

TOTALPAC SYSTEM SPECIFICATION FOR USE IN NYC ONLY

DELUGE SYSTEM (FOR USE IN NYC ONLY)

Electrically Operated Deluge System

Fire sprinkler system shall be an electrically operated deluge system. System shall be installed in conformance with the current Edition of N.F.P.A. 13, Standard for Installation of Sprinkler Systems. All materials installed shall adhere to the manufacturer's installation guidelines.

SYSTEM DEVICES

TotalPac Integrated Deluge System

Deluge system riser components shall be installed in a 14 gauge steel cabinet. Cabinet shall house a factory assembled and tested deluge valve riser assembly. Deluge system riser shall be equipped with a water supply manifold, system drain manifold, grooved end system discharge outlet, grooved by grooved system control valve and all trim listed as part of the deluge valve assembly. Deluge system water flow pressure switch shall be supplied as part of the assembly. Deluge system release control panel shall be equipped with cabinet and shall have electrical connections to riser solenoid valve terminated by cabinet manufacturer. Cabinet shall be painted fire red with oven baked polyester powder on phosphate base. Cabinet finish shall be rustproof. Cabinet shall be equipped with a door that has gauge-viewing ports for supply water pressure, deluge valve priming water pressure as well as a window to monitor panel activity. Cabinet door shall be equipped with separate access doors for the system emergency release and system release control panel. All devices shall be substantially secured to the panel. Cabinet door shall be equipped with a neoprene gasket to eliminate vibration. Integrated Deluge System shall be a Viking TotalPac.

System Control Valve

Wet system control valve shall be a listed indicating type valve. Control valve shall be UL listed and Factory Mutual approved for fire protection installations. System control valve shall be rated for normal system pressure but in no case less than 175 PSI.

Water Control Valve

Deluge systems shall utilize a 90° pattern type of deluge valve. Deluge valve shall be externally resettable by Hydraulic means. Deluge valve shall employ a positive vent on the priming line to ensure that the deluge valve will not prematurely reset. Inlet and outlet connections of deluge valve can be flanged by flanged or flanged by grooved, respectively. Deluge valve shall be UL listed and Factory Mutual approved. Deluge valve shall have a working pressure of 250 PSI. Valve trim shall be compatible and installed following the manufacturer's specifications. Deluge Valve manufacturer to be Viking Corporation. Model shall be E-1.

Water Control Valve Trim

Deluge valve trim shall incorporate a pressure operated relief valve (PORV) of the same manufacturer as the deluge valve, to provide a hydraulic means to positively vent the priming water chamber. All deluge valve trim piping and devices shall be listed for use as deluge system. Deluge valve trim shall be galvanized and rated for 250 PSI working pressure. Deluge valve trim shall be compatible with a Viking Model E-1 Deluge Valve.

Water Control Valve Release Control Panel

Deluge valve release control panel shall be 120 VAC or 220 VAC powered with a 24 hour D/C backup power supply. Deluge valve release panel shall be capable of accepting cross-zoned detection as the means of system release. Deluge valve release control panel shall conform to N.F.P.A. 70, N.F.P.A. 72 and all other applicable codes. Deluge Valve Release Control Panel shall be listed for use with a Viking Model E-1 Deluge Valve. Deluge panel shall be a Viking Model B-1 Release Panel.

Solenoid Valve

Electric solenoid valve shall be utilized to release the priming chamber water pressure. Solenoid valve shall be 24 VAC and conform to N.F.P.A. 70. Solenoid shall be listed for use with a Viking Model E-1 Deluge Valve.

Discharge Devices

(Insert applicable product specification.)

Supplemental Detection System

Electrical devices utilized in the supplemental detection system shall be compatible with the water control valve release control panel. Installation of electrical supplemental detection system shall be in accordance with N.F.P.A. 70, N.F.P.A. 72 and local installation requirements. An accessible detector shall be placed for annual testing of deluge system. (Insert applicable product specification.)

System Piping

System piping shall conform to N.F.P.A. 13, Standard for Installation of Sprinkler Systems. System piping shall be listed for the maximum system pressure it is to be exposed to. All system piping shall be metallic and shall be protected against corrosion if corrosive conditions exist.

Hangers

Deluge sprinkler system hangers shall conform to N.F.P.A. 13, Standard for Installation of Sprinkler Systems. System piping shall be substantially supported to prevent sway or thrust. The hanging of non-system components from the sprinkler piping shall be strictly prohibited. The use of non-metallic hanger materials shall be prohibited unless expressed otherwise.

