

# L M H C I n f o r m a t i o n S h e e t # 1

## **Standardised Gemmological Report Wording (implementation beginning February, 2004)**

### **Corundum with residue from the heating process present in healed fissures and/or cavities**

Members of the Laboratory Manual Harmonization Committee (LMHC) have standardized the nomenclature that they use to describe heat treatment in corundum and the degree to which fissure “healing” has occurred, and the residue that remains within the healed fissures and cavities, following the heating of corundum.

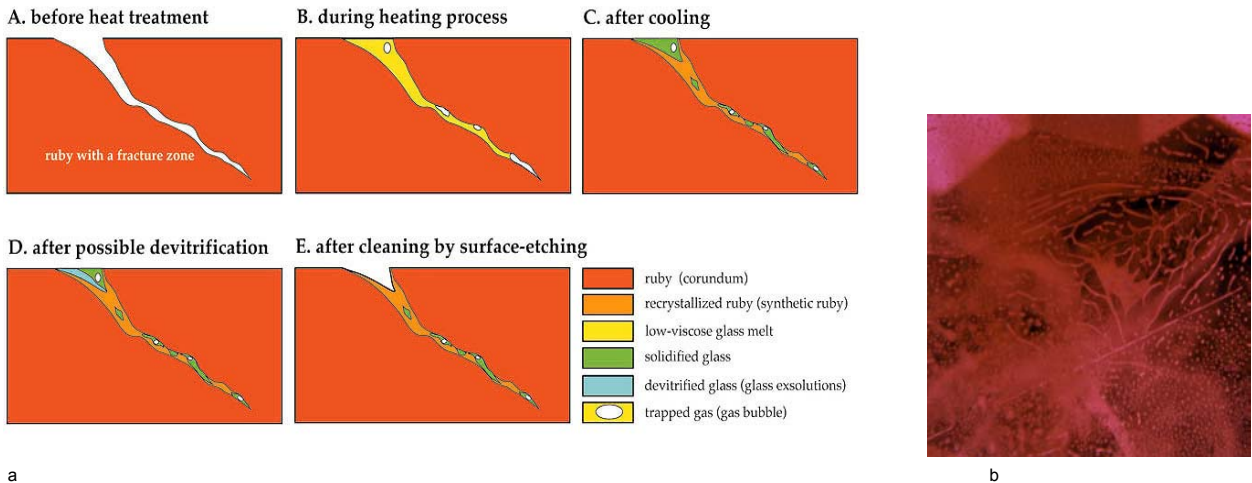
**Healed fissures:**

Any corundum that shows indications of heat treatment and a degree of healing along (previous) fractures - see Figure 1 - which also contain residue from the heating process, shall be described as « species » **‘natural corundum’**, « variety » **‘ruby’ or ‘sapphire’** « comments » **‘indications of heating’** (to modify the colour or transparency of the stone), plus the appropriate residue quantification terminology - **alpha numeric and/or text description**<sup>1</sup>. See Table 1 and examples in figures 2a, 2b, 2c and 3.

Note 1: As an option, e.g., for “simplified reporting” situations, the quantification of residue in healed fissures may be replaced by the statement **“residue in healed fissures”**.

Note 2: wording in parenthesis is optional

Note 3: This clause may include the presence of **small** filled cavities



**Figure 1:** Flux assisted healing of a fracture during the heating process. A fracture that has been healed by the synthesis of corundum or other materials during the heat treatment or crystal growth processes. (Hänni, H.A., 1998) (a) schematic (b) actual

**Table 1** Residue quantification terminology

<b>Status</b> →	No indications of heating	Indications of heating (no residue)	Indications of heating with residue in fissures				
<b>Report Alpha numeric</b> →	NTE	TE	TE1	TE2	TE3	TE4	TE5
<b>Report Text</b> →	No indications of heating	Indications of heating	Minor residue in fissures		Moderate residue in fissures		Significant residue in fissures
Wording in parenthesis optional			<b>Status</b> →	Indications of heating with residue in cavities			
			<b>Report Alpha numeric</b> →	C1	C2	C3	
			<b>Report Text</b> →	(Minor) Residue in cavities	(Moderate) Residue in cavities	(Significant) Residue in cavities	

<sup>1</sup> In the cases of TE1 and TE2 (minor) or TE3 and TE4 (moderate), when the text version is selected a reference to the specific alpha-numeric shall be indicated either by combining the two or placing an « x » in the appropriate point of the comparative scale.

Members of the LMHC determine which of the residue quantification terminology to use (see table 1) taking into account the size and position of each healed feather and the nature of the residue that remains. This residue may be comprised of structures ranging from a fine bubble-like network with very little 'thickness' to numerous lake-like structures that may have a considerable thickness (see examples in figures 2a, 2b, 2c and 3).

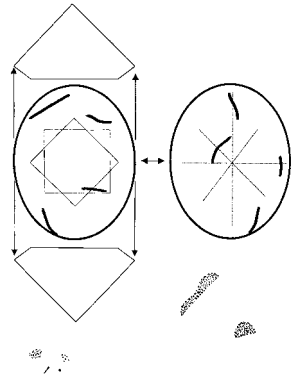


Figure 2a Minor residue (TE1) in this example consisting of fine bubble-like structures

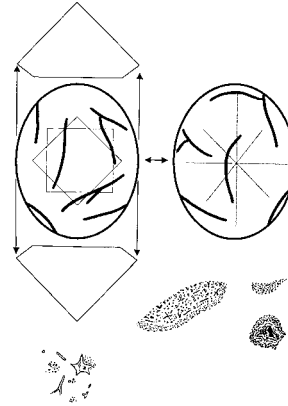


Figure 2b Moderate residue (TE3) in this example consisting of coarse bubble-like structures and films

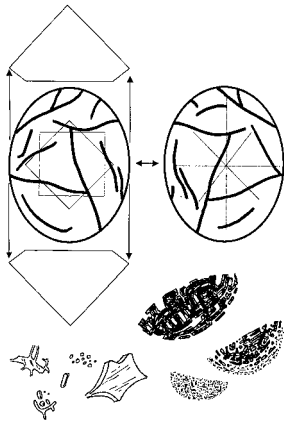


Figure 2c Significant residue (TE5) in this example consisting of coarse and thick film-like structures

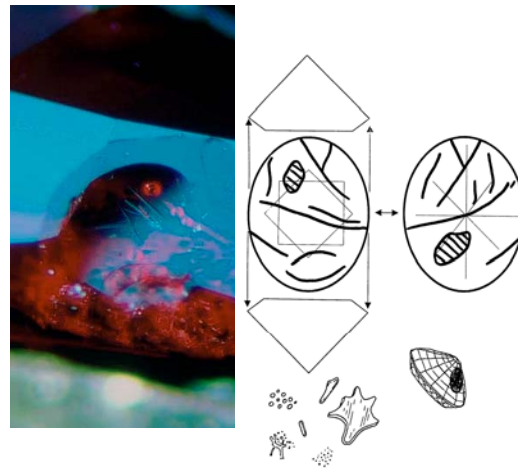


Figure 3 Significant residue (TE5) in this example consisting of coarse and thick film-like structures together with a large glass-filled cavity (C3) (example image left)

### Filled cavities:

Any corundum that shows indications of having undergone heat treatment and the presence of a vitreous residue in a cavity(ies), shall be described as « species » **'natural corundum'**, « variety » **'ruby' or 'sapphire'** « comments » » **'indications of heating'**, plus the appropriate quantification terminology - **alpha numeric and/or text description**. Table1 outlines the use of the designated alpha numerics or text descriptions and figure 3 gives an example of a typical situation.

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