



Standard Specification for Fire Hose Nozzles¹

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1. Scope

1.1 This specification covers the design, manufacture and testing of fire hose nozzles intended for use with sea water or fresh water either in straight stream or adjustable spray patterns.

1.2 The values stated in SI units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

A 313 Specification for Chromium-Nickel Stainless and Heat-Resisting Steel Spring Wire²

A 580/A 580M Specification for Stainless and Heat-Resisting Steel Wire²

A 582/A 582M Specification for Free-Machining Stainless and Heat-Resisting Steel Bars³

B 117 Practice for Salt Spray (Fog) Testing⁴

D 395 Test Methods for Rubber Property—Compression Set⁵

D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension⁵

D 572 Test Method for Rubber Deterioration by Heat and Oxygen⁵

D 1193 Specification for Reagent Water⁶

2.2 NFPA Standards:

NFPA 1963 Standards for Screw Threads and Gaskets for Fire Hose Connections⁷

3. Terminology

3.1 Definitions:

3.1.1 *ball shut-off*—a spray nozzle configuration that stops the flow of water through the nozzle by rotating the ball through which the water flows so that the passage no longer

aligns with the nozzle flow passage.

3.1.2 *break apart*—a feature that allows the nozzle tip to be disconnected from the nozzle body by virtue of a coupling identical to that on the hose end of the nozzle.

3.1.3 *constant flow rate spray nozzle*—an adjustable pattern nozzle in which the flow is delivered at a designed nozzle pressure. At the rated pressure, the nozzle will deliver a constant flow rate from straight stream through a wide angle pattern. This is accomplished by maintaining a constant orifice size during flow pattern adjustment.

3.1.4 *constant pressure (automatic) spray nozzle*—an adjustable pattern nozzle in which the pressure remains constant through a range of flows rates. The constant pressure provides the velocity for an effective stream reach at various flow rates. This is accomplished by means of a pressure-activated, self-adjusting orifice baffle.

3.1.5 *constant/select flow rate feature*—a nozzle feature that allows on-site adjustment of the orifice to change the flow rate to a predetermined value. The flow rate remains constant throughout the range of pattern selection from straight stream to wide angle spray.

3.1.6 *free swivel coupling*—a coupling between the nozzle and hose or between halves of a break-apart nozzle that is capable of being turned readily by hand; that is, a spanner wrench is not required to tighten the coupling to prevent leakage.

3.1.7 *flush*—a feature in a nozzle that allows the orifice to be opened so that small debris that might otherwise be trapped in the nozzle, causing pattern disruptions and flow variation, can pass through. When the flush feature is engaged, the nozzle pressure will drop and the pattern will deteriorate.

3.1.8 *lever-type control*—a control in which the handle operates along the axis of the nozzle.

3.1.9 *pistol grip*—a feature usually available as an attachment that allows a nozzle to be held like a pistol.

3.1.10 *rated pressure*—that pressure for which the nozzle is designed to operate at a specified flow rate(s).

3.1.11 *rotational-type control*—a control that rotates in a plane perpendicular to the axis of the nozzle.

4. Classification

4.1 Marine fire hose nozzles may be classified into four general construction types, as follows:

4.1.1 *Type I*—Pistol grip, lever-type control operated.

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² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 01.05.

⁴ Annual Book of ASTM Standards, Vol 03.02.

⁵ Annual Book of ASTM Standards, Vol 09.01.

⁶ Annual Book of ASTM Standards, Vol 11.01.

⁷ NFPA 1963 may be ordered by contacting the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.