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Material Specifications D 1.1

Fire Hydrant – Breakaway

AKA

General:

Fire hydrants shall conform to ANSI/AWWA C502-94 and the latest revisions thereto. Traffic section, lower barrel, and shoe interior must be epoxy coated.

Design:

Breakaway, dry barrel type, with drain holes plugged. Operating nut and hose nozzle cap nuts must be 1 ½" pentagon shape.

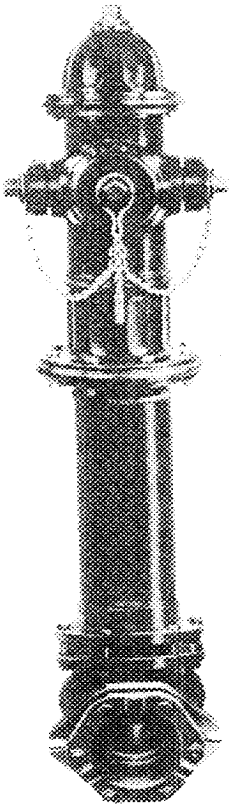
Connections:

Inlet: Mechanical joint
Outlets: (2) 2 ½" hose nozzles and (1) 4 ½" pumper nozzle.

Special Features:

Traffic coupling must be made of Bronze, Cast Iron, or Stainless Steel. No substitutes.
Hydrant stems, stem threads, and bearings shall be protected by an oil or grease self-lubricating system. Accessory kits have been removed from specification as of March 5, 2001.

See Exhibit HH (Annual Bid)



Size/Details	OUC Item ID	Manufacturer	Catalog Number
6" x 30"	095-01230	American Flow Control	**B-84-B**
6" x 36"	095-01236	Clow Valve	**Medallion**
6" x 42"	095-01242	Kennedy Valve	K-81D
6" x 48"	095-01248	M&H Valve	#929
6" x 54"	095-01254	Mueller	A-423
6" x 60"	095-01260	U.S. Pipe & Fdry.	Metropolitan M-94
		American AVK	Series 2780

Revision Date: 6/20/02 (RNK)
9/05/01 (RNK)
3/05/01 (RNK)
8/31/98 (DSW)

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Material Specifications
Water Business Unit
ORLANDO UTILITIES COMMISSION

Material Specifications D 1.2

Repair Kit – Fire Hydrant Traffic

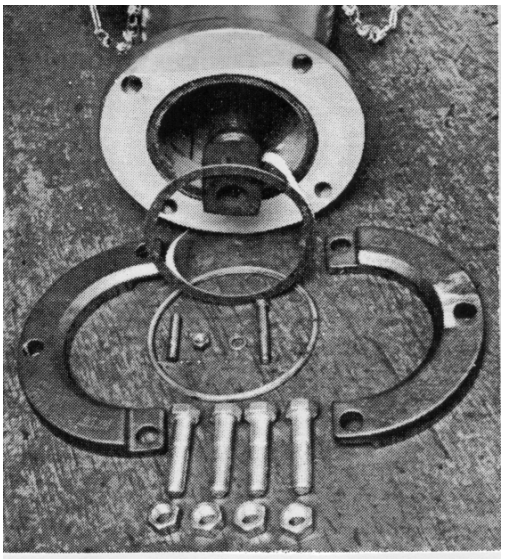
AKA Safety Flange Repair Kit, Collision Repair Kit

General:

All components of the traffic repair kit shall be designed for and properly fit the specific make and model fire hydrant for which they are intended. Neither the traffic kits nor any component of the kits shall diminish the operating efficiency or service life of the fire hydrant to which they are attached. All components shall conform, when applicable, to ANSI/AWWA C502-94 and the latest revisions thereto.

Special Features:

Traffic coupling must be made of Bronze, Cast Iron, or Stainless Steel. No substitutes.
Traffic repair kits shall include the appropriate amount of stem couplings, pins, flange and bonnet o-rings or gaskets, safety flange(s), lubricant, bolts, and nuts as required.



Size/Details	OUC Item ID	Manufacturer	Catalog Number
1] 5 ¼" AFC B84B	095-01302	1] American Flow Control (AFC)	**AFCB84BTRK**
		or Hydrant Repair Parts	HRPI-473/584
2] 5 ¼" Clow Medallion	095-01304	2] Clow Valve Co.	R1620653
		or Hydrant Repair Parts	HRPI-653
3] 5 ¼" Clow 2500	095-01305	3] Clow Valve Co.	R1620545
		or Hydrant Repair Parts	HRPI-2500
4] 5 ¼" Kennedy K81D Guardian	095-01306	4] Kennedy Valve	K8149
		or Hydrant Repair Parts	HRPI-5-8149
5] 5 ¼" Mueller Centurion	095-01308	5] Mueller	A 301
		or Hydrant Repair Parts	HRPI-301
		or Hydraflo	2074
6] 5 ¼" M&H 929	095-01310	6] M&H	442929-5 ¼
		or Hydrant Repair Parts	929-5 ¼
		or Hydraflo	1507
7] 5¼" US PIPE M-94	095-01312	7] US PIPE	V658665

Revision Date: 9/05/01 (RNK)
8/26/99 (RNK)
10/16/98 (DSW)

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Material Specifications
Water Business Unit
ORLANDO UTILITIES COMMISSION

Material Specifications D 1.3

Extension Kit – Fire Hydrant – 6”

AKA

General:

All components of the fire hydrant extension kit shall be designed for and properly fit the specific make and model fire hydrant for which they are intended. Neither the extension kit nor any component of the kit shall diminish the operating efficiency or service life of the fire hydrant to which they are attached. All components shall conform, when applicable, to ANSI/AWWA C502-94 and the latest revisions thereto.

Special Features:

Extension coupling must be made of Bronze, Cast Iron, or Stainless Steel. No substitutes.

Fire hydrant extension kits shall include the appropriate quantity of barrels, flanges, couplings, stems or rods, gaskets, lubricant, and hardware to properly complete the installation.

Size/Details	OUC Item ID	Manufacturer	Catalog Number
1] 5 ¼” Mueller Centurion – 6” ext.	095-01004	1] Mueller or Hydrant Repair Parts or Hydraflo	**A 320-6** HRPI-375-6” 1341 – 6”
2] 5 ¼” Clow Medallion – 6” ext.	095-01008	2] Clow or Hydrant Repair Parts	R1620664 HRPI-475-6”
3] 5¼” US PIPE M-94 - 6” ext.	095-01010	3] US PIPE	V664509
4] 5¼” US PIPE M-250 - 6” ext.	095-01012	4] US PIPE	V658249

Revision Date: 9/05/01 (RNK)
8/26/99 (RNK)
3/10/97 (DSW)

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Material Specifications
Water Business Unit
ORLANDO UTILITIES COMMISSION

Material Specifications D 1.4

Extension Kit – Fire Hydrant – 12”

AKA

General:

All components of the fire hydrant extension kit shall be designed for and properly fit the specific make and model fire hydrant for which they are intended. Neither the extension kit nor any component of the kit shall diminish the operating efficiency or service life of the fire hydrant to which they are attached. All components shall conform, when applicable, to ANSI/AWWA C502-94 and the latest revisions thereto.

Special Features:

Extension coupling must be made of Bronze, Cast Iron, or Stainless Steel. No substitutes.

Fire hydrant extension kits shall include the appropriate quantity of barrels, flanges, couplings, stems or rods, gaskets, lubricant, and hardware to properly complete the installation.

Size/Details	OUC Item ID	Manufacturer	**Catalog Number**
1] 5 ¼” Mueller Centurion – 12” ext.	095-01104	1] Mueller or Hydrant Repair Parts or Hydraflo	A320-12 HRPI-375-12” 1341 – 12”
2] 5 ¼”Clow Medallion – 12” ext.	095-01108	2] Clow or Hydrant Repair Parts	R1620665 HRPI-475-12”
3] 5¼” US PIPE M-94 - 12” ext.	095-01109	3] US PIPE	V664519
4] 5¼” US PIPE M-250 - 12” ext.	095-01110	4] US PIPE	V658259

Revision Date: 9/05/01 (RNK)
8/26/99 (RNK)
3/10/97 (DSW)

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Material Specifications
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Fire Hydrants

Specifications

Fire hydrants provided under this specification shall be post type, dry-barrel, Class A fire hydrants conforming to ANSI/AWWA C502-94 and the latest revisions thereto. The hydrants shall further comply with all requirements of Associates Factory Mutual Fire Insurance Companies and shall be listed with Underwriter's Laboratories. The flow capacity shall be 1250 gpm with a maximum permissible head loss of 6.0 psi, the rated water working pressure shall be 150 psi, and the test pressure shall be 300 psi. All hydrants meeting this specification shall be the traffic "breakaway" type.

