice” (beginner), “Pre-Master” (intermediate), “Master” (expert), and Grand Master. The Single Stone Competition will be conducted as a typical single-stone competition in which winners of the classes will be recognized and presented certificates and/or awards.

### **3.2 IMPORTANT NOTICE**

**Cutters who have won a previous USFG-certified Master level competition, may only compete in the Grand Master level competition, and may not compete in any lower level.**

### **3.3 NOVICE**

3.3.1 A typical Novice entrant is a faceter with very little experience, who has likely never competed before and/or has never had their work evaluated by another cutter. Any cutter, other than one who is disqualified under section 3.2 or 3.3.5, may enter this category.

3.3.2 To become a certified Novice, the cutter must score 85 or above in Novice competition.

3.3.3 If you score below 90, you are encouraged to repeat the Novice class, to further refine your skills.

3.3.4 If you score 90 or above, you are encouraged to move up to Pre-Master class.

3.3.5 If you score 90 or above, AND you place first, you MUST move up to Pre-Master class.

### **3.4 PRE-MASTER**

3.4.1 A typical Pre-Master entrant is a faceter with moderate experience who may have good faceting skills, and likely has entered our Novice class and scored above 90. Any cutter, other than one who is disqualified under section 3.2 or 3.4.5, may enter this category.

3.4.2 To become a certified Pre-Master the cutter must score 90 or above in Pre-Master competition.

3.4.3 If you score below 90, you are encouraged to repeat the Pre-Master class, to further refine your skills.

3.4.4 If you score 93 or above, you are encouraged to move up to Master class.

3.4.5 If you score 93 or above, AND you place first, you MUST move up to Master class.

### **3.5 MASTER**

3.5.1 A typical Master entrant is a faceter with a high degree of expertise and skill, who has likely entered our Pre-Master class and scored above 93. Any cutter, other than one who is disqualified under section 3.2 or 3.5.5, may enter this category.

3.5.2 To become a certified Master the cutter must score 93 or above in Master competition.

3.5.3 If you score below 95, you are encouraged to repeat the Master class, to further refine your skills.

3.5.4 If you score 95 or above, you are encouraged to move up to Grand Master class.

3.5.5 If you score 95 or above, AND place first, you MUST move up to Grand Master class.

### **3.6 GRAND MASTER**

3.6.1 A typical Grand Master entrant is a faceter with a profound degree of skill and expertise in a wide variety of materials, with significant accolades in competition cutting.

3.6.2 To qualify for entering the Grand Master competition, a cutter must have scored 95 or above in the Master class.

3.6.3 To qualify for awards in Grand Master competition cutters must score 98 or above.

3.6.4 A certified Grand Master competition cutter may continue to compete in this class as many times as desired and eligible for awards each time.

### **3.7 Judging Severity**

3.7.1 Within any given category of competition, all competitors will be judged equally.

## **4.0 Competition Design and Material Selection**

### **4.1 Process of selection**

4.1.1 The difficulty level of designs within each class should remain consistent from year to year, to allow accurate comparisons of skill. To ensure consistency in difficulty, the following guidelines are used to identify a set of designs that meet those guidelines.

4.1.2 Every year, each member of the USFG Competition Committee will independently select 1 design per class that meets the criteria shown below, and will share the reasoning behind their choices with the rest of the committee. The designs will be placed in a common pool and voted on by the committee, to select the final designs for the year.

4.1.3 When the designs are published in the USFG Newsletter, the publication should include a short commentary including the names of other designs that were considered for each category, as well as specifying what features of the final design choice made it appropriate for selection.

4.1.3 All competition designs must be entirely cuttable in a meetpoint manner.

4.1.4 Designs may require that the cutter use a specific material or cut to a certain size range. These requirements will be listed at the bottom of the diagram.

### **4.2 Novice design selection guidelines**

4.2.1 A Novice-level design should be simple to cut, with no technically demanding attributes. These designs should be easily cuttable by a novice faceter who has cut fewer than 10 stones.

4.2.2 Novice-level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- No greater than 2 pavilion tiers
- No greater than 1 girdle tier
- No greater than 3 crown tiers, excluding a table
- The girdle outline must be defined exclusively by the P1 tier
- The design must feature 3-fold or higher orders of mirror symmetry
- No facets may meet more than one unique set of meetpoints
- No facets may be within 1 degree of an adjacent facet
- No facets may be within 2 indices of an adjacent facet
- Novice-level designs may not feature a checkerboard crown
- Novice-level designs may not feature a barion-style or keel-style pavilion
- The total number of facets should not exceed 51
- Designs should use a standard 96-index

4.2.3 No girdle outline subtype, as classified by Long & Steele, should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year's design may not feature a hexagonal outline.

