Quality Assurance

Fine Jewellery Specifications and Construction Standards

GENERAL JEWELLERY MINIMUM REQUIREMENTS

- All products delivered into South Africa must adhere to the South African National Standards, SANS 29:2011 point 6.5, 6.5.1 (copy available from SANS Regional Offices or contact Graham - grahamt@tfg.co.za)
- The alloys for all products must conform to the nickel safe Standard according to European Direction 76/769/EEC 12th Amendment (94/27/EC).
- Products produced in South Africa require the ZA stamp.(as per South Africa National Standard SANS 29:2011 item no. 6.2.2.)
- All specifications listed below need to be filtered through onto the Sample Specification sheet

TESTING STANDARDS:

ASSAY TESTS

- Assay tests are done randomly.
- In the event of negative assay results, Jewellery Division reserves the right to cancel the order or return the items delivered – a decision will be made by management and the supplier will be informed accordingly.
- Bonded items need documented proof that they are bonded and not plated.(A random SEM scan will be performed on items with high return rates at the suppliers expense)

Specification	Platinum	Gold AU	Silver AG	Copper	Zinc	Nickel	Rhodium	Palladium	Cobalt	Other
Platinum	95%			2%						Cobalt/Ruthenium 3%
Yellow Gold 9ct		37.5%	7-10%	40%	5%	1%				
White Gold 9ct		37.5%	20-30%	30%	5%	1-5%	0.5-1.5%			
Rose Gold 9ct		37.5%	5-10%	40-50%						
White Gold 18ct white		75%	5-10%	7-12%	2-5%	1-5%	0.5-1.5%	10%		
Palladium								95%		Gallium 5%
Rose Gold 18ct		75%	1-2%	22%	1%					
Silver			92.5%	7.5%	3%		0.5-1.5%			
Argentium			96%	3%						Germanium 1.5 %
Cobalt						0.1%			60-65%	Chromium 26 – 30% / Molybdenum 5-7%
Tungsten Icon						15%				85% Tungsten

0% Tolerance on Main metal composition ie. 18ct = 75% AU

The Rhodium will drop the AU & AG % down

Nickel composition may vary from 0% to +/-5%

TOLERANCES ON SPECIFICATIONS

Specification	Cast items	Non-cast items
9ct,Silver product		
Weight	10%	5%
Length	10%	10%
Width	10%	10%
Thickness	10%	10%
Specification	**Cast items**	**Non-cast items**
18ct product		
Weight	0%	0%
Length	0%	0%
Width	0%	0%
Thickness	0%	0%

SAMPLES

- Production must not be started without an approved QC sample. The sample represents the standard expected in production, including weights and sizes. Upon receipt of official purchase order document, all details must be checked. The buyer may request two or more identical samples for certain new styles. In that case one sample will be returned to you.
- If available for in-house quality control, the sample should be produced.
- Samples must conform to our quality standards.
- Diamond product / samples, where the individual stone weight equals 0.10ct points or less, must be set up with diamonds.
- Diamond product / samples, where the individual stone weight equals 0.11ct points or more, must be set up with CZ.
- Ensure that the sample has a CZ stamp on the inside of the shank.

HALLMARKING (STAMPING)

GENERAL SPECIFICATIONS

- Stamps must not be applied on the bottom of the shank, in the event of sizing they would be polished away.
- The ZA hallmark to be applied to all products produced in South Africa, as per South Africa National Standard SANS 29:2011 item no. 6.2.2.

ZA

- The ZA hallmark must have an oval encircling the ZA, as per South Africa National Standard SANS 29:2011 item no. 6.2.2.
- The hallmarking must not break through the side of the band and needs to be spaced in the middle width of the shank.
- 9ct rings set with CZ will require a CZ stamp inside the shank. If a diamond has been replaced with a CZ then a **CZ** hallmark will be required.
- Each individual ring in a multi-ring set should have a ZA stamp along with the caratage hallmarking.

Silver:

- Stamps should be placed slightly off centre to allow sizing of ring
- **925** stamp must be clearly legible on the relevant items.
- The hallmarking must not break through the side of the band and needs to be spaced in the middle width of the shank.
- Specified requirements e.g. identification stamps/logos are style specific. (The exemption of stamps must be cleared with QC department).
- Laser marking is acceptable
- All charms must have hallmarking on the attached O - ring or clasp
- Any item below 1g does not require a stamp

Gold:

- Stamps should be placed slightly off centre to allow sizing of ring
- '9ct' or a 375 hallmark is preferred; however, 9k & 9kt will be accepted for imported product.
- **9ct, 14ct, 18ct** stamps, must be legible on the relevant items.
- The hallmarking must not break through the side of the band and needs to be spaced in the middle width of the shank.
- Specified requirements e.g. identification stamps/logos are style specific. (The exemption of stamps must be cleared with QC department)
- Laser stamping is acceptable
- All charms must have hallmarking on the attached O - ring or clasp
- Any item below 1g does not require stamping

Stainless steel:

