

**INTRODUCTION**

Exercise care in the assembly of SAPPHIRE® COMPACT Fixed Fire Suppression System detection tubes and connectors to ensure the leak tightness of a system. Each detection tube circuit must be leak tested prior to commissioning.

Complete the following steps when making connections:

1. Cut all detection tubes squarely using the SAPPHIRE COMPACT detection tube cutter (Part No. 300150003). See Figures 1 and 2.



**FIGURE 1**  
E000941



CORRECT



INCORRECT

**FIGURE 2**  
E000942 / E000943

2. Ensure that the detection tube is cut cleanly, has not been damaged, and is free from contamination and dirt.
3. Deburr the ends of the detection tube using the SAPPHIRE COMPACT deburr tool (Part No. 300150006). See Figure 4. This puts a 20° chamfer on the end of the detection tube and helps prevent damaging the o-rings inside the connectors when inserted. See Figure 4.



**FIGURE 3**  
E000944



**FIGURE 4**  
E000945

4. Push the detection tube fully into the SAPPHIRE COMPACT fitting, so that it passes the two o-rings and reaches a mechanical stop. Pull the tube back to ensure the tube is seated correctly.

**CAUTION**

The detection tube must not be forced into any of the connectors as this may damage the o-rings inside. Failure to follow this procedure may impair the leak tightness of a system.

Part No.	Description
304150013	Detection tubing – Standard – 4 mm x 6 mm (Red)
300150003	Detection tube cutter
300150006	Detection tube deburr tool

**Detection Tubing Burst Pressure**

Unaged:	199 °C at 15 bar (lower burst temperature of two samples)
Aged at 130 °C:	189 °C at 15 bar (lower burst temperature of two samples)

GEM, SAPPHIRE, and the product names listed in this material are marks and or registered marks. Unauthorised use is strictly prohibited.