4.2.4 The size criteria for this category should be between 10mm and 12mm, with an error margin of +/- 0.5mm.

### **4.3 Pre-Master design selection guidelines**

4.3.1 A Pre-Master level design should be reasonable to cut, neither very easy nor extremely difficult, with at least one aspect that is more technically demanding than designs that would be found in the Novice category. These designs should be reasonably cuttable with some effort by an intermediate-skilled faceter who has cut greater than 10 stones, but fewer than 50 stones.

4.3.2 Pre-Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- No fewer than 2 pavilion tiers
- No fewer than 1 girdle tier
- No fewer than 3 crown tiers, excluding a table
- The girdle should be defined by more than a single tier of pavilion facets
- Design concepts not present in the Novice-level competition, such as keeled pavilions, barions, and CAM preforms, should be considered
- Designs with mixed symmetry or radial symmetry should be considered
- Designs should be considered that include tiers in which a single facet must simultaneously meet two unique meetpoints
- The total number of facets should not exceed 101
- Designs should use a standard 96-index

4.3.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year's design may not feature a hexagonal outline.

4.3.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Novice category the year prior.

4.3.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm<sup>2</sup>. The error margin should be +/- 0.3mm.

### **4.4 Master design selection guidelines**

4.4.1 A Master level design should require some effort to cut accurately, but should not be profoundly difficult or time-consuming to cut accurately. This should have several aspects that are technically challenging for a more advanced cutter who has cut greater than 50 stones.

4.4.2 Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- Low orders of symmetry should be considered
- Designs with complex girdles should be considered. This includes designs with girdle facets that can not be cut until a girdle tier X, and a pavilion tier Y that requires girdle tier X, have already been cut. This also includes designs with a "wavy" girdle outline.
- Designs should be considered that include multiple tiers in which facets must simultaneously meet 2 or more unique meetpoints.



- Designs should be considered in which “error accumulation”, or the compounding of meetpoint error as further tiers are cut, is a significant concern
- While a large number of total facets may increase design difficulty, selection should not be heavily based on this aspect of difficulty, as many designs with a low-moderate number of facets can be significantly more difficult to cut accurately than those with a large number of facets, but small number of tiers.
- Designs may use an index that is commonly available, including 96, 80, 120, and 72-indices.

4.4.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year’s design may not feature a hexagonal outline.

4.4.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Pre-Master category the year prior.

4.4.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm<sup>2</sup>. The error margin should be +/- 0.1mm.

#### **4.5 Grand Master design selection guidelines**

4.5.1 A Grand Master level design should require significant effort to cut accurately, and should be notably difficult or time-consuming to cut accurately. This should have a large number of technically challenging aspects, and should be appropriate for a cutter who has successfully competed at a high level in prior years.

4.5.2 Master level designs are not *required* to meet these criteria, but should attempt to meet as many of the following criteria as possible:

- Low orders of symmetry should be strongly considered
- Large numbers of facets (>100) or tiers (>20) should be considered
- Designs with difficult complex girdle outlines, such as those described in the Master category, should be strongly considered.
- Designs that are readily recognized by Master-level competitors as “very difficult” should be strongly considered
- No design should require more than one transfer process
- Designs with a high risk of “error accumulation” should be considered
- Designs may use an index that is commonly available, including 96, 80, 120, and 72-indices.

4.5.3 No girdle outline subtype should be repeated from one year to the next. For example, if a design is chosen with a hexagonal outline, the next year’s design may not feature a hexagonal outline.

4.5.4 No girdle outline subtype should be considered for the current year, if that girdle outline subtype was selected for the Master category the year prior.

4.5.5 The size criteria for this category should be between 10mm and 16mm for the largest dimension chosen, such that the estimated surface area of the design should be between 80-150mm<sup>2</sup>. The error margin should be +/- 0.1mm.

#### **4.6 Material choice**

4.6.1 The Novice-level competition should allow entrants to select any material of their choice, natural or synthetic.

4.6.2 The Pre-Master level competitions should select materials that are readily available in large sizes and low costs, without cleavage planes. This includes:

- Natural or synthetic quartz
- Inexpensive beryls, such as goshenite or irradiated golden beryl
- Synthetic spinel or corundum
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- YAG and CZ
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may be selected and should be considered as a single category.

4.6.3 The Master level competitions should select materials that are readily available in large sizes, reasonably low costs, and wide availability. Materials with cleavage planes or well-known difficulties in cutting should be encouraged, but not strongly so. This includes:

- Natural or synthetic quartz
- Feldspars, including sunstone and bytownite, should be considered a single category if selected.
- Topaz, natural or irradiated
- Synthetic spinel or corundum
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- YAG, CZ, or moissanite
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may **not** be considered for this category.

4.6.4 The Grand Master-level competition should select materials that are readily available in large sizes, with reasonably low cost and reasonable availability. Materials with cleavage planes, known tendencies to be brittle, and known difficulties with polishing, should be encouraged. This includes:

- Natural or synthetic quartz
- Feldspars, including sunstone and bytownite, should be considered a single category if selected.
- Inexpensive garnets, such as darker red pyrope-almandine-spessartites
- Hard synthetics, such as spinel, corundum, YAG, CZ, or moissanite
- Readily available high-RI synthetics, such as strontium titanate
- Well-known materials with cleavage, parting planes, and/or brittleness, that come in readily-available large sizes, such as topaz, spodumene, or scapolite.
- Non-ordered materials, such as glass, “Laser Gem”, “Nano Gem”, and similar products, may **not** be considered for this category.