- Stainless Steel items must be identified with a **SS** or **Stainless Steel** stamp
- Specified requirements e.g. identification stamps/logos are style specific. (The exemption of stamps must be cleared with QC department).
- Laser marking is acceptable
- All Icon products need to have the Icon hallmark

Zirconium:

- Zirconium items must be identified with a **ZR** stamp
- Specified requirements e.g. identification stamps/logos are style specific and on buyers request.
- The exemption of stamps must be cleared with QC department.
- Laser marking is acceptable

Argentium:

- Argentium items must be identified with a **960 or AG** stamp
- Specified requirements e.g. identification stamps/logos are style specific and on buyers request.
- The exemption of stamps must be cleared with QC department.
- Laser marking is acceptable

Bonded Jewellery:

- 925/SIL 1/10 9ct/9k/9kt or 925/SIL 10% 9ct/9k/9kt stamp to be used for all bonded jewellery, please add the correct % of gold.
  (As per South African National Standards. SANS 29:2011 point 6.5.1.2)
- No 5% or 1/20 bonded jewellery permitted

Articles that comprise both silver and gold:

- If the article contains both silver and gold parts, the silver parts shall be marked 925 and the gold parts marked (9ct 18ct etc). No double/dual hallmarking, e.g. 925 & 9ct on the same metal.(Silver stamp on silver, gold stamp on gold, if small gold piece cannot be stamped then no stamp is required)
  (As per South Africa National Standards Sans29:2011 point 6.5 & 6.5.1)

MINIMUM CONSTRUCTION STANDARDS

COMBINATION CAST PRODUCTS (GOLD AND SILVER)

Solder joins to be clean and neat with no gaps & solder porosity

- No rough joins
- Total weight to be supplied for 9ct + 925
- Separate 9ct weight on P/O
- Items must be free of the following defects that can be seen with the naked eye:
    - porosity
    - grooves in metal
    - waviness in metal
    - scratches
    - sharp edges
    - visual gaps in seams
    - dents
- The inside of item must be cleaned
- Areas which are exposed to outside must be polished
- No roughness on shoulders, claws or edges
- All product require Rhodium plating

STAINLESS STEEL PRODUCTS

GENERAL SPECIFICATIONS

- All Stainless Steel needs to be 316 Grade
- All Stainless Steel products to have the appropriate hallmarking
- Ticket information to read NOT SIZABLE
- Links need to be closed tightly with no gaps and sharp edges, (Preferably soldered)
- Links need to be strong. (use the table for Jump/O Rings)
- All plating to be neat and tidy and with no spills
- Textured surfaces to be neat with no spills
- Areas which are exposed to outside must be polished
- No roughness on corners or edges

- Items must be free of the following defects that can be seen with the naked eye:
    - grooves in metal
    - waviness in metal
    - scratches
    - sharp edges
    - visual gaps in seams
    - dents

SETTING REQUIREMENTS

GENERAL SPECIFICATIONS

- Neat and tidy, no major gaps between stones
- Channel settings to have all stones evenly spaced with sufficient support under the stones
- Sufficient openings below the stones (a'jour) to admit light to the stone
- Tables of stones must be straight and there must be enough metal around setting for a safe repairs
- All stones need to be of equal size and colour
- No exposed stone girdles

CLAW SPECIFICATIONS

- The claw spitches(seat) must not be cut too deeply causing weakness of the claw
- The claws need to tightly grip the stone and not bend back easily and no stone movement
- Minimum claw thickness for 18ct product should be 0.8mm, style dependant and according to required standards set by the buyer and QA.
- Side View - claws must appear to be uniform in height, thickness and angle
- Top View - claws must be symmetrically positioned and equal in length, shape and thickness throughout the product
- On cluster rings the outer claws must be thicker than the inner claws to allow for wear
- The top of the claw must be properly polished, finished off smoothly with a cup burr and have not rough edges

- The tip of the claw is required to be a smooth half round and half of the claw covering the stone

TUBE SETTINGS/RUB OVER SETTINGS

- The edges of the collar must meet the edges of the stone tightly with no gaps
- The collar must be of even height all around the stone
- The collar must be smooth all the way around with no sharp edges
- It is important to set the stone in a way that prevents it from looking sunk

PAVE SETTING

- Ensure stones are centred properly and give an even look
- Ensure stones are set to avoid loss
- There must be sufficient material around the stone
- Stones must always match in colour and size where required

DIAMONDS, GEMS, BIGGER STONES

- No loose stones (setting must be firm).
- No gaps between stones / walls / corners.
- No chipped stones.
- All stones to have a minimal of 1mm height clearance from the point of the stone to the inside of the shank.
- Not set too high or too low in relation to the claws and beads

PLATING

PLATING – RHODIUM

- Rhodium plating should be no less than 1 Micron thick
- No over-running
- Plating lines must be masked straight
- No shine through base colour
- Rhodium plating to be mirror white as to reflect light
- No major reflections in rhodium plated pave

- The use of Legor's **Rhodium Plating Ref: RH2F**, **Rose Gold Plating Ref: OR134** is preferred

PLATING – RHODIUM ON SILVER JEWELLERY

- All Silver products produced for TFG Jewellery is required to be Rhodium plated. This includes all silver (925), diamond and silver & silver and gold combination pieces.
- The use of Legor's **Rhodium Plating Ref: RH2F** is preferred

PLATING – GOLD PLATING ON SILVER JEWELLERY

- No over-running.
- Plating lines must be masked straight.
- No shine through base colour.
- Minimum thickness for yellow and rose gold plating as below:

PLATING – RHODIUM ON ARGENTIUM JEWELLERY

- Argentium products do not require rhodium plating.

