



Product Alert – Counterfeit Tyco Fire Products - Automatic Fire Sprinklers (TY3351)

July 14, 2023

Type of Notification: Counterfeit

FM Approvals has been made aware of counterfeit automatic fire sprinklers found in India bearing the FM Approvals certification mark. FM Approvals has neither tested nor certified these products.

Company Identity: Unknown

Product Identity: The sprinklers bear the sprinkler identification number (SIN) “TY3351” which is designated to Tyco Fire Products and the letters “TFP,” however, these were not made by Tyco Fire Products. The identity of the manufacturer is unknown.

Description: ½ inch NPT bulb-type horizontal sidewall style sprinkler

FM Approval Status: Not FM Approved.

Hazard Involved: These automatic sprinklers cannot be relied upon to react to or control a fire. Failure by any of the following mechanisms is possible: failure of the thermal element, orifice leakage, premature or delayed operation, separation of the deflector, inadequate or excessive discharge rate, corrosive attack, failure to operate, failure to produce an adequate discharge pattern, etc.

If you suspect you are in possession of counterfeit TY3351 sprinklers bearing the FM Approvals certification marking or if you have any information relative to these referenced products, please bring that to the attention of:

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Figure 1 is a photograph of an authentic TY3331 sprinkler next to one of the counterfeit TY3351 sprinklers. Tyco also makes TY3351 sidewall sprinklers, and the only difference is the use of a 5 mm bulb instead of a 3 mm, but there was not one available for the photographs below. Chrome-plate TY3351 sprinklers are also FM Approved even though this example has no decorative finish. The markings on the wrench boss are similar between the two and include the name “TYCO” (on the opposite side to the one shown), the year of manufacture, and a mold cavity identification symbol. The shape of the frame arms of the counterfeit sprinkler are clearly different, and the deflector is attached parallel to the frame arms, while it is always perpendicular to the frame arms in authentic versions. The counterfeit also uses a visibly different compression screw, indicated by the arrows in the left photo, which is silver in color (even in chrome plated authentic sprinklers, the compression screw is plain brass) and has several more exposed threads.



Figure 1. Photograph of a counterfeit TY3351 sprinkler (right) and an authentic Tyco TY3331 pendent sprinkler (left).

Figure 2 on the next page is a close photograph of the orifice cap of the authentic sprinkler. The caps in both authentic and counterfeit versions appear to be made of copper, but the counterfeit cap has annular tool marks and may have been turned from bar stock, while the authentic caps are stamped/extruded and have no annular tool marks. The rim of the authentic cap has a flare which the counterfeit cap lacks. The inlet sides of the caps are visible in **Figure 3** and the same annular tool marks can be seen on the counterfeit cap (at right). The edges of the authentic cap are radiused while the counterfeit edges are sharper.

