

Corundum with glass filled fissures and/or cavities enhancing/modifying the clarity

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

Glass filled fissures in corundum: (see Information Sheet #1 for “healed fissures” and subsequent “residues in fissures”)

Any corundum that shows indications of having undergone clarity enhancement/modification usually assisted by heating, through the filling of fissures with glass shall be described as,

- species: **'natural corundum'**
- variety: **'ruby' or 'sapphire'¹**
- comments: **'(Indications of) Clarity enhancement/modification by a glass filler in fissures' or 'Glass filled fissures' or 'Glass in fissures'**, plus (the appropriate filler quantification terminology - 'alpha numeric and/or text description' - see Table 1), (the identification of the glass material - e.g. lead glass, silica glass, etc.) and/or the statement (introduction of glass into fissures involves heating)²

Status:	No indications of clarity modification	Clarity enhancement/modification / glass in fissures		
Report Alpha numeric:		F1	F2	F3
Report Text:	"No declaration"	<i>Minor</i> clarity enhancement/modification by a glass ³ filler in fissures / Glass ³ filled fissures, <i>Extent: minor²</i>	<i>Moderate</i> clarity enhancement/modification by a glass ³ filler in fissures / Glass ³ filled fissures, <i>Extent: moderate</i>	<i>Significant</i> clarity enhancement/modification by a glass ³ filler in fissures / Glass ³ filled fissures, <i>Extent: significant</i>
Further optional report comments:		a lead glass / a silica glass, etc. has been identified as the filler and/or the introduction of glass into fissures involves heating.		

Table 1: Quantification table for colourless to near-colourless glass in fissure(s) in corundum

Special Notices

1. Whether using the alpha numeric or text description the report shall also illustrate the equivalent by appending the above chart.
2. The process producing 'glass filled fissures' might also induce healing of fissures and/or fractures (see Information Sheet #1).

Glass filled cavities in corundum:

It is possible that during the glass filling process in addition to fissures, cavities may also become filled with glass. When such glass filled cavities are found in addition to the applicable report text and/or alpha numeric (as above) these shall be described as,

- comments: **'(Indications of) 'Glass filled cavity(ies)'** plus (the appropriate filler quantification terminology - 'alpha numeric and/or text description' - see Table 2), (the identification of the glass material - e.g. lead glass, silica glass, etc.) and/or the statement (introduction of glass into cavities involves heating).

¹'Sapphire' for the blue variety of corundum. For other colours, 'Sapphire' preceded by its colour (e.g. yellow sapphire, pink sapphire, etc.). See Information Sheet #4 for 'padparadscha sapphire'.

² Text in parenthesis is optional.

³ In case of coloured glass, the report text shall mention the presence of a coloured glass.

Status:	Glass in cavities		
Report Alpha numeric:	C1	C2	C3
Report text:	"Minor Glass filled cavity(ies)"	"Moderate glass filled cavities"	"Significant glass filled cavities"
Further optional report comments:	a lead glass / a silica glass, etc. has been identified as the filler and/or the introduction of glass into fissures involves heating.		

Table 2: Quantification table for colourless to near-colourless glass in cavities in corundum

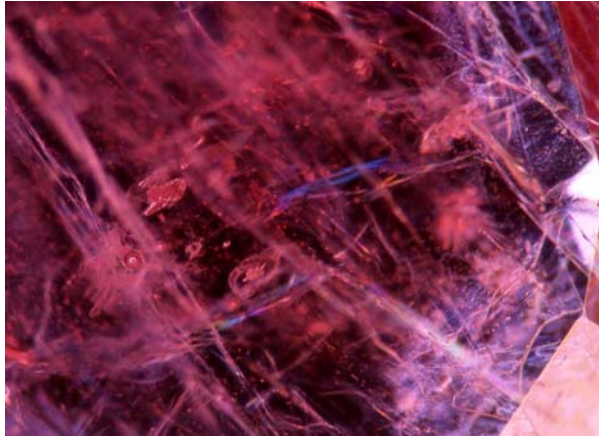


Figure 1a:
Colour flashes seen in the area of lead glass filled fractures in ruby.

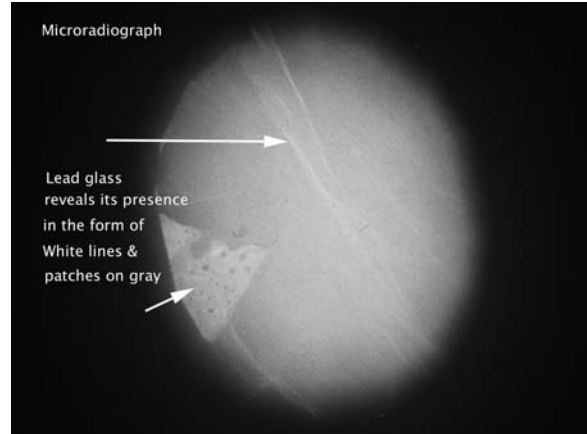


Figure 1b:
A microradiograph that reveals the presence of lead glass in fractures.

Members of the LMHC determine which quantification terminology to use (see Tables 1 and 2) taking into account the size and position of each glass filled fissure and/or cavity. This filling may be of various extents (see examples in figures 2a, b and c.).

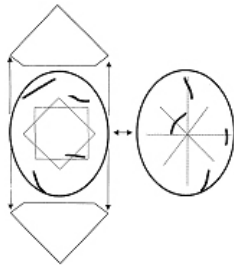


Figure 2a:
Glass filled fissures, Extent: minor (F1).

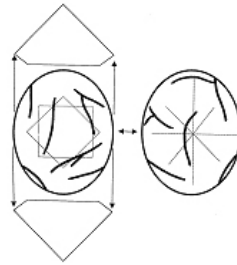


Figure 2b:
Glass filled fissures, Extent: moderate (F2).

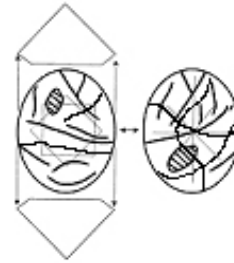


Figure 2c:
Glass filled fissures, Extent: significant (F3), and significant glass filled cavities (C3).

Special note:

Durability/stability: Glass filler may be unstable to elevated temperatures and to chemical agents. Special care shall be taken when repairing jewellery items set with glass filled corundum. During jewellery repair the unmounting of such stones is recommended.

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