LMHC Information Sheet # 12

Organic fillers (oil, resin, wax) in gemstones

- **No fissures or No indications of organic material in fissures**
- **Colourless or near colourless organic material in fissures**
- **Colourless or near colourless organic material in cavities**
- **Coloured organic material in fissures/fractures and/or cavities**
- **Coloured organic material in fractures and/or cavities in near colourless gemstones**
- **Gemstones with/and resin (manufactured product)**

Members of the Laboratory Manual Harmonisation Committee (LMHC) have standardised the nomenclature that they use to describe filled fissures, fractures and/or cavities in gemstones and composite material. This nomenclature is used for all situations that involve the filling of fissures, fractures and/or cavities, where there are indications that the clarity of the gemstone has been enhanced/modified by this process with the exception of those covered in Information Sheet #1, #3, and #5.

No fissures or No indications of organic material in fissures

Any gemstone that has no fissures or does not show indications of having undergone modification through the filling of fissures with oils, resins, waxes or any other organic filler shall be described as,

Identification:
Species: **(natural)[1] [species]**
Variety: **(natural)[1] [variety]**

Further information: **None** or **no fissure filling[2]** or **no indications of clarity enhancement/modification[2]** or **At the time of examination, this gemstone does not show any clarity enhancement. However, there are fissures present that can be filled at any time.[2]**

Colourless or near colourless organic material in fissures

Any gemstone that shows indications of having undergone modification through the filling of fissures with colourless or near colourless[3] oils, resins, wax or any other filler shall be described as,

Identification:
Species: **(natural)[1] [species]**
Variety: **[variety]**

Further information: **Fissure filling** or **indications of clarity enhancement/modification (Clarity enhancement/modification is usually reversible and repeatable at any time. This report states the condition only at the time of examination)[1] (plus the appropriate quantification terminology)[1], (plus the identification of the filler)[1]**. See Table 1 for instructions concerning the use of the designated **alpha numeric** or **text descriptions**.

[1] Text in parenthesis is optional
[2] Only use if fissures are observable
[3] When viewed in bulk, e.g., in a bottle, oils and resins may appear to have colour. However, when viewed in thin films, as in fissures, the appearance may be near colourless.

Table 1: Quantification and identification of filler in fissures

Status:	No fissures present in stone	No or insignificant filler in fissures[2]	Quantification and identification of filler in fissures		
Report Alpha numeric:			F1	F2	F3
Report Text:	None	**No / Insignificant** fissure filling	**Minor** amount of filler (resin/other) in fissures	**Moderate** amount of filler (resin/other) in fissures	**Significant** amount of filler (resin/other) in fissures
		or	or	or	or
		No / Insignificant indications of clarity enhancement / modification	Indications of **minor** clarity enhancement / modification	Indications of **moderate** clarity enhancement / modification	Indications of **significant** clarity enhancement / modification

Notes

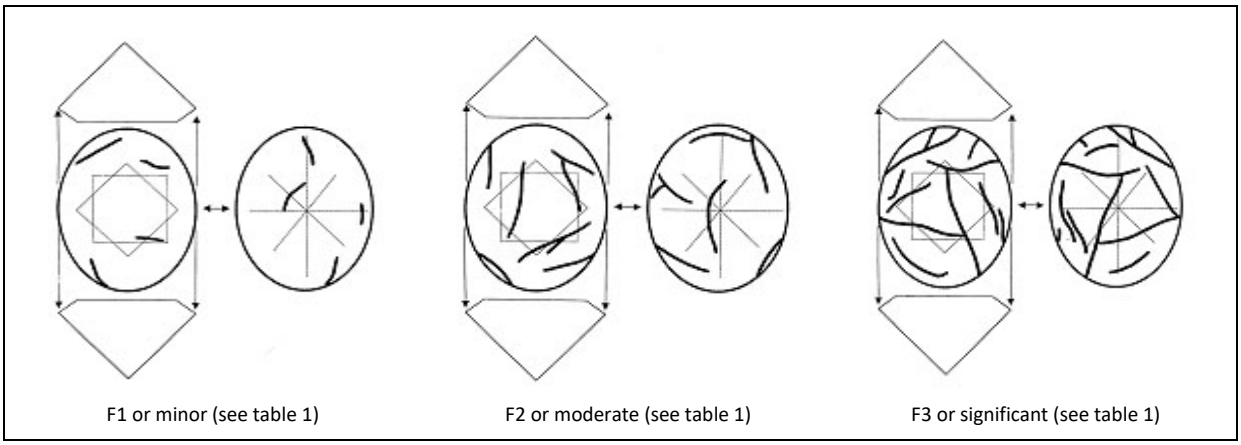
A: Opaque residues of resins that remain behind within fissures following 'cleaning' or through deterioration shall not be reported upon within the context of this IS. However, an informative note shall be placed on reports if opaque residues of resins or oils remain behind within fissures of gemstones through deterioration, e.g., drying or incomplete cleaning. An example of such a note would be: (resin/other) residues present.