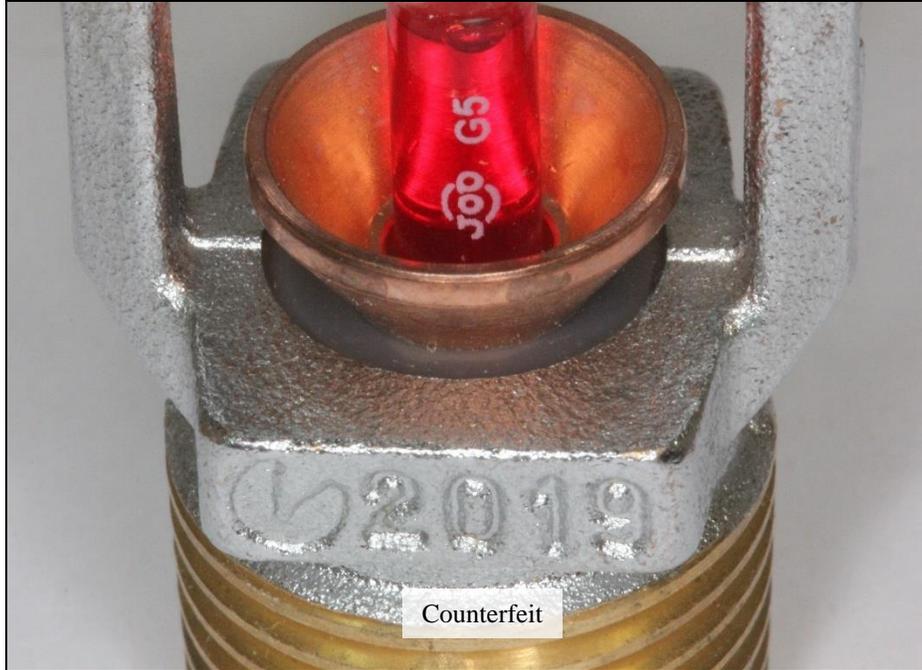


Figure 2. Close photograph of the orifice cap of the counterfeit sprinkler. Unlike the authentic versions, the rim of the cap has no flare on its edge, and it has visible tool marks perhaps from being lathe turned rather than stamped.

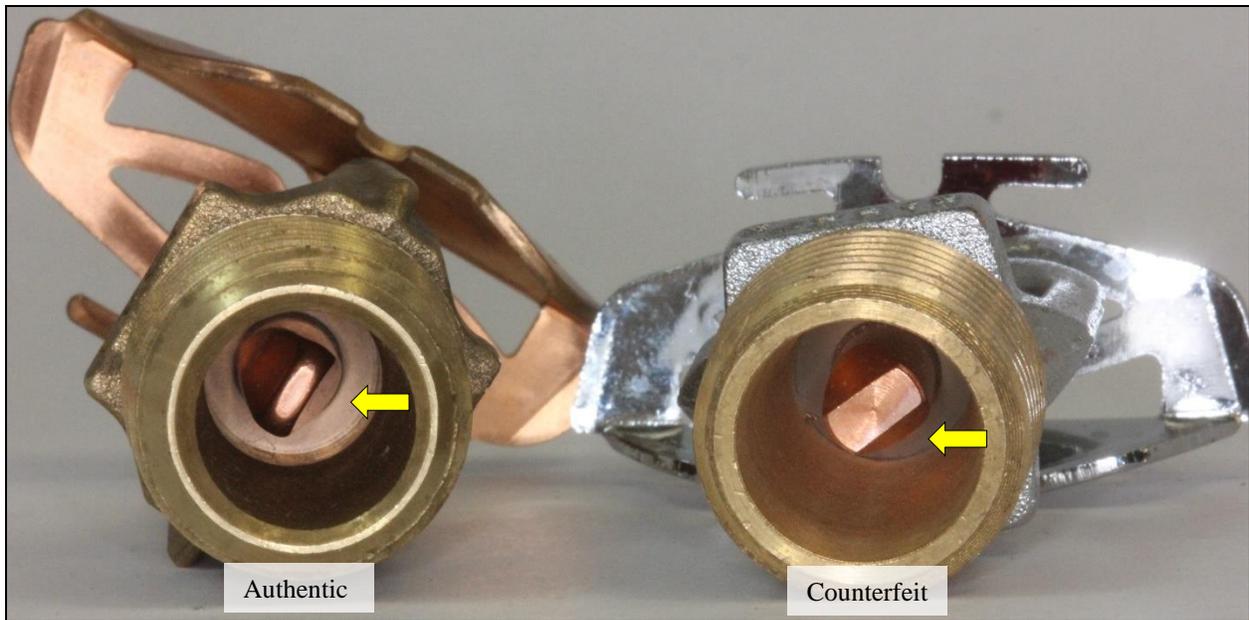


Figure 3. Authentic Tyco sprinkler (left) and counterfeit (right). The inlet sides of the orifice caps are visible and indicated by the yellow arrows. The authentic cap is stamped/extruded while the counterfeit appears to be machined and features hard edges and tool marks.

Figure 4 below shows the deflectors of the authentic and counterfeit sprinklers. The content and positioning of the stampings on the deflectors are largely the same. The most noticeable difference, as mentioned previously, is the orientation of the deflectors. Authentic deflectors are oriented with their long dimension perpendicular to the frame arms as shown at left, while the counterfeit deflectors are attached 90 degrees to that orientation.



Figure 4. Authentic TY3351 deflector (left) and counterfeit deflector (right). The markings are similar, including the appearance and position FM Approvals mark.