PLATING – RHODIUM & GOLD MICRON THICKNESS

Product	Micron Thickness
Minimum	
Rings	1 Micron
Pendants. Earrings, Necklace	0.5 Micron
High End Jewellery	
Rings	3 Micron
Pendants. Earrings, Necklace	1 Micron

GENERAL REQUIREMENTS FOR OTHER PRODUCTS

PEARLS

- Pearls must be glued onto a pin and a dish.
- Epoxy-based glue must be used.
- No glue overflow.
- Pin must not be shorter than half of the diameter of the pearl.
- On half round pearls, not shorter than half of the radius.

MABE

- On rings, Mabes must be properly set - not glued.
- On exception, Mabes can be glued on Earrings, Pendants or Brooches only.
- Mabe must not be tampered with during setting.

COINS

- Coins must not be polished as part of the final finish
- Coin must not be damaged during setting
- Set coins must not be plated

CERAMIC

- Should not be cracked or chipped
- All ceramic items should withstand a standard drop test

GLASS

- All glass products should not be chipped or cracked
- Glass needs to be clear or as Buyers request
- No bubbles should appear in glass products

CRYSTAL

- All crystal products require a clear coating
- Should not be chipped
- If the crystal contains foiling it should be intact and should not peel off
- If glued, they should be secure

- Stones should be glued/set up to their girdles

FOILED STONES

- Foil should be uniform
- Should not lift/peel off
- Should be intact
- Should be glued securely
- Stones should be glued/set up to their girdles

PLASTIC/RESIN

- Resin/plastic should be glued in place securely
- No glue over runs
- Must be properly set, glued or applied, so that under normal wear do not fall off or come loose. All glues used must be epoxy based.
- Resin must be durable, lustrous, even in thickness, free of bubbles and cracks, visually uniform, and contained within the intended borders of the design.
- If resin stones are used they should be glued/set up to their girdles

BONDED PRODUCTS

GENERAL CONSTRUCTION STANDARDS

- Standard bonded process required - Solid state diffusion bonding process
- A 10% minimum gold layer will be required - tested in at least 4 or 5 areas and average will be determined.
- 3.75% fine gold percentage will be required in a Fire Assay on bonded items.
- The gold layer will need to supply durable coverage of the base metal to which is has been bonded.
- The standard 9ct yellow gold alloy is required and “copper” rich alloy will not be acceptable.
- The product’s colour must meet the Hamilton standard.
- A minimum of 0.05 micron gold plating will be required on the surface.
- Require a hallmarking stating the gold percentage e.g.: 925 1/10 9ct or 925 10% 9ct

- Butterflies need to be hallmarked if posts can't.
- Sheppard hooks can be hallmarked on the safety catch.
- If any item in difficult to hallmark, it will be the QC and buyers discretion to pass the item at the sample stage.
- All Posts, Sheppard hooks, Butterflies and findings will be required to be bonded and not plated.
- Supplier needs to specify if the clasp is Bonded or solid 9ct on the Sample Specification Sheet.
- At all times we will require a smooth surface with not orange peel effects.
- No open seams
- No rough surfaces.
- Bonded jewellery with crystals will require a clear coating applied over the resin.
- The crystals will be required to be pressed into the resin up to the girdle.
- The recessed area that the resin is applied to will require a textured surface, a pin or "O" ring to hold onto to prevent the resin detaching.
- Plate minimal thickness 0.2mm
- Products are to be secondary hardened to prevent denting.
- A Scanning Electron Microscope (SEM) report may be requested on selected sample or required on all new samples submitted.

STAMPED PRODUCT
GENERAL CONSTRUCTION STANDARDS
(EG. CREOLE EARRINGS)

- Stamp must be neat and clean - no chipped rims / edges.
- No cut-off ends - design silhouette must be completed.
- No waviness on surface.
- No soldering marks or solder excess.
- Minimum thickness on hollow earrings is 0.3mm.

RINGS

RINGS SIZES

- Ring sizes will be style specific and will be confirmed by the buyers.
- Acceptable tolerance: Half size down or up for single rings only.
- All ring sizes in the multiple ring set must be the same size.(zero tolerance)

RING SPECIFICATIONS

- All rings produced need to be sizable, if not it should be stated NON-SIZABLE on the price ticket.
- Metal thickness and width on all 18ct rings will have zero tolerance.

