

APPENDIX IV

ARMY & AIR FORCE EXCHANGE SERVICE (AAFES) GLOSSARY: EXPLANATION OF DEFECTS (Updated 21 February 2003)

MASTER SAMPLE

A master sample is an item that is inspected against buyer specifications for diamond/ stone quality, color, size, shape, gold weight, stone setting and basic manufacturing quality, and found acceptable. A master sample of an item is kept in QA as the minimum acceptable reference standard for future shipments of that item, thus the term master sample.

BELOW CLARITY OF THE MASTER SAMPLE

The master sample sets the minimum acceptable standard for the item. If the diamond/stone clarity does not meet or exceed the quality of the master sample, the item is considered below the contract specifications, below clarity and not acceptable to AAFES.

NOTE: The GIA Diamond Clarity Scale is used to determine the diamond quality.

BELOW COLOR OF MASTER SAMPLE

The master sample sets the minimum acceptable standard per item. If the diamond/ stone does not meet or exceed the color of the master sample, the item is considered below the contract specifications and below the acceptable diamond/stone color.

NOTE: The color of diamonds is determined by comparing the stone to a certified GIA Diamond Color Master Sample Set and the use of a Diamond Colorimeter.

BELOW WEIGHT

Each jewelry item has a contracted karat weight for the metal to assure consistency of the item no matter what karatage. (10kt, 14kt, 18kt, etc.) By Contract, AAFES requires that the item meet or exceed the required weight.

BENT POST

Usually this is used in reference to earring posts, although it can be used for other items of jewelry that make use of posts (pegs) to attach gemstones to the mounting. Bent posts are usually the result of extremely thin posts being used which are not durable and can not withstand normal wear. Reference each specific AAFES specification to determine which post thickness to use.

BENT PRONGS

The prong is the narrow metal support, usually used in groups of four, six, and eight, to hold a gemstone in the mounting. If the prongs are not uniform around the outside of the gemstone, then they are considered bent which causes a durability problem and weakens the security of the setting. This can be a result of poor setting or from impact during a different manufacturing phase.

BROKEN LINKS

This refers to a break in a chain or bracelet which is usually the result of poor crystallization or Insufficient solder.

BROKEN PRONGS

The prong is broken, usually at the seat or lower, and can be attributed to either poor crystallization or over-cut prongs.

BURNT FACETS

This is surface clouding of gemstones, usually diamonds, which is caused by excessive heat generated during the polishing process.

CAVITY ON CROWN

Cavity refers to any opening or indentation on the surface of a polished gemstone. A cavity shall be called when the location is on the crown and is easily visible at 10X magnification or seen with the unaided eye.

CHIPPED DIAMONDS/STONES

A chip is a shallow break on a gemstone, which is potentially a durability problem to the future integrity of the stone.

CLASP WON'T HOLD

Clasps are any device meant to join and hold two parts of a necklace, bracelet, or anklet.

If the clasp does not close and hold securely, it does not perform the function it was designed for and is considered a defect.

CRACKED MOUNTINGS

The mounting is considered the metal part of the piece of jewelry. It can be a ring, bracelet, necklace, pin, etc.

The mounting has cracks due to the manufacturing of the item, whether cast or fabricated. These cracks can be actual splits in the metal structure or a series of fine porosity having the appearance of a split in the metal. This affects the durability and life expectancy of an item since the damage is a result of damage to the metal's crystal structure or the bonding of the different alloys together leaving the metal weak and possibly resulting in further damage.

CRACKED PRONGS

An actual split in the prong, which results in a durability problem. The problem can be a result of improper setting, either over-cutting of a prong, as a result of excessive force in bending the prong resulting in stress damage or fine cracks, or from the metal casting, which could be a result of poor crystallization.

CROWN ANGLES BELOW 30 DEGREES or ABOVE 38 DEGREES

AAFES has contractual requirements and several specifications established for their fine jewelry program, which set specific guidelines for the cut of a diamond. In the BEST specifications program, AAFES has determined an acceptable range for crown angles instead of the ideal crown angle of 34 1/2 %.

NOTE: Crown angles along with the table size determine the amount of dispersion a finished diamond displays.

DANGEROUS KNOT

A knot is defined as an included crystal, which reaches the surface of the diamond.

DANGEROUS FEATHER

A feather is defined as any break that reaches the surface of the stone/diamond.

A dangerous feather is one that could affect the clarity of the stone by extending further causing other durability problems.

DEFECTIVE CLASP

This pertains to any problem with the clasp other than that the clasp will not hold shut. Examples would be: Clasp will not open; clasp tongue does not fit properly into the box, insufficient solder connecting the clasp to the jewelry, etc.

DIAMONDS BELOW CLARITY

All AAFES merchandise is purchased under contract specifications, which determines the minimal acceptable diamond clarity. Any item submitted to AAFES must meet the minimum clarity specifications.

DIAMONDS OUT OF ROUND

Symmetry plays an important factor in the grading of a gemstone as it does in the AAFES specifications. Any round or brilliant cut diamond that does not have a truly circular girdle outline is considered out of round.

EXCESSIVE GLUE

Epoxy glues are sometimes used to assist in the setting and securing of a gemstone or pearl into a mounting. The glue should be restricted to the immediate area of the stone or pearl that comes into contact with the mounting. Glue visible on metal or the gemstone or pearl face-up is unacceptable.

EXCESSIVE METAL FLASHING

Any metal that is not inherent to the design of a piece is considered as excess metal and is usually the result of faulty or insufficient clean-up prior to or after casting. Examples of this would be: little spheres or nodules attached to the mounting caused by poor vulcanization resulting in the attachment of air bubbles to the wax mold prior to burn out or excessive metal flashing caused by wax mold deterioration/ leakage and improper wax clean-up prior to investing the wax mold.

EXCESSIVE TALL PRONGS

The prongs should never exceed 75% of the height of the stone/diamond and not cover more than 50% of the crown angle. Excessive prongs are those prongs, which are higher than the surface of the stone/diamond face-up. The main problems are that the prongs no longer protect the stone/diamond but actually are a detriment since they catch and snag tending to bend easier and often times resulting in loss.

EXTREMELY THICK GIRDLE

An extremely thick girdle is very distracting under 10X magnification as well as to the unaided eye. The extra thickness simply adds unnecessary weight to the finished stone/diamond and can cause setting problems and security issues.

FILE MARKS/TOOL MARKS

These terms are interchangeable, the first being a bit more specific as to the cause of the defect. These refer to any markings on the surface of the metal, which were not intended per the design, e.g., scratches, nicks, gouges, etc.

FLIMSY EARRING BACKS

Earring backs must be sufficient for NORMAL use. Earring backs that are too small to hold in your fingers or too thin to bend while trying to place onto the post are not acceptable for normal use.

GLUE FAILURE

Pearls are usually attached to a post on a mounting by applying epoxy cement/glue inside the drill hole of the pearl and attaching to the post. This epoxy cement/glue is formulated by mixing equal amounts of resin and catalyst. Often times the glue loses its bond, whether improperly mixed or having come into contact with a destructive agent, which is noted as glue failure.

INCOMPLETE CASTING

This refers to any void, crack, or opening in a finished metal mounting usually a result of the casting process.

INSUFFICIENT PRONG COVERAGE/ INSUFFICIENT SETTING

Prongs are used to secure the stone/diamond into the mounting. When improperly set, the stone/diamond is in danger of coming loose from the mounting and possibly resulting in the loss. When this occurs, we refer to the problem as insufficient prong coverage.

INSUFFICIENT SOLDER

The area that has been soldered has gaps in the solder flow weakening the solder area/ joint.

KNIFE EDGE GIRDLES

Defined simply as extremely thin girdle; such a girdle is highly susceptible to future damage. This condition presents a possible and very probable durability problem to the future integrity of the diamond.

LARGE EXTRA FACET

An extra facet is defined as any facet in excess of those normally required to complete the faceting pattern of the given cutting style.

If there is a large extra facet that detracts from the face-up appearance, at 10X magnification or with the unaided eye, and the symmetry of the diamonds cut, it shall be rejected per AAFES specifications. If the extra facet is not easily visible face-up or is contained to the girdle area, it could be acceptable.

LARGE NATURAL

The definition of a natural is a portion off the original surface or skin, or a rough diamond which is sometimes left on a fashioned stone, usually on the girdle, to indicate the maximum yield has been obtained. As with a large extra facet, an extremely large natural detracts from the face-up appearance as well as the symmetry of the diamond.

LASER DRILLHOLES

Holes in a diamond's surface produced by a laser. This is an enhancement process used to improve the appearance of a diamond, which contains dark inclusions. AAFES does not accept or purchase products with this type of treatment.

LOOSE STONES/DIAMONDS

Merchandise that has been received with insufficient setting of the gemstones resulting in the stones/diamonds moving or spinning in the setting. The stones/diamonds are not secured properly allowing the stones/diamonds to spin causing the prongs to wear quicker than normal and increasing the possibility of loosening the stones/diamonds in the mounting.

MARRED SPECIAL FINISH/ POOR SPECIAL FINISH

Marred defined means to injure or damage so as to make imperfect, less attractive, etc.

A special finish is any form of metal treatment that is applied to a mounting other than a polished surface, e.g., matte or sandblasted finish, satin finish directional or non-directional, butler finish, etc.

MISMATCHED COLOR

When a piece of jewelry has more than one stone/diamond in the mounting, it is required by AAFES that they matched in color. This means that all similar colored stones or diamonds in any one item of jewelry should face-up approximately the same color. An example of this would be a diamond cocktail ring with five stones: all diamonds should be approximately the same color. It would not be acceptable for a diamond to be "H" color and the other four diamonds to be an "L" color. The transition in color is too obvious.

MISSING PRONGS

Stone mountings consist of heads usually with four or six prongs for each stone to be set. If the item has four prongs, then all four prongs should be intact and securing the stone. If one or more prongs are missing, it becomes a durability problem, which is unacceptable.

MISSING STONES/ DIAMONDS

Quite obviously, the mounting was received without a stone/diamond.

NICKS ON STONES/ DIAMONDS

These are obvious eye-visible abrasions or small chips that detract from the appearance and/or beauty of the stone/diamond. An example would be a huge unpolished or abraded white area on the crown of a polished and faceted deep red ruby.

NICKS ON MOUNTING

Any small cuts, indentations or chips on the surface of a mounting.

OVERCUT PRONGS

All prongs have seats cut into the prongs to enable stone/diamond placement. The standard for cutting of a seat is the removal of one-third to one-half the prong thickness. The removal of more prong metal than this weakens the prong's durability and the security of the stone/diamond.

POOR CRYSTALLIZATION

This is the result porosity has on the composition of the metal structure during casting. The causes are numerous and can have unlimited combinations from the deviation of routine casting procedures.

There are two different types of porosity: surface porosity and internal porosity.

Some of the causes could be: faulty spruing, incomplete burnout, air pressure from torch flame, lack of or insufficient flux, excess of old metal, overheating of metal, insufficient metal, trapped gases or improper cooling.

POOR POLISH

Polishing is a cutting action where metal is removed using an abrasive compound. Buffing is a combination of a cutting and burnishing action where some metal is removed, although most is burnished to a high, bright finish. This effect produces the glitter and shine that first attracts attention. If steps are deleted or forgotten, the results shall be immediately noticeable as uneven, rough, flat, or scaly areas, which would be detrimental to the sale of the item.

POOR RHODIUM PLATING

Rhodium plating is the standard practice of plating white metal, gold or silver, with rhodium to make a thin, hard bright white, highly reflective, and oxidation-resistant surface.

There are two common examples of poor rhodium plating:

1. Spotted rhodium, usually eye-visible, is caused by the burning of the plating solution or contamination during the plating process.
2. Matted white rhodium, always eye-visible, is the result of poor metal surface preparation during the polishing phase of production.

POOR SIZING

Finger sizes vary which requires that a method of shrinking or enlarging a ring be developed. This method is referred to as sizing a ring. The process is the removal of metal to make an item smaller and the addition of metal to increase the size. In order to accomplish this, the item is cut and then soldered back together with an alloyed solder. There are established procedures for this process, which, if followed, prevent most problems that are referred to as poor sizing. Poor sizing can be many different things: heavy porosity in the sizing seams, uneven misshapen shank, thin shank, insufficient solder at sizing seam, file marks, poor polish, etc.

POOR SPECIAL FINISH/MARRED SPECIAL FINISH

See Marred Special Finish

POROSITY

Porosity is the unsoundness in cast metals caused by the presence of small pores, holes or voids in the metal. Also see Poor Crystallization.

POST THREAD DAMAGE

Earring posts are often threaded for securing the earring to the back. To achieve this, the metal is threaded using a circular stock or round die holder for making external threads and hand taps are used to make the internal threads in the earring back. As with any thread, the threads can be stripped or damaged easily, especially since jewelry metals are significantly softer than other metals.

SHANK OUT OF ROUND

The shank of a ring should be round and symmetrical. Occasionally, the shank is distorted and uneven, which is considered out of round.

SHARP PRONGS

Prongs that have not been finished (burred) properly leaving the top or claw sharp. This results in snagging of articles of clothing and possible cuts or scratches to skin.

SHOPWEAR

When an item of jewelry is manufactured and placed into stock bins waiting for an order to be placed, the item may show signs of slight wear from rubbing, tarnishing or a dullness called shop wear.

STONES/DIAMONDS OUT OF MOUNTING

Items received for inspection, in which the stones/diamonds have not been secured properly in the setting; stones are separate from the finished piece of jewelry.

STONES/ DIAMONDS OVERLAPPING

This problem is found most prevalently in channel-set and pave-set merchandise. When the setter is placing and securing the stones/diamonds into the mounting, each should be set into the channel mounting without touching or overlapping the other.

STONES/DIAMONDS SET CROOKED

Seats are cut into prongs to assist in securing the stone/diamond in the mounting. Careful precision is necessary to assure that when burring out the seats, that each seat is cut at the same prong depth or the result shall be a tilted or crooked stone/diamond in the head, which is extremely visible to the unaided eye.

TABLE EXCEEDS 67%

AAFES specifications state an acceptable range allowable for the table percentages to maintain good symmetry in cutting proportions of diamonds. This range is 52% through 67%.

TABLE OFF CENTER

The edge of the table on the left side of the diamond is noticeably closer to the girdle than the table edge on the right. Some diamonds have tables so off center that the reference line bows in on one side and out on the other. The reference line refers to the top bezel facet in the right, the top of the star facet, and the connecting bezel facet top left side.

TABLE NOT PARALLEL

This occurs when the table is not parallel to the girdle or when the girdle is obviously wavy under either 10X magnification or the unaided eye.

TARNISHED MOUNTING

Tarnishing is the term given to the undesirable dulling, discoloring, luster destroying film that forms on a metal surface during its exposure to atmospheric conditions. Tarnishing develops for other reasons as well. The relative purity of the metal has its effect. Alloyed metal with greater alloy metal content such as copper, tarnish more rapidly and easily in proportion to their alloy metal content. Rough surfaces tarnish more quickly than smooth ones as well as contact with sulfur even in minute concentrations such as storage in cardboard boxes containing sulfur compounds.

TARNISHED SOLDER

See above explanation of tarnishing: usually seen on a piece of jewelry within a seamed area where a lower graded solder was used.

THIN PRONGS

A prong is a tapering, pointed, projecting spur that rises from a setting and is bent over a stone to hold it in place. The prong is a very delicate extension of the mounting easily damaged by over-cutting of the stone seat, over-filing or over-polishing. If any of these situations occur, the prong becomes weak and shall not hold the stone securely as its purpose was designed.

THIN SHANK

The shank is the area of a ring wrapping around the sides and bottom of the finger. A shank can be over-filed, over-polished or cast thin, which can be a serious detriment to the wear life of a ring.

TWISTED LINKS

This refers to chains. All links should be evenly attached and the chain should lay flat.

UNEVEN SURFACE

When an article of jewelry has been finished properly, the metal flows smoothly and evenly. If finishing has been done incorrectly, the surface is uneven and wavy, causing distortion of the item.