

## Installation

The TYCO Series DS-1 Dry-Type Sprinklers must be installed in accordance with the following instructions.

### NOTICE

The Series DS-1 Dry-Type Sprinkler must only be installed in fittings that meet the requirements of the Design Criteria section. Refer to the Design Criteria section for other important requirements regarding piping design and sealing of the clearance space around the Sprinkler Casing.

Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 inch (1,6 mm) for the 135°F (57°C) rating to 1/8 inch (3,2 mm) for the 286°F (141°C) rating.

- Obtain a leak-tight 3/4-inch NPT sprinkler joint by applying a minimum-to-maximum torque of 10 to 20 ft. lbs. (13,4 to 26,8 Nm).
- Obtain a leak-tight 1 inch NPT sprinkler joint by applying a minimum-to-maximum torque of 20 to 30 ft. lbs. (26,8 to 40,2 Nm).

Higher levels of torque can distort the sprinkler Inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to compensate for insufficient adjustment in an Escutcheon Plate by under or over-tightening the Sprinkler. Re-adjust the position of the sprinkler fitting to suit.

1. Install pendent sprinklers only in the pendent position, and install upright sprinklers only in the upright position. The deflector of a pendent or upright sprinkler must be parallel to the ceiling.

Install horizontal sidewall sprinklers in the horizontal position with their centerline of waterway perpendicular to the back wall and parallel to the ceiling. Ensure the word "TOP" on the Deflector faces the ceiling.

2. With a non-hardening pipe-thread sealant such as Teflon<sup>1</sup> tape applied to the Inlet threads, hand-tighten the sprinkler into the sprinkler fitting.
3. Wrench-tighten the sprinkler using either:
  - a pipe wrench on the Inlet Band or the Casing (Figures 1 and 2)
  - the W-Type 7 Sprinkler Wrench on the Wrench Flat (Figure 16).

Apply the Wrench Recess of the W-Type 7 Sprinkler Wrench to the Wrench Flat.

**Note:** If sprinkler removal becomes necessary, remove the sprinkler using the same wrenching method noted above. Sprinkler removal is easier when a non-hardening sealant was used and torque guidelines were followed. After removal, inspect the sprinkler for damage.

4. After installing the ceiling or wall and applying a ceiling finish, slide on the outer piece of the Escutcheon until it comes in contact with the ceiling or wall. Do not lift the ceiling panel out of its normal position.

When using the Deep Escutcheon, hold the outer piece in contact with the mounting surface (ceiling or wall). Then rotate the inner piece approximately 1/4 turn with respect to the outer piece, to hold the Deep Escutcheon firmly together.

## Care and Maintenance

The TYCO Series DS-1 Dry-Type Sprinklers must be maintained and serviced in accordance with the following instructions.

### NOTICE

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection systems from the proper authorities and notify all personnel who may be affected by this action.

Absence of the outer piece of an escutcheon, which is used to cover a clearance hole, can delay the time to sprinkler operation in a fire situation.

A Vent Hole is provided in the Bulb Seat (Figures 1 and 2) to indicate if the Dry-Type Sprinkler is remaining dry. Evidence of leakage from the Vent Hole indicates potential leakage past the Inlet seal and the need to remove the sprinkler to determine the cause of leakage; for example, an improper installation or an ice plug. Close the fire protection system control valve and drain the system before removing the sprinkler.

Exercise care to avoid damage before, during, and after installation. Never paint, plate, coat, or otherwise alter automatic sprinklers after they leave the factory.

Never repaint factory-painted Cover Plates. When necessary, replace cover plates with factory-painted units.

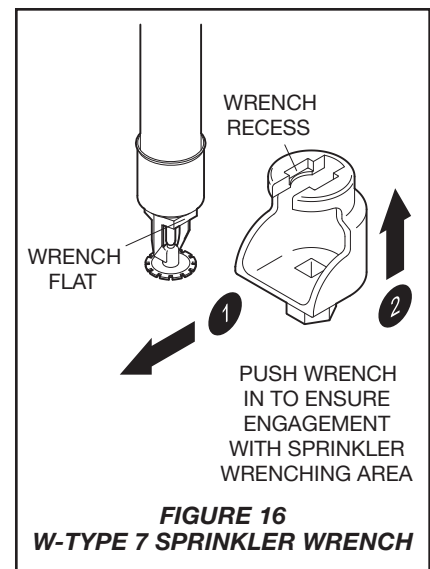
Non-factory applied paint can adversely delay or prevent sprinkler operation in the event of a fire.

Replace sprinklers that:

- were damaged by dropping, striking, wrench twisting, wrench slippage, or the like.
- were modified or over-heated.
- have cracked bulbs or have lost liquid from the bulbs. Refer to the Installation Section in this data sheet.
- are leaking or exhibiting visible signs of corrosion.

Responsibility lies with owners for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (for example, NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manufacturer should be contacted relative to any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.



<sup>1</sup> Registered trademark of DuPont