



U. S. Department of Labor
Occupational Safety and Health Administration
Directorate of Science, Technology and Medicine
Office of Science and Technology Assessment

Star ME-1 Dry Fire Sprinklers

Safety and Health Information Bulletin

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Preface

The Consumer Product Safety Commission (CPSC) issued warnings [1,2,3,4] to consumers regarding the use of Star ME-1 Dry Fire Sprinklers manufactured from 1961-1998 by various manufacturers. The CPSC warns that the Star ME-1 sprinklers present a serious safety risk and that the heads should be replaced immediately. The following companies have manufactured over 3.5 million ME-1 sprinklers during the specified time period and have issued voluntary recalls:

- Mealane Corporation (www.cpsc.gov/CPSCPUB/PREREL/PRHTML99/99152.html), Philadelphia, PA, from 1961-1976. (NOTE: This notice also includes D-1, RD-1, RE-1 and E-1 sprinklers.)
- Chemetron Corporation (www.cpsc.gov/CPSCPUB/PREREL/prhtml03/03116.html), 2381 Executive Center Drive, Boca Raton, FL 33431, an inactive subsidiary of American Household Inc., from 1977-1982.
- Sprinkler Corporation of Milwaukee Inc. (www.cpsc.gov/CPSCPUB/PREREL/prhtml03/03117.html), formerly known as Star Sprinkler Corporation, 307 West Layton Avenue, Milwaukee, WI 53207, from 1983-1995.
- Central Sprinkler Company (www.cpsc.gov/cpscpub/prerel/prhtml03/03133.html), Lansdale, PA, an affiliate of Tyco Fire Products LP, from 1996-1998.

This Safety and Health Information Bulletin is **not** a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement these recommendations is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

Purpose

The purpose of this Safety and Health Information Bulletin is to:

- Inform employers who may have the Star ME-1 sprinkler that the CPSC has issued warnings regarding their use.
- Recommend employers replace Star ME-1 sprinkler heads that were installed between the years of 1961-1998.

Background

CPSC received two reports of failures involving Star ME-1 dry sprinklers, one report concerning a 1976 sprinkler and the other on sprinklers installed in 1990 [2].

Several sprinklers were removed from locations and tested by independent testing laboratories. The results showed that 64 percent of the tested Star ME-1 sprinklers did not activate as required and failed the testing. In addition, many of the Star ME-1's failed at water pressures far exceeding requirements [5]. For example, activation of some sprinkler heads required water pressures higher than may be available in some buildings. Water pressure requirements vary depending upon building use, occupancy, and hazards as defined by National Fire Protection Association.

Findings reported in the referenced CPSC administrative proceeding allege that the sprinklers are defective, will likely fail to operate during a fire, and could expose employees to death or serious injury [5]. The proceeding, which was recently resolved, led to the recall of the sprinklers.

Description

The Star ME-1 is intended to operate in accordance with applicable installation codes and listings, such as National Fire Protection Association or Underwriter's Laboratory, Inc. The Star ME-1 is designed so that when the temperature reaches a particular level, the thermal sensing element at the exposed end of the sprinkler will melt and allow water to flow through and discharge from the sprinkler. Due to inadequate design and/or manufacturing, the Star ME-1 sprinkler will likely fail to operate as intended during fires [5].

Star ME-1 sprinklers are identified with the name "Star," the designation "ME-1," and a year of manufacture, for example "81" represents 1981. Figure 1 shows where to locate the identifying information on a sprinkler head. The Star ME-1 sprinklers have been installed in a number of workplaces, including factories, hotels, hospitals, schools, resorts, office buildings, warehouses, nursing homes, and supermarkets.

Recommendations

OSHA recommends that employers whose workplaces are equipped with dry sprinkler

systems take steps to identify and then replace Star ME-1 sprinkler heads. Employers should check with a fire protection engineering consultant or sprinkler design company when replacing these sprinklers and when evaluating existing systems or designing a new installation.

Local and state regulations may require that the replacement work be performed either by a licensed party, or under an issued permit, or both. The local and state authorities having jurisdiction should be contacted prior to the replacement.

In addition to the Star sprinklers identified, certain other sprinklers are being recalled. Additional information can be obtained about product recalls through the CPSC Press Releases and Recalls website at: www.cpsc.gov/cpsc/pub/prere/ prere.html

References

1. U.S. Consumer Product Safety Commission. *CPSC, American Household Inc., (Formerly Sunbeam Corp.) Announce Recall of Star ME-1 Dry Sprinklers, Administrative Law Settlement*. Washington, DC. Release #03-116. April 25, 2003. www.cpsc.gov/cpsc/pub/prere/prhtml03/03116.html
2. U.S. Consumer Product Safety Commission. *CPSC Warns Consumers to Replace Star ME-1 Dry Fire Sprinklers Made by Sprinkler Corporation of Milwaukee -- Administrative Lawsuit Settled, Firm Financially Unable to Conduct Recall --*. Washington, DC. Release #03-117. April 25, 2003. www.cpsc.gov/cpsc/pub/prere/prhtml03/03117.html
3. U.S. Consumer Product Safety Commission. *CPSC, Central Sprinkler Company Update Voluntary Recall To Replace O-Ring Fire Sprinklers*. Washington, DC. Release #03-133. April 28, 2003. www.cpsc.gov/cpsc/pub/prere/prhtml03/03133.html

4. U.S. Consumer Product Safety Commission. *CPSC, Melanie Corp. Announce Recall of Star Fire Sprinklers*. Washington, DC. Release #99-152. April 4, 1999. www.cpsc.gov/CPSCPUB/PREREL/PRHTML99/99152.html

5. U.S. Consumer Product Safety Commission. Administrative proceeding in the matter of Chemtron corporation, Chemtron Investments Inc., Sunbeam Corporation, Sprinkler Corporation of Milwaukee Inc., and Grucon Corporation. Washington, DC. CPSC Docket No. 02-1. October 9, 2001.

Links/Citations to the websites listed above are offered for reader's convenience. Since OSHA does not control the information contained in the websites, OSHA cannot assure the accuracy, relevance, timeliness, or completeness of all of this information. Moreover, providing links/citations to such websites does not constitute an endorsement of the websites, or their content, nor does it suggest that these websites are the exclusive or most useful sources of relevant information.

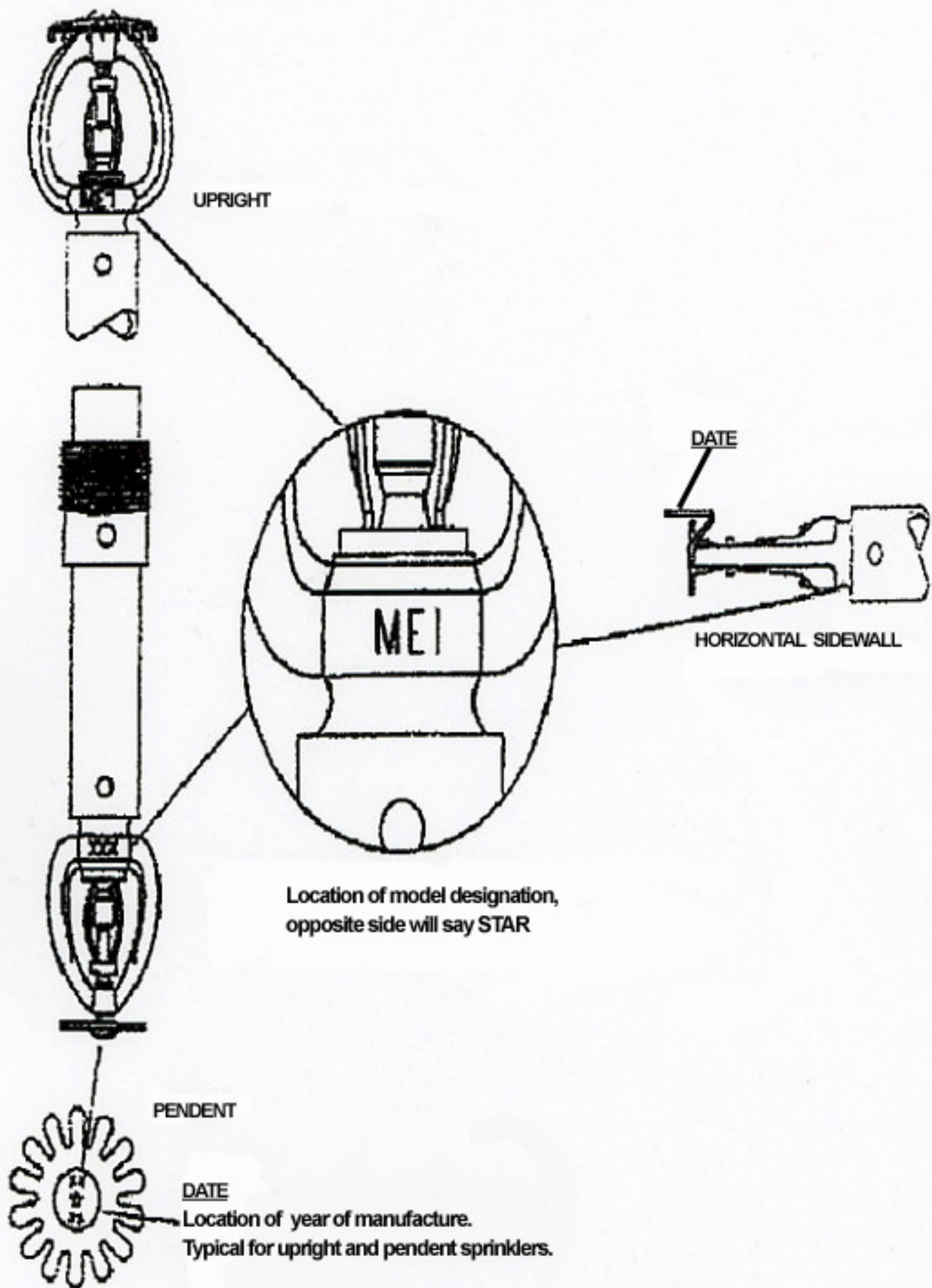


Figure 1 - Sprinkler Identification