4.6.5 No material should be repeated from one year to the next, within the same category. 4.6.6 No material should be considered for the current year if that material was selected for the previous year in the immediate lower-level competition. For example, the material chosen for the Pre-Master level the year prior should not be repeated in the Master level in the current year.

## 4.7 Testing

4.7.1 Each design selected for competition should be test-cut, in the specified material and to the specified size, by at least one USFG board member, prior to final selection of the design. If the design is unreasonably difficult or easy for the category level, this should be brought to the attention of the board.

## 5.0 Entry Conditions and Restrictions

5.1 The Competition Committee USFG Board shall set the time, date and place for submitting forms and actual stones. The Stone Handler (member - Competition Committee) shall be responsible for the collection and return of stones, and oversee the distribution of the awards. Competitors must comply with published rules for their particular class.

5.2 The USFG Single Stone Competition is open only to current USFG members, whose memberships are valid through the submission deadline. Non-members who wish to compete may do so by including a USFG membership application with their competition entry forms and stone.

5.3 Cutters may only submit a single stone per year to the Single Stone Competition.

5.4 All competitors who certify in their respective class competition by meeting the minimum score required will receive a certificate of achievement from the USFG Competition Committee. This will be suitable for framing, and will include the cutter's name, the class the cutter became certified in, and the score earned. The remaining wording on each certificate will reflect the competitor's accomplishment.

5.5 Once a faceter has been certified in any USFG competition, that certification will remain permanent under all circumstances. If a cutter competes in a subsequent year in the same class, but fails to certify, that cutter will retain their previous certification.

**5.6 The entry and payment of registration fees shall constitute acceptance of the rules and agreement to comply with them.**

## 6.0 Processing of Stones / Reporting of Scores

### 6.1 Initial processing

6.1.1 Stones and entry fees will be mailed to a designated Stone Handler of the Competition Committee. The Stone Handler will anonymize the stones by assigning a numerical code, repack the stones, and send the stones to a selected judge.

6.1.2 Whenever possible, a single judge shall be used for all stones within a given class.

6.1.3 The judged stone and comprehensive "mark-up sheet" will then be returned to Stone Handler.

6.1.4 The Stone Handler will decode and repackage the stone with the **Pattern Error Sheet, Score Sheet, and Judges' Comment Sheet**, and return the package to the individual competitor. The Stone Handler will then provide the BOD with a list of all participants, their score, and their certification status. This will occur before the results are released to the general USFG membership or to the general public.

6.1.5 The BOD will release scores according to the instructions listed above

## 6.2 Publication of Scores

6.2.0 At the discretion of the USFG BOD, all scores that qualify for certification, along with names of cutters, will be published in the USFG newsletter, USFG website, and/or public venues supported by the USFG.

6.2.1 For reasons of sensitivity, the USFG Board will not publish the names of cutters who did not qualify for certification. The USFG may opt to publish an anonymized list of scores below the qualifying score.

## 6.3 Privacy

6.3.1 The USFG will only publish data pertaining to a cutter's **name, competition score, city, and/or state (or country)**.

6.3.2 No other data of any kind from competitions, including but not limited to mailing addresses, telephone numbers, and e-mail address, shall be disclosed to the general USFG membership or greater public.

6.4 The names of disqualified or ineligible cutters, as well as their scores, will be reported to the USFG Board, but not to the general USFG membership or public. The USFG Board will either approve or reject the disqualified or ineligible stone after receiving the fact from the Stone Handler.

## 7.0 Certification and Awards

Awards will be given to cutters scoring 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> place in the Novice, Pre-Master, Master, and Grand Master class as recorded by the Stone Handler and reported to the Competition Committee. Types of awards and certificates will be determined and published with each competition announcement, after approval by the USFG Board.

### 7.1 Certification

7.1.1 To be certified in a particular class, cutters must meet the following criteria:

7.1.2 **Novice** - Score **85** or higher in a USFG Novice Competition.

7.1.3 **Pre-Master** - Score **90** or higher in a USFG Pre-Master Competition.

7.1.4 **Master** - Score **93** or higher in a USFG Masters Competition.

7.1.5 **Grand Master** – Score **95** or higher in a USFG Grand Master competition.

### 7.2 Awards

7.2.1 To be considered for awards (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> place) in a particular class, cutters must meet the following minimum criteria.

7.2.2 **Novice** - Score **90** or higher in a USFG Novice Competition.

7.2.3 **Pre-Master** - Score **93** or higher in a USFG Pre-Master Competition.

7.2.4 **Master** – Score **95** or higher in USFG Master Competition.