The inlet connection shall be mechanical joint conforming to ANSI Specification A21.10 for connection to pipe 6 inches in diameter. Bolt holes at either side of the exterior flange shall be slotted to the outer face of the flange to accommodate tie rods, or the fire hydrant shall be equipped with strapping lugs. Accessories for the mechanical joint ends shall include rubber gaskets with glands and COR-TEN bolts and nuts. Drain holes in the shoe or seat shall be deleted at the factory or they shall be plugged with brass plugs.

The barrel section of the hydrant shall be made in two or more sections, with a flange located at least two inches above the finished grade line, and provided with a break flange, flange clips or lugs at the ground line. Undercut or frangible bolts for the break connection are not acceptable. Hydrants shall have the capability of turning the upper barrel section 360º at any desired angle. Iron components, i.e. barrel, lower barrel, and shoe, shall be all cast iron or ductile iron. The traffic section, lower barrel, and shoe interior of the hydrant shall have a minimum 4 mil thickness of factory applied thermosetting (epoxy) coating.

The main valve shall be compression type, opening against pressure and closing with pressure. The main valve opening shall be 5 1/4 inches in size. The hydrant main valve and operating parts including valve seat, valve seat insert, and upper valve washer shall all be bronze, meeting either ASTM B-61, B-62, B-98, B-150, or B-763. The main valve shall be placed between the lower barrel flange and the shoe flange thus assuring accessibility. To prevent overtravel, a travel stop shall be placed in either the hydrant shoe or hydrant bonnet.

Hydrant stems, stem threads, and bearings shall be protected by a self-lubricating system consisting of an oil or grease filled reservoir serviceable by external means. Oil or grease used for lubrication shall be non-toxic and safe for use in potable water systems. Grease shall be non-hardening. Any migration or leakage of oil or grease into the barrel or bonnet areas is unacceptable. The bonnet shall be of dry type design.

Fire Hydrants

Specifications (cont.)

Mechanical working areas in the hydrant bonnet shall be protected from water intrusion from both inside and outside the hydrant by use of "O" rings. Hydrants having stem thread (upper or lower) that is constantly exposed or immersed in water are not acceptable.

All internal stem pins or bolts and nuts shall be stainless steel. The safety stem coupling shall be of either Cast Iron, Bronze, or Stainless Steel.

The fire hydrants shall open left (counter-clockwise). They shall have pentagon shaped operating nuts and cap nuts measuring 1 ½" inches from point to flat.

Hydrant nozzles shall consist of two 2 ½" inch hose nozzles and one 4 ½ inch pumper nozzle, all with NFPA No. 194 for National (American) Standard Fire Hose Coupling Screw Threads. The hose and pumper outlets shall be on the same horizontal plane with a minimum distance of 18 inches from the center of nozzle to ground line located not more than 3 ½ inches from the centerline of the break flange. All nozzles shall be field replaceable. There shall also be a vertical clearance of 9 inches from the centerline of the pumper outlet to the top of the bonnet to comply with an Orlando Fire Department requirement related to their equipment.

The American Water Works uniform color scheme shall be utilized on all fire hydrants, with the exception of the upper barrels, which shall be aluminum or silver. Bonnet or tops and nozzle caps shall be blue.

Fire hydrant length, also known as the bury length, shall be as measured from the bottom of the connecting pipe to the ground line of the hydrant in six inch increments, from 30 inches to 60 inches inclusive. The bury length shall be clearly indicated on the upper 6 inches of the lower barrel of each hydrant.

Manufacturers of acceptable fire hydrants shall maintain an inventory of hydrants to be furnished within the State of Florida that may be delivered to Orlando Utilities Commission within any 48 hour time limit. The initial purchase or release for any fire hydrant contract shall include three (3) sets of Maintenance and Repair Tools and factory made traffic hydrant repair kits.