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## Fire Hydrant (S27 Dry Barrel) Sample Specification

### 1. General

- A. Fire Hydrants shall meet or exceed AWWA C502; latest revision.
- B. Hydrants shall be manufactured and tested in an ISO 9001 certified facility located within the United States.
- C. Fire hydrants shall be listed by Underwriters Laboratories Inc.
- D. Fire hydrants shall be approved by Factory Mutual.
- E. Fire hydrants shall be rated for a working pressure of 250 PSI. (1725 kPa).
- F. Fire hydrants shall be of the compression type, opening against system pressure and closing with system pressure.
- G. To help prevent cross-threading a Higbee cut (blunt start) will be provided on the lead thread of the outlet nozzles, nozzle caps, seat ring, drain ring, and thrust nut

### 2. Main Valve and Drains

- A. The main valve shall be of one-piece construction and completely encapsulated with EPDM.
- B. Fire hydrants shall have a minimum 5-1/4" main valve opening.
- C. The EPDM shall be permanently vulcanized to the main valve.
- D. The hydrant shall be equipped with threaded drains capable of being plugged internally without digging up the hydrant.
- E. The main valve shall provide complete closing of the drains after 4 to 5 turns of the operating nut in the opening direction.
- F. During the initial stages of opening the drains shall momentarily flush outward, to remove any debris in the drain ports, in order to provide complete draining upon closing of the hydrant main valve.
- G. The Drain Ring assembly shall be replaceable without removing the hydrant from the connecting pipe or having to dig.

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### 3. Stems

- A. Upper hydrant stems shall be made of stainless steel.

### 4. Operating Nut

- A. Operating nuts shall be one-piece bronze design with upper and lower anti-friction washers for ease of operation. A protective weathershield shall be installed over the operating nut.

### 5. Nozzles

- A. Nozzles shall be of the ¼ turn bayonet lug style, secured with a stainless steel locking screw, allowing ease of change in case of damage to the nozzle.
- B. Storz nozzles, if used, shall be made of bronze.
- C. Nozzle thread type shall be as specified by the end user.

### 6. Lubrication

- A. The lubrication reservoir shall be cast as part of the bonnet, creating a watertight cavity without the use of gaskets.
- B. A lubrication port shall be provided for application of lubricant without disassembly of the bonnet section. The reservoir shall be filled with NSF/FDA approved food grade grease or oil at the manufacturer's facility.
- C. Valve stem seals shall be an o-ring type with not less than two o-rings below the thrust nut and two o-rings above the thrust nut.
- D. If an o-ring groove is cut into the stem the diameter of the groove shall not be less than the root diameter of the stem threads.
- E. O-rings and gaskets shall be made of an NBR rubber to help prevent the effects of permeation.

### 7. Protective Coatings

- A. All ferrous parts, except the lower barrel and those parts made of stainless steel shall be fusion-bonded epoxy coated and lined. All epoxy coatings shall meet the requirements of ANSI/AWWA C550 (latest edition).
- B. The lower barrel shall be bitumen coated both internally and externally
- C. A bury line shall be marked on the lower barrel below the break flange to indicate proper installation depth. Bury depth will be clearly stenciled on the standpipe section.

## 8. Shoe

- A. End Connections shall be either Mechanical Joint, Push On Joint, or Flanged.
- B. Mechanical and Push-On joints shall comply with the requirements of AWWA C111.
- C. Flanged ends shall comply with ANSI/ASME B16.1, class 125 flanges

## 9. Break Flange and Couplings

- A. All fire hydrants provided with the Break-off feature should be of the traffic breakaway type and allow 360-degree rotation of the fire hydrant to position the Pumper nozzle in the desired direction.
- B. The break flange segments shall be located under the upper barrel flange to prevent the segments from falling into the lower barrel when the hydrant is struck.

## 10. Warranty

- A. All fire hydrants shall be covered by a Manufacturer's 10 year Limited Warranty on manufactures defects and labor costs for replacement.

## 11. Approved Equal

- A. Fire hydrants shall be American AVK Series 27 or approved equal.