B: The presence of materials within fissures that occur naturally is not within the context of this IS and need not be declared.

C: Whether using the alpha numeric or text description, the report shall also illustrate the equivalent by appending the above table or this Information Sheet shall be referenced.

D: Filler identification may be applied as an option.

Figure 1: Illustrations for quantification of filler in fissures



F1 or minor (see table 1) F2 or moderate (see table 1) F3 or significant (see table 1)

Colourless to near colourless organic material in cavities

Any gemstone that shows indications of having undergone modification through the filling of wide fractures and/or cavities with colourless or near colourless[3] resins or wax shall be described as,

Identification:
Species: **(natural)[1] [species]**
Variety: **[variety]**

Further information: **Cavity filling**
(plus the appropriate quantification terminology)[1], (plus the identification of the filler)[1].
See Table 2 for instructions concerning the use of the designated alpha numeric or text descriptions.

Table 2: Quantification and identification of filled wide fractures/cavities

Condition →	Quantification and identification of filler in fracture(s) / cavity(ies)		
Report Alpha numeric→	**C1**	**C2**	**C3**
Report Text→	**Minor** amount of filler (resin/wax) in cavities	**Moderate** amount of filler (resin/wax) in cavities	**Significant** amount of filler (resin/wax) in cavities

Notes
E: Whether using the alpha numeric or text description, the report shall also illustrate the equivalent by appending the above table or this Information Sheet shall be referenced.

F: The presence of material within fractures that has occurred naturally is not within the context of this IS and need not be declared.

G: Durability/stability: fillers may be unstable at elevated temperatures and to chemical agents. Special care shall be taken when repairing jewellery items set with filled gemstones. The unmounting of such stones prior to jewellery repair is recommended.

Coloured organic material in fractures and/or cavities

Any gemstone that shows evidence of having fissures/fractures filled with coloured agents[2] that have an effect on the colour[4] shall be described as,

Identification
Species: **(natural)[1] [species]**
Variety: **[variety]**

Further information: **Coloured filler in fissures/fractures (and/or cavities)** or
indications of clarity and colour enhancement / modification by a coloured substance
(plus the appropriate quantification terminology)[1], (plus the identification of the filler)[1].
See Table 1 and 2 for instructions concerning the use of the designated alpha numeric or text descriptions.

[1] Wording in parentheses is optional
[2] This clause does not include the presence of polishing compounds in fissures
[3] When viewed in bulk, e.g., in a bottle, oils and resins may appear to have colour. However, when viewed in thin films, as in fissures, the appearance may be colourless to near-colourless.
[4] Filling material has sufficient colour to be seen in a thin film, i.e., within fissures

Coloured organic material in fissures and or fractures in near colourless gemstones

Any initially colourless or near colourless gemstone that shows evidence of having fissures/fractures filled with coloured agents that are creating the colour of the stone shall be described as,

Identification:	
Species:	**(natural)[1] (treated)[1] [species]**
Variety:	**(no variety)**
Further information:	**Dyed**

Gemstones with/and filler (resin/other)

It is possible to take a heavily fractured, friable, single piece of rough gemstones, infuse the fractures with resin and then facet a stone from the treated material. It also possible to assemble and/or to bind a multitude of unrelated tiny pieces of rough into one cutting material using a resin. If the resin is altered, the stone may fall into pieces.

Identification:	
Species:	**manufactured product or (natural)[1] [species] and filler (resin/other)**
variety:	**[variety] with/and filler (resin/other)** or **manufactured product**
Further information	**This item is a combination of resin and [variety]** **(If the filler is altered, the gemstone may fall into pieces)[1]** (Fracture filling materials and binding materials such as resin may be unstable to elevated temperature and to chemical agents. Special care should be taken when cleaning or repairing jewellery items set with fracture filled stones.)[1]

[1] Wording and text in parentheses is optional