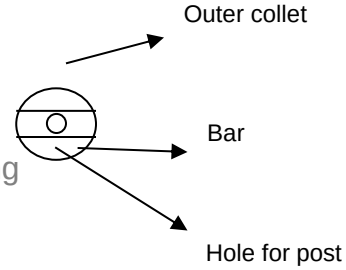
Product	Shank thickness	Shank width	Top wall thickness	Side wall thickness	Side band thickness	Side band width
Ladies (sizeable)	0.9mm	1.5mm	0.7mm	0.5mm	0.9mm	1.5mm
Ladies (non-sizeable on ticket)	0.7mm	1.5mm	0.7mm	0.5mm	0.9mm	1.5mm
Gents (sizeble)	0.9mm	2.0mm	0.7mm	0.5mm	0.9mm	1.5mm
Gents (non-sizeble on ticket)	0.7mm	2.0mm	0.7mm	0.5mm	0.9mm	1.5mm
Gents pinkie	0.9mm	1.5mm	0.7mm	0.5mm	-	-
Kids Panel	0.7mm	1.5mm	-	-	-	-

EARRINGS

MINIMUM SPECIFICATIONS FOR EARRINGS

- Post to have minimal one safety groove
- All butterflies to grip tightly, stay securely in the groove
- All butterflies to be in proportion to the size of the earring
- All butterflies to hold the weight of the earring
- Earrings must be matched i.e. right, left, stone, pearl sizes
- All butterflies to have 925 hallmark

Bottom view of stud earring



- High value earrings should have a secure bar on the earring that the post is soldered into (see diagram above)
- Butterflies on studs 1ct or more should have screw on studs.

DIAMOND AND GEM STONE EARRINGS - FINE JEWELLERY

- All posts have a 0% tolerance on length and thickness
- All butterflies have a 0% tolerance

Stone Size CT	Pin Post		Butterfly	
	Length	Thickness	Diameter	Plate Thickness
9ct				
All	10.0mm	0.7mm	4mm	0.3mm
18ct				
Up to 0.33ct	10.0mm	0.8mm	4mm	0.3mm
0.33ct to 0.99ct	10.0mm	0.8mm	4mm	0.3mm
1.0ct and above	10.0mm	1.0mm	4mm (Screw-on)	0.3mm

SILVER AND GOLD EARRINGS

- All posts have a 0% tolerance on length and thickness
- All butterflies have a 0% tolerance

Pin Post		Butterfly	
Length	Thickness	Diameter	Plate Thickness
Ball and Half Dome Studs			
10.0 mm	0.7 mm	3mm	0.2mm
Shepherd Hooks, Gypseys and Creoles			
Style dependant	0.6mm	N/A	N/A

BRACELETS

MINIMUM SPECIFICATIONS FOR BRACELETS

- 1% tolerance on length
- Weight 10% tolerance.
- All links on bracelets must be soldered properly
- Should withstand a standard strength test of relevant to the items thickness, minimal 1kg pull test

Product	Specification
Gents Chain	21cm
Ladies Chain	19cm
Specification	**Tolerances**
Weight	10%
Length	1%

PENDANTS/BALES

- Pendant bale opening width - 3mm
- Pendant bale opening length - 5mm
- Pendant bale thickness - 0.5mm
- Sliding pendant - Buyer is responsible for correct sizes of opening on slider for relevant chain.
- Should withstand a standard strength test
- All bales must be soldered closed

MINIMUM SPECIFICATIONS FOR FASTENING DEVICES ON CHAINS

BOLT RINGS - SILVER & GOLD

Number	Outside ∅	Inside ∅	Bale Inside ∅	Bale Gauge	Bolt ∅
No. 1	5mm	2.4mm	1.6mm	0.7mm	0.5mm
No. 2	6mm	3.0mm	1.6mm	0.8mm	0.6mm
No. 3	7mm	3.8mm	1.6mm	0.8mm	0.7mm
No. 4	8mm	4.7mm	1.6mm	0.8mm	0.8mm

CARABINA /LOBSTER /ITALIAN CLASP – SILVER & GOLD

Number	Length	Width	Bale gage	Hook ∅
No. 1	10.2mm	3.9mm	0.5mm	1.2mm
No. 2	11.5mm	4.3mm	0.7mm	1.2mm
No. 3	14.0mm	5.2mm	0.7mm	1.3mm
No. 4	16.0mm	6.3mm	0.7mm	1.4mm

JUMP / O RINGS - SILVER & GOLD

Number	Outside ∅	Gauge of Wire	Bolt Rings	Italian Clasps
No. 1	3.5mm	0.7mm		
No. 2	4.0mm	0.7mm	No.1	No.1
No. 3	4.5mm	0.7mm		
No. 4	5.0mm	0.8mm	No.2	No.2
No. 5	5.5mm	0.8mm		
No. 6	6.0mm	0.8mm		
No. 7	7.0mm	0.9mm	No.3	No.3
No. 8	8.0mm	0.9mm		
No. 9	9.0mm	0.9mm	No.4	No.4
No. 10	10.0mm	0.9mm		

- If the strength or gauge of a chain or bracelet must be explained it should be done on the following formula:
- The weight of the item per cm should determine which bolt or Italian clasp is to be fitted.
- Measure an item for length
- Weigh the item in grams
- Divide the weight (mass) of the item by the length. (Usually in cm).