Fittings

Pipe fittings installed on the deluge sprinkler system shall be in conformance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fittings shall be listed for use at the system pressures to be encountered. Fittings shall be corrosion resistant if they are to be installed in a corrosive atmosphere.

PREACTION SYSTEMS (FOR USE IN NYC ONLY)

Preaction System (Single Interlocked) Electric Release

A preaction system shall be provided. The method of release of the deluge valve priming water pressure shall be released by an electric solenoid valve. Electric solenoid valve will release the prime water only upon activation of the supplemental detection system. The preaction system riser shall be of a listed and approved assembly. The system riser shall be equipped with a rubber seated check valve downstream of the deluge valve and prior to the supervisory air connection. The preaction system shall be provided with all necessary appurtenances to complete the system. The system shall be installed in conformance with the current edition of N.F.P.A. 13, Standard for Installation of Sprinkler Systems. The Preaction System shall be of a Single Interlock Release type.

SYSTEM DEVICES

TotalPac Integrated Single Interlocked Preaction System

Preaction system riser components shall be installed in a 14 gauge steel cabinet. Cabinet shall house a factory assembled and tested preaction system riser assembly. Preaction system riser shall be equipped with a water supply manifold, system drain manifold, grooved end system discharge outlet, grooved by grooved system control valve and all trim listed as part of the deluge valve assembly. Preaction system supervisory air pressure and water flow pressure switches shall be supplied as part of the assembly. Preaction system release control panel shall be equipped with cabinet. Cabinet manufacturer shall terminate electrical connections to riser solenoid valve and system pressure switches from release control panel. Supervisory air supply capacity shall be specified by fire sprinkler contractor and indicated when ordering integrated preaction system. Cabinet shall be painted fire red with oven baked polyester powder on phosphate base. Cabinet finish shall be rustproof. Cabinet shall be equipped with a door that has gauge viewing ports for supply water pressure, deluge valve priming water pressure and supervisory air pressure as well as a window to monitor panel activity. Cabinet door shall be equipped with separate access doors for the system emergency release and system release control panel. All devices shall be substantially secured to the panel. Cabinet door shall be equipped with a neoprene gasket to eliminate vibration. Integrated Preaction System shall be a Viking TotalPac.

Water Control Valve

Deluge or preaction systems shall utilize a 90° pattern type of deluge valve. Deluge valve shall employ a positive vent on the priming line to ensure that the deluge valve will not prematurely reset. Inlet and outlet connections of deluge valve can be flanged by flanged or flanged by grooved, respectively. Deluge valve shall be UL listed and Factory Mutual approved. Deluge valve shall have a working pressure of 250 PSI. Valve trim shall be compatible and installed following the manufacturer's specifications. Deluge Valve manufacturer to be Viking Corporation. Model shall be E-1.

Detection

The release system shall incorporate as part of the operation of the system, a cross-zone detection system. (Insert applicable product specification.) The detection devices installed shall be compatible with the deluge valve release control panel.

Release Panel

System release panel shall be capable of a dual hazard split release, dual hazard combined release, single hazard cross-zone release, single hazard two-zone release. Release panel shall be equipped with a local tone alarm to annunciate loss of A/C power, system trouble, circuit trouble and low auxiliary D/C power supply. Release panel shall be capable of supervising trouble and alarm audible alarms. Trouble and alarm audible alarms shall be able to be silenced at release panel. Release panel shall be housed in a vented enclosure with ambient temperature compatibility of 32°F to 120°F. Panel enclosure shall be of adequate size to house auxiliary D/C power supply. Auxiliary D/C power supply shall consist of (2) 12 volt lead acid batteries of the same ampere hour rating. Actual ampere hour rating to be established by auxiliary D/C power requirement. Release Panel manufacturer to be Viking Corporation. Model shall be B-1 Par 3 Panel.

Solenoid Valve

Deluge valve priming water release device shall be an electrically operated solenoid valve. Solenoid valve shall be constructed of a ½" brass body with a stainless steel core tube, core, plugnut and springs. Solenoid valve shall have a maximum working pressure of 250 PSI. Solenoid valve shall be UL listed for its intended use. Solenoid Valve shall be listed for use with Viking Model E Deluge Valves and Viking Model H Flow Control Valves.

System Control Valve

Preaction system control valve shall be a listed indicating type valve. Control valve shall be UL listed and Factory Mutual approved for fire protection installations. System control valve shall be rated for normal system pressure but in no case less than 175 PSI.

Dry Pendent Sprinklers

Dry pendent sprinklers shall be utilized where the sprinklers are in the pendent position. (Insert applicable product specification.)

Brass Upright Sprinklers

(Insert applicable product specification.)

Compressed Air Supply

An air supply capable of restoring system pressure within 30 minutes shall be provided. Acceptable air supply arrangements are:

- A. Owner supplied air system with an air maintenance device on the supply side of the air supply inlet.
- B. A riser mounted air compressor.

Air Compressor

(Insert applicable product specification.)

System Check Valve

Check valves shall be UL listed and Factory Mutual approved for use on fire protection systems. Sprinkler riser check valves shall be manufactured with supply side and system side gauge connections and a main drain outlet in conformance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Check valves shall be constructed of a ductile iron body with a brass seat and a rubber faced clapper assembly hinged to a removable access cover. Check valves shall be equipped with a removable access cover for periodic inspection as required in N.F.P.A. 25, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems. Check valves shall have a working water pressure of 250 PSI. Check Valve manufacturer to be Viking Corporation. Model shall be F-1 Easy Riser Check Valve.

Fire Department Connection

A system fire department connection shall be provided on the system riser in accordance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fire department connection shall be of a brass body with an integral clapper assembly to separate flow between inlets. Fire department connection shall be installed in an area accessible for the first response unit. Fire department connection shall be UL listed and Factory Mutual approved for fire protection use.

Pressure Supervisory Switch

Supervisory air pressure shall be maintained on all preaction systems with 20 sprinklers or more on the system piping. Low air pressure alarm will activate by way of a pressure supervisory alarm pressure switch. The low air pressure alarm switch shall be compatible with system devices. Low air pressure alarm switch enclosure shall be UL listed and Factory Mutual approved for the application in which it is used. Low air pressure alarm switch shall have the ability to be wired for Class A or Class B service. Low Air Pressure Supervisory Switch manufacturer to be Viking Corporation, part number 09472 or 09473.

Alarm Pressure Switch

Water flow will activate an alarm by way of an alarm pressure switch. The alarm pressure switch shall be compatible with system devices. Alarm pressure enclosure shall be UL listed and Factory Mutual approved. Alarm pressure switch shall have the ability to be wired for Class A or Class B service. Alarm Pressure Switch manufacturer to be Viking Corporation, part number 09470 or 09471.

Water Motor Alarm

Water flow will activate a Hydraulic powered water motor alarm by way of integral valve alarm line trim piping. Water motor gong shall be connected to a water pressure retarding chamber to limit the propensity of unnecessary alarms. Water motor alarm shall be equipped with a rear closure plate to limit the access of foreign materials or accumulation of debris. Water motor alarm shall be UL listed and Factory Mutual approved for the application in which it is used. Water Motor Alarm manufacturer to be Viking Corporation. Model shall be F-2/G-2.

Preaction System (Double Interlocked) Electric/Pneumatic Release (FOR USE IN NYC ONLY)

A preaction system shall be provided. The method of release of the deluge valve priming water pressure shall be by an electric solenoid valve and a pneumatic actuator. Electric solenoid valve will open upon activation of the electrical supplemental detection system. Pneumatic actuator shall open upon activation of a sprinkler head on the sprinkler system. The opening of the deluge valve shall not be dependent on the order of activation of the release devices, only that both devices must activate before the deluge valve will open. The preaction system riser shall be of a listed and approved assembly. The system riser shall be equipped with a rubber seated check valve downstream of the deluge valve and prior to the supervisory air connection. The preaction system shall be provided with all necessary appurtenances to complete the system. The system shall be installed in conformance with the current edition of N.F.P.A. 13, Standard for Installation of Sprinkler Systems. The Preaction System shall be of a Double Interlock Release type.

SYSTEM DEVICES

TotalPac Integrated Double Interlocked Preaction System

Preaction system riser components shall be installed in a 14 gauge steel cabinet. Cabinet shall house a factory assembled and tested preaction system riser assembly. Preaction system riser shall be equipped with a water supply manifold, system drain manifold, grooved end system discharge outlet, grooved system control valve and all trim listed as part of the deluge valve assembly. Preaction system supervisory air pressure and water flow pressure switches shall be supplied as part of the assembly. Preaction system release control panel shall be equipped with cabinet. Cabinet manufacturer shall terminate electrical connections to riser solenoid valve and system pressure switches from release control panel. Supervisory air supply capacity shall be specified by fire sprinkler contractor and indicated when ordering integrated preaction system. Cabinet shall be painted fire red with oven baked polyester powder on phosphate base. Cabinet finish shall be rustproof. Cabinet shall be equipped with a door that has gauge viewing ports for supply water pressure, deluge valve priming water pressure and supervisory air pressure as well as a window to monitor panel activity. Cabinet door shall be equipped with separate access doors for the system emergency release and system release control panel. All devices shall be substantially secured to the panel. Cabinet door shall be equipped with a neoprene gasket to eliminate vibration. Integrated Preaction System shall be a Viking TotalPac.

Water Control Valve

Deluge or preaction systems shall utilize a 90° pattern type of deluge valve. Deluge valve shall employ a positive vent on the priming line to ensure that the deluge valve will not prematurely reset. Inlet and outlet connections of deluge valve can be flanged by flanged or flanged by grooved, respectively. Deluge valve shall be UL listed and Factory Mutual approved. Deluge valve shall have a working pressure of 250 PSI. Valve trim shall be compatible and installed following the manufacturer's specifications. Deluge Valve manufacturer to be Viking Corporation. Model shall be E-1.

Detection

The release system shall incorporate as part of the operation of the system, a compatible electric detection system. (Insert applicable detection system.) The detection devices installed shall be compatible with the Deluge Valve Release Control Panel.

Release Panel

System release panel shall be capable of a dual hazard split release, dual hazard combined release, single hazard cross-zone release, single hazard two-zone release. Release panel shall be equipped with a local tone alarm to annunciate loss of A/C power, system trouble, circuit trouble and low auxiliary D/C power supply. Release panel shall be capable of supervising trouble and alarm audible alarms. Trouble and alarm audible alarms shall be able to be silenced at release panel. Release panel shall be housed in a vented enclosure with ambient temperature compatibility of 32°F to 120°F. Panel enclosure shall be of adequate size to house auxiliary D/C power supply. Auxiliary D/C power supply shall consist of (2) 12 volt lead acid batteries of the same ampere hour rating. Actual ampere hour rating to be established by auxiliary D/C power requirement. Release Panel manufacturer to be Viking Corporation. Model shall be B-1 Par 3 Panel.

Solenoid Valve

Deluge valve priming water release device shall be an electrically operated solenoid valve. Solenoid valve shall be constructed of a ½" brass body with a stainless steel core tube, core, plugnut and springs. Solenoid valve shall have a maximum working pressure of 250 PSI. Solenoid valve shall be UL listed for its intended use. Solenoid Valve shall be listed for use with Viking Model E Deluge Valves and Viking Model H Flow Control Valves.

System Control Valve

Preaction system control valve shall be a listed indicating type valve. Control valve shall be UL listed and Factory Mutual approved for fire protection installations. System control valve shall be rated for normal system pressure but in no case less than 175 PSI.

Dry Pendent Sprinklers

Dry pendent sprinklers shall be utilized where the sprinklers are in the pendent position. (Insert applicable product specification.)

Brass Upright Sprinklers

(Insert applicable product specification.)

Compressed Air Supply

An air supply capable of restoring system pressure within 30 minutes shall be provided. Acceptable air supply arrangements are:

- A. Owner supplied air system with an air maintenance device on the supply side of the air supply inlet.
- B. A tank mounted air compressor with an air maintenance device between the air compressor and the air supply inlet on the system riser.
- C. A riser mounted compressor listed as an air maintenance compressor.

Air Compressor

(Insert applicable product specification.)

System Check Valve

Check valves shall be UL listed and Factory Mutual approved for use on fire protection systems. Sprinkler riser check valves shall be manufactured with supply side and system side gauge connections and a main drain outlet in conformance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Check valves shall be constructed of a ductile iron body with a brass seat and a rubber faced clapper assembly hinged to a removable access cover. Check valves shall be equipped with a removable access cover for periodic inspection as required in N.F.P.A. 25, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems. Check valves shall have a working water pressure of 250 PSI. Check Valve manufacturer to be Viking Corporation. Model shall be F-1 Easy Riser Check Valve.

Fire Department Connection

A system fire department connection shall be provided on the system riser in accordance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fire department connection shall be of a brass body with an integral clapper assembly to separate flow between inlets. Fire department connection shall be installed in an area accessible for the first response unit. Fire department connection shall be UL listed and Factory Mutual approved for fire protection use.

Pressure Supervisory Switch

Supervisory air pressure shall be maintained on all preaction systems with 20 sprinklers or more on the system piping. Low air pressure alarm will activate by way of a pressure supervisory alarm pressure switch. The low air pressure alarm switch shall be compatible with system devices. Low air pressure alarm switch enclosure shall be UL listed and Factory Mutual approved for the application in which it is used. Low air pressure alarm switch shall have the ability to be wired for Class A or Class B service. Low Air Pressure Supervisory Switch manufacturer to be Viking Corporation, part number 09472 or 09473.

Alarm Pressure Switch

Water flow will activate an alarm by way of an alarm pressure switch. The alarm pressure switch shall be compatible with system devices. