



Member of the FM Global Group

2/9/2012

Product Alert

Type of Notification: Performance-related Concern

FM Approvals is aware of three instances where Tyco Model RAF-80 pressure relief valves have experienced delamination of their interior coating.

Company Identity: Tyco Fire and Building Products

Approval Listing Information: Model RAF-80, sizes 6 and 8 inch NPS

Approved Client: Tyco Fire and Building Products
Box 198, 7500 AD Enschede, Holland

Manufacturing Location: Raphael Valves Industries
Or-Aqiva, Israel

Technical Support: Tyco Fire and Building Products
1467 Elmwood Avenue, Cranston, RI 02910

Raphael Valves Industries
Or-Aqiva, Israel

Support Contact Information: Manny Silva, Manuel.Silva@tycofp.com
Aviram Grinberg, Agrinberg@talis-group.com

Description: Water Pressure Relief Valves

Make/Model: Tyco/Raphael Model RAF-80 manufactured and Approved between 2002 and 2009.

FM Approval Status: Approved

Geographic Area Affected: The valves have been distributed in Europe and the reports received by FM Approvals came from Germany.

Hazard Involved: FM Approvals is aware of three (3) instances where Tyco/Raphael Model RAF-80 pressure relief valves have experienced delamination of their interior coating. The delamination appears to be limited to the downstream side of the subject valves (see Figure 1) and may be further limited to larger size valves (e.g; 6" or 8")

The delaminated fragments (see Figure 2) can pose serious threats to the proper operation of the fire protection system. These threats are of particular concern when the discharge of a system water relief valve is piped back into a pump suction supply tank. This scenario may allow the fragments to be re-ingested into the fire pump and subsequently the sprinkler system piping, or the fire pump driver (diesel engine) cooling loop. The reports received by FM Approvals involved clogging the cooling water line to the diesel driver and burnout of the engine.

The concerns associated with this delamination, include the following:

- If fragments of the coating pass into the sprinkler system they may clog, impede or disturb the proper flow of water through system piping or sprinkler heads with a deleterious effect of water flow and sprinkler head distribution.
- If fragments are drawn into the cooling loop of a diesel engine, the strainer supplied within the cooling loop of the engine will trap the fragments. However, a buildup of fragments will eventually restrict water flow, and potentially block cooling loop water flow completely. This restriction or blockage will result in inadequate cooling of the engine and lead to engine failure if not detected.

Tyco reports that 393 Model RAF80 valves have been sold since 2005 and that all of these valves have been sold in the Europe market. Further, Tyco changed the internal coating of the subject valves to a new enamel coating in 2009. This new coating was approved by FM Approvals in May of 2011. There has been no reported delamination of valves using the new coating to date.

Sprinkler systems which incorporate these devices should be given an in-depth inspection to include removal of the Model RAF80 valve cover to examine the downstream side of the valve for indication of delamination. Additionally, strainers found in the cooling loops of diesel engine drivers and other fire protection devices should be inspected and cleaned, if necessary.

If you are in possession of a Tyco/Raphael Model RAF-80 water pressure relief valve please contact Manny Silva of Tyco Fire and Building Products at Manuel.Silva@tycofp.com and/or Aviram Grinberg of Raphael Industries at Agtrinberg@talis-group.com for guidance and replacement information. Additionally, please contact FM Approvals at the contact below:

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Figure 1

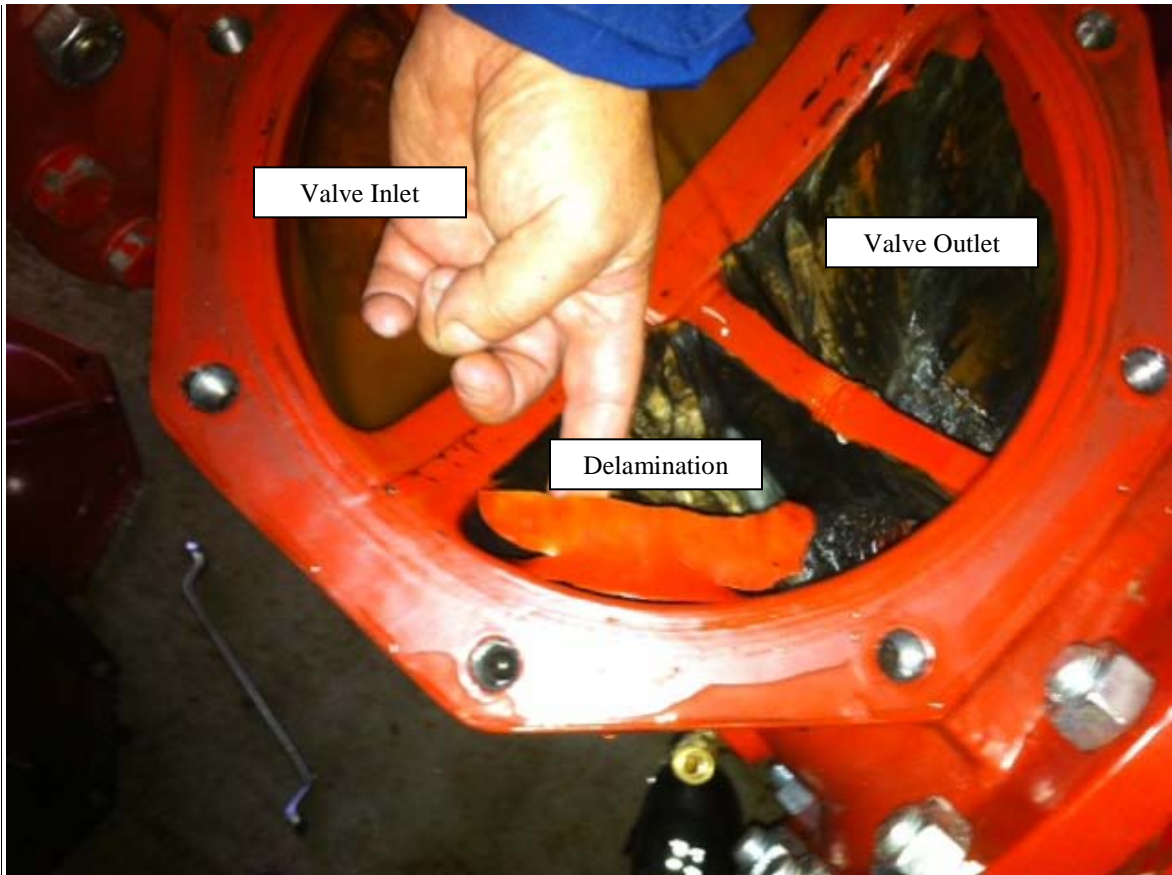


Figure 1 above shows typical delamination of the interior coating on the downstream side of an 8" Model RAF-80 water pressure relief valve.

Figure 2



Figure 2 shows a fragment of delaminated coating from a Model RAF-80 water pressure relief valve.