EXAMPLE 1

Length of item	=	45cm (including clasp)
Mass of item	=	4.0 gms (4 ÷ 45 = 0.08 grams per cm)

EXAMPLE 2

Length of item	=	50cm (including Clasp)
Mass of item	=	29.0 gms (29 ÷ 50 = 0.58 grams per cm)

- The item (Example 2) is obviously heavier than the first item, and would require a bigger (stronger) clasp to withstand tugging or pulling and to withstand wear and tear

- By using the formula it is suggested that the following clasps are to be used according to the weight of the item:

BOLT RINGS

Up to 0.100 grams per cm	No.1	5mm
From 0.101 to 0.200 grams per cm.	No.2	6mm
From 0.201 to 0.300 grams per cm.	No.3	7mm
From 0.301 to 0.400 grams per cm.	No.4	8mm

ITALIAN TYPE CLASPS

Up to 0.300 grams per cm.	No.1	10.2mm
From 0.301 to 0.400 grams per cm	No.2	11.5mm
From 0.401 to 0.500 grams per cm	No.3	14.0mm
From 0.501 and over grams per cm	No.4	16.0mm

- **Any item over 0.401 per cm should automatically use an Italian type clasp and not a bolt ring.**

BANGLES

GENERAL SPECIFICATIONS FOR BANGLES

- No visible solder joins
- All bangles required to be the correct shape (square to be square, round to be round and oval to be oval etc.)
- Bangle width to be even around the whole circumference, unless design specific
- Weight tolerance minimal 10% as per Purchase Order

MINIMUM SPECIFICATIONS FOR BANGLES

Silver and Gold	Seam	Seamless
Flat	**Thickness**	**Thickness**
3mm	0.9mm	0.75mm
4mm	0.9mm	0.8mm
5mm	0.9mm	0.8mm
6mm	0.9mm	0.8mm
Half Round	**Thickness**	**Thickness**
2mm	0.9mm	0.75mm
3mm	1.05mm	0.75mm
4mm	1.05mm	0.8mm
5mm	1.10mm	0.8mm
6mm	1.10mm	0.8mm
8mm	1.0mm	0.85mm
C Shaped	**Thickness**	**Thickness**
All widths	0.3mm	N/A
Tube bangles	**Wall Thickness**	**Thickness**
	0.3mm	N/A

- Standard bangle diameters

- Standard = 65mm diameter and Large = 67mm diameter unless otherwise specified by buyer

QUALITY STANDARDS FOR DIAMONDS, GEMSTONES AND PEARLS

DIAMONDS, GEMS, BIGGER STONES

- No loose stones (setting must be firm).
- No gaps between stones / walls / corners.
- No chipped stones.
- All stones to have a minimal of 1mm height clearance from the point of the stone to the inside of the shank.
- Not set too high or too low in relation to the claws and beads

DIAMONDS
KIMBERLEY PROCESS

TFG Jewellery complies with the Diamond Guarantee known as the **KIMBERLEY PROCESS.** This warrants that all diamonds supplied have been purchased from legitimate sources not involved in funding conflict, in compliance with the United Nations Resolutions. We therefore require your invoice to reflect the following statement (a rubber stamp on the back of our invoice is acceptable):

"The diamonds herein invoiced have been purchased from legitimate sources not involved in funding conflict in compliance with the United Nations Resolutions. The seller hereby guarantees that these diamonds are conflict free, based on personal knowledge and/or written guarantees provided by the supplier of these diamonds".

The following diamond specifications for the Foschini Group Jewellery Division are based on the GIA system of grading. Buyers may on occasions specify specific colour and purity/clarity requirements, these details must be confirmed and clearly communicated at time of quotation. In cases where specific diamond colour and purity/clarity is required the relevant sample showing the specific colour and purity/clarity must be sent for final Quality Control approval before commencement of production.

In all other cases (where different qualities are not specified) find below our minimum requirements/specs:

DIAMONDS SPECIFICATIONS

The following diamond specifications, for TFG Jewellery Division, are based on the GIA system of grading.

All diamonds ordered should conform to the colour, clarity, make and cut detailed below (As per standard agreed with Buyer)

MINIMUM SPECIFICATIONS FOR FULL AND SINGLE CUT DIAMONDS

Colour	• Minimal colour as requested by the Buyer – Ticket to be correct
Clarity	We do not accept any diamonds with: • black naats • gletzes • cracks that break the surface of any stone. • Any markings in stone should not be reflective • Nicks or chips are not acceptable
Make/Cut	• No thick girdles • No knife edge girdles • No rough girdles • No thick or high crowns • No small or spread tables • No flat crowns or pavilions (Fish-eye)

	• No graining lines (polishing lines) • No out of round stones

GENERAL

We do not accept any:

- laser drilled
- fracture filled
- diamonds damaged through the setting and/or casting process e.g. burnt or damaged

MOISSANITE

MOISSANITE SPECIFICATIONS

All moissanite ordered should conform to the colour, clarity, make and cut detailed below:

MINIMUM SPECIFICATIONS

Colour	As per standard agreed with Buyer • Minimal colour D and E.
Clarity	Eye clean, no inclusions should be visible
Make/Cut	• No thick girdles • No knife edge girdles • No rough girdles • No thick or high crowns • No small or spread tables • No graining lines (polishing lines)

SUPERNOVA MOISSANITE

EXCELLENT CUT

This shows our SUPERNOVA Moissanite are cut for brilliance.
The light enters the top of the jewel and is refracted back up to the viewer,
showcasing maximum brilliance.

MANUFACTURING OF MOISSANITE JEWELLERY

We do not accept any moissanites damaged through the setting and/or casting process e.g.burnt or damaged Moissanites can be handled the same way as diamonds during the manufacturing process of Moissanite Jewellery.

- Moissanite has a Mohs hardness scale of 9.25 compared with diamond that has a Mohs hardness of 10.
- Do not use abrasives that contain silicon carbide or diamond. This will scratch Moissanite.
- Set Moissanite just like the way you set diamonds or other precious gemstones.
- If Moissanite is forced into the bearing and is pressed hard up against the adjacent Moissanites during the setting process, it is likely that the jewel will break.
- Square brilliant Moissanite has a straight girdle and shallow crowns and is prone to breakage at the girdle if force is applied. Extra care is needed for this cut during the setting process.
- Moissanite can withstand higher temperatures than diamond. Upon heating Moissanite will turn red/yellow but will eventually return to its original color once it is cooled. This colour change phenomenon is an inherent property of Moissanite.
- Moissanite is safe in an ultrasonic hot bath.
- You can boil Moissanite in acid as you can with diamond.
- You can apply heat protection agents like boric acid, alcohol or borax and water to Moissanite.

GEMSTONES

Unless otherwise specified, the following standards apply to all gem set products, including natural, created/synthetic, simulated/imitation, inorganic and organic gemstones.

REQUIREMENTS

Jewelley Division expects all gem set jewellery to meet our quality standards. However Jewelley Division also recognises that quality can vary from one type of gemstone to another, depending on the factors such as characteristics for a particular gem set material. Because of these variations in quality, it is imperative that the Jewelley Division Buyer and the Supplier establish agreed-upon standards by considering important factors such as the following:

- calibration (size)
- minimum carat weight
- clarity grade (e.g. eye clean vs. table clean)
- colour range
- cut quality
- intended setting
- any other pertinent quality considerations for a particular type of stone

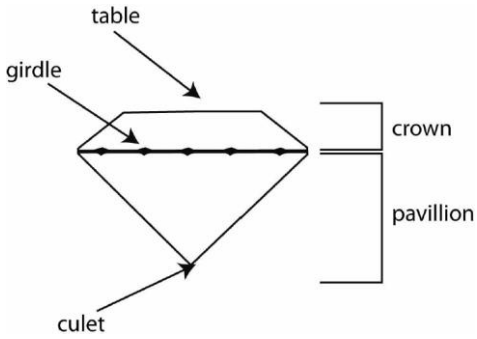
Criteria for the above factors should be established and agreed on in writing.

If the Supplier expects a noticeable change or variation with respect to an item's cut, clarity or colour, it is strongly recommended that the Supplier first submit a set of stones representing the range to the Jewellery Division's Buyer, prior to the delivery, to determine whether Jewelley Division will accept such a range.

TERMINOLOGY FOR PARTS OF GEMSTONES

To ensure that Suppliers understand TFG Jewellery Division's policy, the following illustration points out the parts of a gemstone:

Faceted Gemstone



GEMSTONE IDENTIFICATION

Jewelley Division will reject any jewellery or gemstone item that is inaccurately identified or represented. It is imperative that Suppliers accurately identify all gemstone products.

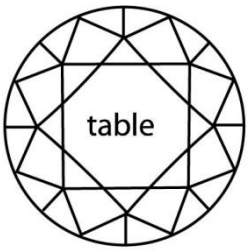
Note: Jewelley Division will not accept misnomers. A “misnomer” is any term that misrepresents the identity, origin, formation, composition or appearance of a gemstone.

GEMSTONE CLARITY INSPECTION METHOD

Unaided-eye inspection

When evaluating clarity, our inspectors look from the crown view (i.e., top view, table-view, face Up) with an unaided eye at a “bent elbow” distance, which is approximately 15 (fifteen) to 30 (thirty) centimetres from the eyes. Vision is assumed to be 20/20 and colour vision is assumed to be normal.

Crown View



Magnification

Although the Jewellery Division inspectors do not use magnification to detect defects, they may use a 10X loupe or 2X to 5X glasses to obtain a clearer view of an eye-visible feature
or defect.

GENERAL CLARITY STANDARDS

The following are clarity standards which must be met, regardless of clarity grade, price, type of gemstone or any other agreed-upon criteria:

- There must be no inclusions (internal flaws) or blemishes (surface flaws), imposed naturally or by the manufacturing process, that threatens the stone's structural integrity.
- There must be no blemishes such as chips, cracks, scratches, polishing marks and abrasions on the crown or girdle.
- It is unacceptable to use glass or resin (i.e., "filler") to enhance a stone's clarity.
- All stones of the same type within an individual piece should match in clarity and colour.
- All pieces among every production run must conform to the agreed-upon clarity grade and range for that item.
- If the Supplier expects a noticeable variation with respect to clarity, Jewelley Division may request the Supplier to provide a set of stones which represents the range of variation.

CLARITY GRADES

Depending on the specified criteria and standards, gemstones will be expected to conform to one of the following clarity grades:

Eye clean	No inclusions should be visible under the entire crown. (For example, blue topaz is expected to meet this clarity grade.)
Table clean	No inclusions should be visible under the table facet. (For example, garnet is expected to meet this clarity grade.)
Slightly included	Slight or minor inclusions are acceptable under the crown. (For example, ruby is expected to meet this grade.)

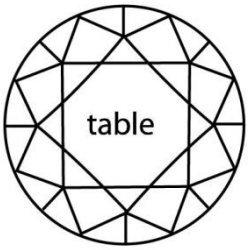
GEMSTONE COLOUR

- Each individual stone should be uniform in tone (lightness/darkness) and intensity (brightness) from the crown view. There must be no obvious colour-banding or colour-zoning from the crown view, even if the variation is within the specified colour range, unless specified otherwise.
- Stones intended to be the same colour in a multi-stone item should match in colour.
- Even if a colour range is bought for a Jewelley Division item, the stones within an individual piece must not noticeably vary.
- All pieces among every production run must conform to the specified colour range.
- If the Supplier expects a noticeable variation with respect to colour, TFG Jewellery Division may request the supplier to provide a set of stones which represents the range of variation.

GEMSTONE CUT

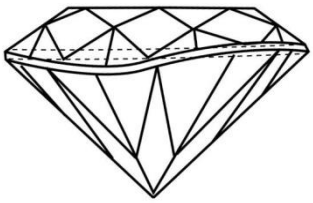
- There should be *no* extreme cut variation in faceting, outline shape or depth that
    - Threatens the stone's structural integrity.
    - Impairs proper setting.
    - Noticeably detracts from the stone's beauty.
    - Compromises the guaranteed minimum carat weight.
    - The cut should be symmetrical and consistently proportional.

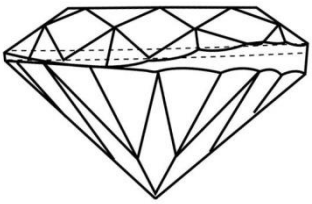
Correct



- No noticeable off-centred culets.
- no girdles which are noticeably “wavy” or thick

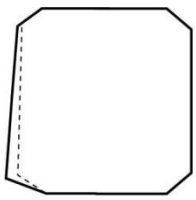
Wavy Girdle **Inconsistent Girdle**

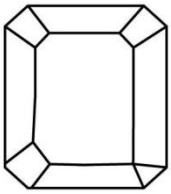


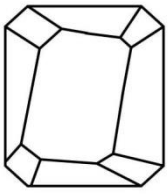


- Fancy shapes that fail to conform to industry visual standards are not acceptable. The following are examples of distortions in major fancy shapes that cause rejection. (The dotted lines represent the correct shape.)

Emeralds

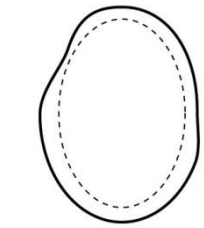

sides not parallel


narrow & wide corners


skew facets

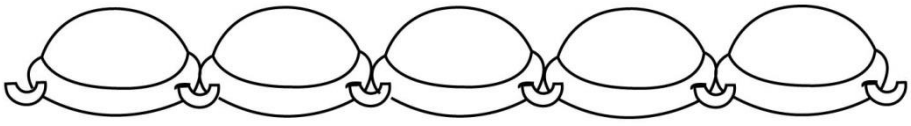
***This would also apply to baguette-cut and square-cut stones**

Oval

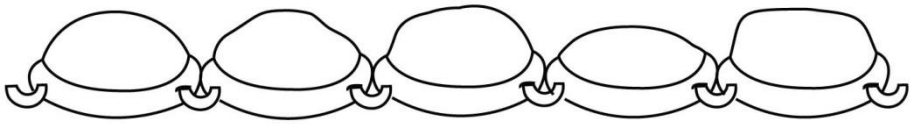


uneven shoulders

- In multi-stone designs, stones which are intended to have the same outline shape, cutting style, size, height and/or length must match each other in cut proportion.



correct



incorrect

- All pieces among every production run must conform to the specified cutting style and outline shape.

- If the Supplier expects a noticeable range or variation with respect to cut, Jewelley Division may request the Supplier to provide a set of stones which represents the range of variation.

GEMSTONE POLISHING

- On the surface there should be:
  - no scratches
  - no polishing marks or lines
  - no residual polishing rouge
  - no water stains
- The polish should be even and consistent in lustre.

- The facet edges or girdle should not be abraded or rounded by over polishing
- Stones in a multi-stone item should match each other in polish and lustre.
- All pieces among every production run must match each other in polish and lustre.

PEARLS

GENERAL REQUIRMENTS FOR PEARLS

- All treatments should be specified on Sample sheet.
- Pearls must be glued onto a pin and a dish.
- Epoxy-based glue must be used.
- No glue overflows.
- Pin must not be shorter than half of the diameter of the pearl.
- On half round pearls, not shorter than half of the radius.
- Pearls should not be chipped
- Pearls must match in size (within the allowable tolerances), body colour, overtone, and lustre.
- The nacre surface of cultured pearls and pearls must have a consistent, smooth and lustrous finish with:
    - no artificial coating or lacquer
    - no prominent blisters
    - no prominent crevices
    - no cracked, chipped, thin or peeling nacre
    - no obvious dull or dark spots
    - no excessive nicks, especially around the drill holes
    - no visible cement or any other type of adhesive
- Multi-cultured pearls and multi-pearl items (e.g. necklace, earrings) or an item set (e.g. bracelet/necklace combination) should match in colour, size and overall quality, unless specified otherwise.

GENERAL REQUIRMENTS FOR MABE

- On rings, Mabes must be properly set - not glued.
- On exception, Mabes can be glued on Earrings, Pendants or Brooches only.

- Mabe must not be tampered with during setting.

CULTURED PEARLS AND FRESHWATER PEARLS

Jewellery Division QA inspects cultured pearls and Freshwater with an appreciation for their unique inherent properties. Nevertheless, pearls must conform to fundamental standards of quality as outlined below:

SHELL PEARLS

- Pearls must be glued onto a pin and a dish.
- Epoxy-based glue must be used.
- No glue overflows.
- Pin must not be shorter than half of the diameter of the pearl.
- On half round pearls, not shorter than half of the radius.
- Pearls should not be chipped or peeling
- Pearls should not be cracked
- Pearls must match in size (within the allowable tolerances), body colour, overtone, and lustre.

IMITATION PEARLS

- Pearls must be glued onto a pin and a dish.
- Epoxy-based glue must be used.
- No glue overflows.
- Pin must not be shorter than half of the diameter of the pearl.
- On half round pearls, not shorter than half of the radius.
- Pearls should not be chipped or pealing
- Pearls must match in size (within the allowable tolerances), body colour, overtone, and lustre.

SETTING OF PEARLS

- Cultured pearls and freshwater pearls must fit neatly and securely within the setting.

- The primary method of setting cultured pearls must be mechanical, such as a hidden peg or prongs. Any glue used in conjunction with the primary setting method must be consistent in application and not visible.

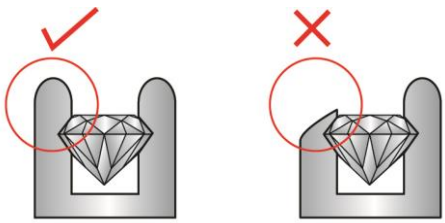
SPECIALS REQUIREMENTS AND STANDARDS

SIZING

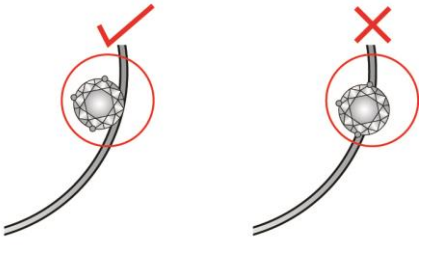
- When a special order is placed the sizing of the ring should be done in the wax ensuring the settings are not compromised in any way.
- Where an extra large or small size will compromise the stone settings and stability, the ring needs to be Re-CAD'ed to compensate for the expansion and contraction of the stone seats. (reduction and expansion of the circumference)
- If the construction of the ring will be affected in anyway, the Buyer need to be informed of this before production starts.
- If branding or hallmarking is affected, then Re-CAD is necessary

STONES AND SETTING

- If stones are wax set they need to be held in place by sufficient metal to withstand general wear and tear of the ring.
- All stones should be checked and inspected for any defects as well as to make sure the stones are tightly set.
- 100% Pin Prod test needs to be performed and highlighted on your AQL Sheet. (note that Specials require the AQL sheet to be submitted)
- Beads holding the stones should not be over polished as per images below.



- Girdles of stones should not be exposed as per image below.



- All setting used should adhere to the TFG Construction and Specifications Standards.

CAST DEFECTS AND POROSITY:

- Each ring should be carefully inspected to ensure no cast defects/ porosity can be seen with the naked eye.
- Kindly note that all Special require to adhere to Zero Defect AQL 0.65.

ALLOYS:

- All alloys used should be the same as the alloys used for Bulk orders.
- All alloys used should adhere to the TFG Construction and Specifications Standards.

PLATING AND FINISH:

- Ensure that the finish on all items is of the best quality and adheres to the TFG Construction and Specifications Standards.
- No porosity should be visible.
- Plating should be even and adhere to the TFG Construction and Specifications Standards.