7.2.5 **Grand Master** – Score **98** or higher in USFG Grand Master Competition.

### 7.3 Special Cases and Ties

7.3.1 The certified top three “qualifying” scores in each competition class will receive awards, i.e., 1st, 2nd, and 3<sup>rd</sup> place.

7.3.2 All scores shall be calculated to no more than the fourth decimal place. Normal rules shall apply for rounding scores.

7.3.3 In the unlikely event of a tie, and in the spirit of fair competition, all scores which qualify for awards, which also result in exact ties, will receive the same award.

## 8.0 Pre-Judging

8.1 The practice of having outside expertise evaluate the condition of a stone during the cutting process is strictly forbidden in USFG faceting competitions.

8.2 If it becomes known that any cutter has had the stone evaluated by other cutters during the cutting process, i.e. **with the stone still on the dop**, then that stone will be **automatically disqualified** from the competition.

8.3 If such knowledge becomes available after competition results have been finalized, any awards or other recognition will be declared null and void.

8.3 Cutters may choose to show their finished stone as they wish once it is removed from the dop without penalty.

## 9.0 Protest

9.1 If protest should arise the written rules shall prevail.

9.2 In order to lodge a protest, a cutter should send a copy of the score sheet, as well as an explanation of the protest, to the Stone Handler. This may be done by mail or e-mail.

9.2 The Stone Handler shall explain the judges' reasoning to the person making the complaint. If the cutter is not satisfied, the Competition Committee will review the complaint.

9.3 If the cutter is still not satisfied, **the USFG Board will have the final say in the mitigation of all disputes**. There will be a three week time limit starting from the time the cutter receives his stone and judging sheet for a formal protest to be filed.

## 10.0 Terms and Definitions

### For Judges and Cutters Listed in alphabetical order

10.1 Angle - The angle of a facet to the plane normal to the axis of the stone. Angles will generally be expressed in positive degrees. The minimum angle shall be 0 (perpendicular to the axis of the stone, typically the table. The maximum angle of a facet shall be 90 (parallel to the axis of the stone), typically the girdle facets.

10.2 Axis of stone - The line passing through the center of the outline shape when viewed from above the stone and perpendicular to the girdle plane and table.

10.3 Board, board, or BOD - Means all members of the Board of Directors of the United States Faceters Guild Corporation.

10.4 Competition Committee - A committee formed to organize, supervise, and facilitate the faceting competitions of the USFG Single Stone Competition as outlined in the beginning statements of this document. The Committee shall be composed of a minimum of **six (6)** people.

10.5 Crown - Where a girdle plane exists, the crown is that part of the stone above the girdle plane, i.e., top of the stone. The crown will be clearly marked on the Pattern Sheet.

10.6 Culet - The point or line which the pavilion facets meet at the lowest angle(s).

10.7 Chips - Areas where pieces of material have been chipped off. They usually occur along facet edges, at corners, and/or culets. Typically chipping is the result of rough handling and/or with materials sensitive to cleavage. In USFG competitions this feature shall be assigned one quarter (1/4) pattern point per edge. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.8 Cutter or Faceter - The word cutter or faceter is used universally in this text to refer to persons (he or she) who practice the art of faceting stones, i.e., Faceters.

10.9 Dimensions - For USFG competitions all dimensions shall be expressed in millimeters.

10.10 Disqualified - Errors resulting in **gross** deviations from the competition rules for a particular class, i.e., **wrong pattern cut, missing facet tiers, wrong gemstone material, etc.** The stone will be set aside and no further judging will take place. The judge will provide written explanation for the **disqualification** to the Stone Handler and BOD. The stone and judging sheets will be returned to the cutter.

10.11 Extra Facets - Facets not defined on the pattern sheet. In general, extra facets are cut by mis-indexing.

10.12 Errors & Credits – Any defect in the finished stone. In USFG competitions, errors are weighted **depending upon the visual severity** of that error. Credit are given equally for perfect facets.

10.13 Errors or credits are as follows:

"A" - 25% off if the partial error is **barely visible** with a 10X loupe.

"B" - 50% off if the partial error is **easily seen** with the 10 X loupe.

"C" - 100% off if the error is **out** (profoundly incorrect – see section 10.26) with the 10X loupe, or may be **seen with the naked eye**.

10.14 Facet - A deliberate flat or curved surface, usually polished.

10.15 Facet Edge - The linear junction between two facets. In the USFG SSC, facet edges shall be sharp, i.e., **not reflect light**. This feature is judged in the same category as Flat Facet. In USFG competitions this feature shall be assigned one (1) possible pattern point per facet. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.16 Facet Material – The gem material that the cutter uses to cut the stone. The Pattern Sheet will clearly state whether natural and/or man- made (laboratory-produced) materials are permitted.

10.17 Facet Uniform – Refers to the **consistency in shape and size of any facet in the same series**. Facets also must have consistency with the pattern and plan view. In USFG competitions, this feature shall be assigned one (1) possible pattern point per facet. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.18 Flat facet - Facets shall be flat. This refers to the flatness of facet or un-evenness of curved facets. In USFG competitions this feature shall be assigned one (1) possible pattern point per facet. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.19 Floating Meet – A meetpoint formed by the junction of **three facets**, which may help to define a future meetpoint. While floating meets are technically meetpoints, they are **not used in judging**.

10.20 Floating Facets – The three facets that define a Floating Meet are considered to be Floating Facets.

10.21 Index Gears – Used to determine the indexing of facets. Depending upon the machine, index gears may be numbered in a clockwise (CW) or counter-clockwise (CCW) fashion. Gears may face towards or away from the stone. While the directionality of the index gear will not impact a stone cut with mirror symmetry, this may interfere with a stone cut with radial symmetry, and may produce a mirror image of the intended design. Cutting a mirror image of the competition design may result in disqualification.

10.22 Ghost facet - A nearly imperceptible facet formed when a cutter tries to bring facet meetpoints "in" with the use of a cheater or index micro adjuster. By doing so, the cutter may create a secondary facet directly over an existing one, with only miniscule and nearly invisible differences in index and angle. These false facets are frequently only visible under certain lighting angles. This is called a “ghost facet” and is not considered to be "extra facet" as in the above definition. This will be judged according to the judging criteria elsewhere in this document.

10.23 Girdle Facets - The narrow band consisting of either a series of facets or a continuous scalloped, curved surface which outlines the girdle plane and is at right angles to it. In USFG competitions the girdle **must be faceted and polished**. Rounded girdles are not considered acceptable.

10.24 Girdle Thickness - The narrowest dimension of the girdle facets. It may also be called the **girdle width**. Cutters may use any method they wish for establishing this feature. In USFG competitions, the girdle thickness (and acceptable tolerance) will be clearly specified on the pattern sheet(s) as determined by the Competition Committee. **USFG judges ARE allowed to use magnified scales, optical comparators, or reticules for judging this feature, provided the same tool is used to judge “every” stone the same way.** The judge may measure the girdle thickness by using a comparative technique with a gauge of known thickness or diameter. Other suggestions may include using a jeweler’s saw blade, precision wire, or plastic film as a reference gauge. In USFG competitions this feature shall be assigned three pattern points. If the feature is “out” a three (3) point error shall be placed in the 100% column.

10.25 Girdle Uniform – Facets in the same series around a faceted girdle shall be the same shape and dimension. They shall be an exact replica on the pattern sheet and be within the stated limits including the allowed tolerance factor determined by the Competition Committee. If outside the minimum or maximum limits, this error would be seen as a difference in girdle thickness from one side of the stone to the other, when outside the girdle thickness limits. This type of error generally indicates problems with the transfer. In USFG competitions the total points given this feature shall be three (3). If the feature is “out” a three (3) point error shall be placed in the 25%, 50%, or 100% columns.

10.26 Grooved facets - Facets that show grooving in the polish when held just between shadow and shine. Others have described grooving similar in appearance to brush strokes on a canvas. Herringbone effect in quartz or from crystal twinning can sometimes show up in the polish in the same manner. In USFG competitions this feature shall be assigned one (1) possible pattern point per facet. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.27 In or Out – Terms that describe the accuracy of features of a stone, such as width, L/W, girdle width, meetpoint accuracy, etc. **"In"** describes whether a feature is **correct** or **within tolerance**. Examples include precise meetpoints, accurate girdle width, and a correctly-sized table. **"Out"** describes when a feature is outside of tolerance, or profoundly and obviously incorrect. Examples include meetpoints that have facet edges that do not actually meet in a single point, girdles with “stair-step” phenomenon, and tables that are asymmetric.

10.28 Ink Mark - A mark (permanent ink) placed on a stone by the judge to identify the indexing of the stone referenced to the pattern error sheet.

10.29 Judge - Persons selected by the Competition Committee to judge the various classes of USFG competitions. **Judges shall have completed the USFG Judging Certification Program, and be approved by the BOD.** Judges generally work with the assistance of a marker (sometimes referred to as the penciler) to assist with the recording of errors on the pattern error sheet. Judges are (generally) compensated for their time through the **distribution of entry fees. The amount of compensation shall be determined and approved by the USFG Board** each year.

10.30 Judges’ Comments Sheet - A short note provided by the judge to the cutter, with general comments and observations about the stone. Following the "spirit of friendly competition", the comment sheet is intended to provide cutters with both encouragement and highlight areas for improvement, in a constructive and professional manner. At the pleasure of the judge, comments may be typed or hand written.



10.31 Judges' Score Sheet - A formal sheet where errors recorded tabulated, and the final score calculated.

10.32 Lighting – The method of lighting for judging will be at the judge's pleasure provided it is used equally on all stones in the class.

10.33 Length - **In all cases the length measurement will be a ratio of width and will be clearly defined on the Pattern Sheet.** In some designs the length may replace the width as the required measurement with a corresponding "tolerance" for scoring by the judge.

10.34 Length-to-Width ratio (L/W) - The ratio of the major axis over the minor axis, i.e., always greater than one. Often, but not always, the L/W is measured **via parallel sets of girdle facets**. In some cases though, this may be measured **flat to point** or **point to point**. **The L/W ratio**, will always be **clearly indicated on the pattern sheet** with a corresponding "**tolerance**". In USFG competitions this feature shall be assigned three pattern points. If the feature is "out" a three (3) point error shall be placed in the 100% column.

10.35 Length-to-Width scoring – Measure both dimensions, L and W. Multiply the measured W x the design L/W ratio. Compare the actual L dimension to the calculated (or target) L dimension. If the measured L dimension is within Limits +/- 0.5mm from the calculated L dimension, then the stone is not penalized. If the feature is "out" a three (3) point error shall be placed in the 100% column.

10.36 Magnification - For judging a 10X hand held or eye loupe will be the only magnification allowed. **No exceptions!** Judges are allowed to use corrective eyewear as needed for normal vision.

10.37 Man-made faceting material - Transparent faceting material(s) that owes its existence to the operations of man. This includes, but is not limited to, such material as **YAG (yttrium-aluminum garnet)**, **CZ (cubic zirconia)**, **corundum**, **spinel**, **glass**, etc.

10.38 Marker - The person assisting the judge with the scoring process.

10.39 Measuring – The only measuring tool allowed in USFG competitions shall be a caliper (vernier, dial, or digital) with suitable repeatability and resolution for measuring features such as Width and L/W. The construction of the caliper jaws may be either plastic or metal. If using calipers with metal jaws it is suggested that the contact faces be protected with cellophane tape to reduce the risk of chipping stones, then zeroed before measuring stone dimensions. Ideally calipers should be periodically checked for accuracy against a known standard. It is suggest that girdle thickness may be measured using a comparative technique with a gauge of known thickness or diameter. Suggestions may include using a jeweler's saw blade, precision wire, or plastic film as a reference gauge. Judges have the option to use magnified scales, optical comparators, or reticules, but must use the same method for all stones judged.

10.40 Natural faceting material - Transparent material(s) that owes its existence to the forces of nature. It includes natural materials, which may be treated to enhance color, transparency or other features. It does NOT include materials, which would not have been facetable in their natural state before treatment, e.g. Mt. St. Helen Ash, which are regarded as man-made.

10.41 Meetpoint - **A point where four (4) or more facets** culminate in a perfect point with no facet overcut and/or no facet undercut. In USFG competitions, this feature shall be assigned one possible pattern point per meet, **regardless of the number of facets comprising the meet**. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns. Please note that **all meets** carry the **same scoring weight** whether they are **comprised of 4 facets or 16 facets**.

10.42 Overcut & Undercut – Overcut facets are those that miss the meet by virtue of removing too much material. Unfortunately, correcting the problem requires that the cutter **go back and recut the tier**, and in some cases the entire side of a stone. Undercutting a facet is **definitely a lesser error**, as the cutter may simply return to the same facet and remove slightly more material. In either case (over/undercutting) the judge shall score the affected meet as ‘out’. A judge may point out on the comment sheet if a facet was over or under cut.

10.43 Pattern Sheet - A diagram or a particular pattern or cut, with **all** necessary information for cutting the design. **The pattern sheet will also address specifications and issues regarding length, width, L/W ratio, number of facets, girdle design, tolerances, and specific faceting materials for their respective competition classes**. All pattern sheets will incorporate the use of GemCAD for the generation of design parameters. For the sake of readability, the pattern sheet may be a set of multiple pages, with the diagram and cutting instructions followed by a list of additional competition parameters.

10.44 Pattern Error Sheet - A sheet used by the judge to permanently record the amount and type of errors a finished stone may have. The Pattern Error sheet (to be returned to the cutter) will also serve as a map to assist the cutter in "seeing what errors the judge found" on a stone submitted for competition. Pattern Error Sheets will also include an **"ink mark"** for referencing the indexing of the stone to the pattern errors.

10.45 Pavilion - Where a girdle plane exists, the pavilion is that part of the stone below the girdle plane. The pavilion will be clearly marked on the pattern sheet.

10.46 Plan view - That arrangement of points and lines that one sees when looking directly down or up the 90° vertical axis of the stone. While cutters may alter the angles (and therefore crown and pavilion height) of the plan, they may NOT add or subtract any facets from the plan view diagram. Alteration of the plan view means a judge, during the normal process of judging the stone, can detect any alteration in the positioning and/or shape of facets. If such alteration is detected, there will be severe penalties applied to the breaking of this rule, including disqualification. Examples of such may include adding or omitting facets, gross deviation of the original pattern or lay out of facets, cutting the wrong design, etc.

10.47 Pits - Any flaw, fracture, cleavage, parting, or inclusion **that reach the surface**. Foreign matter on the surface that will not wipe off will be judged as a pit. In USFG competitions this feature shall be assigned one possible pattern point per facet. If the feature is “out” a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.48 Rounding, Facet Rounding, or Sharp Edge – A condition where a facet is not absolutely flat where it borders another facet. Rounding is easily detected if the facet edge reflects light, i.e., a sharp edge will not reflect light because it has no detectable width. Typically this is caused by using too much polishing compound, or by applying excess pressure to specific types of laps.

10.49 Scratches - Any mark on a facet surface with a **length to width ratio over 10:1**. Scratches may include any inclusion, fracture, mark, or groove(s) that surface. The finest of scratches may also be defined with the popular term "**cat hair**". In USFG competitions this feature shall be assigned one possible pattern point per facet. If the feature is "out" a one (1) point error shall be placed in the 25%, 50%, or 100% columns.

10.50 Stones - The finished product of faceting, i.e., faceted gemstones.

10.51 Stone Handler – The person assigned by the USFG Board and a member of the Competition Committee to facilitate the handling of the stones between the entrants and the judges.

10.52 Table – A crown facet parallel to the girdle plane and perpendicular to the stone axis/dop axis.

10.53 Tolerances - **All critical tolerances used for judging will be specifically stated on the pattern sheets**. Ratios without tolerances (such as T/W, C/W, P/W, etc.) will be provided on the pattern sheets for general reference. A judge may determine a stone to be ineligible or disqualified if, in the judge's opinion, deviations from given ratios (after tolerances) result in **gross violations of the plan view**, subject to approval by the USFG Board.

10.54 Width - In all cases the width measurement will be clearly defined on the Pattern Sheet. In USFG competitions this feature shall be assigned three pattern points per facet. If the feature is "out" a three (3) point error will be placed in the 100% column.

10.55 USFG - United States Faceters Guild, a corporation.

## 11.0 Judging Criteria – Stone Error Sheet

### Scoring Sheet for Judges and Cutters

#### **11.1 Scratches - Category 1**

Each facet shall be absent of scratches including the finest of cat hairs. Inclusions or fractures that surface and look like scratches will be judged under this feature.

#### **11.2 Pitting - Category 2**

Each facet shall be absent of pits. The tiniest inclusions and fractures that surface and look like pits will be judged under this feature. Foreign matter on the surface that will not wipe off will be judged as an error. Flaws, fractures, cleavages, partings, and inclusions that surface will be judged under category 1 or 2 on the score sheet if they surface.

#### **11.3 Grooved Facets - Category 3**

Facets that show grooving in the polish when held just between shadow and shine. Herringbone effect in Quartz can sometimes show up in the polish in the same manner. Typically grooving appears as a series of very fine parallel grooves, very similar in appearance to extremely fine brush strokes. Both features will be judged in this category.

#### **11.4 Flat Facet and Sharp Edges - Category 4**

Facet surface true - This refers to the flatness of facets or unevenness of curved facets. Unintentional facets and ghost facets will be penalized under this feature. Facet edges sharp - The junction between facets should be knife-edge. Both of these features will be judged under category 4 on the score sheet. Chipped edges will be judged under the category 7 for chips, not under this feature.

#### **11.5 Facet Uniform – Category 5**

Refers to consistency in shape and size of facets in the same series. Facets also have to have consistency with the pattern.

#### **11.6 Meetpoints – Category 6**

A point where 4 or more facets culminate in a perfect point with no facet over cut and/or no facet under cut. Note some judges may choose to indicate over/under cut facets, but this is entirely optional.

#### **11.7 Chips – Category 7**

Areas where pieces of material have been chipped off unintentionally. They usually occur along facet edges, at corners, and/or culets.

#### **11.8 Girdle Uniform - Category 8**

Facets in the same series around a faceted girdle shall be the same shape and dimensions. Girdle facets shall be an exact replica of the girdle on the pattern.

#### **11.9 L/W Ratio - Category 9**

The length to width ratio will be on the design and score sheets. A variance to be determined by the Committee can be from 0.1 > .5 mm +/- will be allowed without deduction. If out, a 3 point 100% error

will result. In practice this feature is judged using the Width of the cutters stone. The Length shall be calculated accordingly using the L/W ratio from the pattern sheet. The acceptable tolerance shall be based upon the calculated Length.

#### **11.10 Stone width - Category 10**

The competition committee will set the stone width. There will be an allowable margin of error of the stone width set by the competition committee. Typically the allowable error will vary with the competition class. Error in the Master and Grand Master class shall not exceed +/- 0.1mm. The competition committee will designate stone widths between 6 mm and 15 mm. The width will be clearly marked on the pattern sheet. If out, a 3 point 100% error will result. In some cases the cutting order used to develop the girdle shape may require the Length to be used instead of Width. An example would be Omni Ovals, Hearts, and Tear Drop where the Omni starts at the longest part of the design.

#### **11.11 Girdle thickness – Category 11**

Girdle thickness shall be determined by the committee and included on the competition-cutting diagram and pattern sheet.

## 12.0 Additional Judging Notes:

(Reference to judging categories, Pattern Error Sheet)

12.1 Categories **1, 2, 3, & 4** represent **polish**.

12.2 The **girdle** shall be polished and judged under the same categories on the score sheet, "1 through 7" as with all other facets. Two other categories are specifically designated for the girdle alone. They are **8 – "Girdle Uniform"** and **11 – "Girdle Thickness"**.

12.3 Scoring in categories **1 through 8** – Errors will be assigned a weighted value of 25%, 50%, or 100% point deduction depending upon the magnitude of the error.

12.3.1 A general definition of the weighted value scoring is as follows:

12.3.2 -25% off if the error is barely visible with a 10X loupe.

12.3.3 -50% off if the error is barely visible with the naked eye but easily seen with a 10X loupe.

12.3.4 -100% when a most serious error is seen with the 10X loupe and/or if the error is easily seen with the naked eye.

12.4 Scoring in categories **9 through 11** - Errors will be automatically assigned a 3 point 100% deduction.

### **12.5 The Plan View (see 10.46)**

12.5.1 Creating a change in the "plan view" when cutting a competition stone can be done by employing a severe change of angle(s) or index (indices) that will create a difference in facets observable to the judges. This falls under the judges' prerogative for disqualifying a stone.

12.5.3 This may also be done through a mishap of inadvertently leaving out or adding a tier of facets.

12.5.4 Both crown and pavilion are subject to penalty if the plan view of either one is in error.

12.5.5 If the plan view as defined is not followed as per the opinion of the judge, the stone will be ineligible/disqualified and the judge will give a written explanation on the patterns sheet.

12.6 Pre-judging of stones is strictly forbidden. Any indication of pre-judging will automatically, **without exception**, disqualify the participant from the competition. See section 8.0 of this document for further explanation.

12.7 The minimum final score a judge will award is 50 out of 100 possible points.

### 12.8 Width Example

**Novice** - When a size is given, it is always in millimeters. If it is stated that the size is to be a 10 mm round like a standard round brilliant (SRB) then the measurement is taken at the girdle flat to flat. **In the Novice class only**, you may have up to a **0.5 mm error either way without penalty**. In other words your stone could measure 9.5 to 10.5 mm without penalty. If it is outside those parameters the cutter will be assessed three 100% errors. Example - If in the judge's opinion the measurement is so far out he may declare the stone ineligible, subject to USFG Board approval. To further explain, if a cutter enters a 13 mm stone and the pattern calls for 10 mm +/- 0.5 mm the judges would be justified in disqualifying this entry if they choose to do so.

### 12.9 Width Example

**Pre-Master, Masters, & Grand Masters** – Where possible and sensible, as in a round stone, hexagon, octagon, or rectangle, widths are measured flat to flat and are given a tolerance of +/- 0.1 mm. If a stone is to be cut at 10 mm this means a stone that measures 9.9 mm or 10.1 mm will be considered within parameters, and no errors will be deducted. Any greater error will result in a three (3) point 100% error. Any significant and excessive error will risk becoming ineligible or disqualified from competition.

#### 12.10 Complex Example

In many stones, such as a pear or pentagon, the cutter may not be able to measure flat to flat, and in extreme cases the cutter may not be able to measure the technical narrowest portion of the stone. Some triangular designs may be measured tip to point or tip to flat. For stones of this nature, this must be marked clearly on the competition cutting diagram. This is the responsibility of the competition committee. For example, on an oval with the width defined as between 93-03 and 45-51, the measurement will be taken point to point. In a coffin or kite cut, the width measurement is taken at the high end of the width, and the diagram will clearly show where the measurement is to be taken.

12.11 When you have a pattern with a length to width ratio (L/W) it must be within +/- 0.5 mm, or you will incur a three (3) point 100% error. Let us consider an example using the above parameters of 12 mm +/- 0.1 mm for the width and L/W of 1.33 +/- 0.1 mm on an oval. Let's say the width of your stone actually measures 12.0 mm, well within the rules. This particular pattern calls for an L/W of 1.33, hence  $12.0 \text{ mm} \times 1.33 = 15.96 \text{ mm}$ . The measured length for this 12.00 mm wide stone may be  $(15.96 - 0.5 = 15.46)$  between 15.46 mm and  $(15.96 + 0.5 = 16.45)$  16.45 mm without error. Any more or less and it is assessed a three (3) 100% error. In the judge's opinion he may make the stone ineligible or disqualify it depending on the severity of the error. Remember that depending on the complexity of the stone and the computation of the "Y" value a 3 point 100% error works out to be in most cases less than one point.

12.12 Shapes, other than even sided rounds - For shapes such as pentagons and/or trillants, the minimum measurement between a tip and a flat, or between a tip and a point as appropriate, shall be used to determine/defined width of the pattern. In all cases the published pattern sheet will have the specific requirements for each stone to be cut, plus tolerance.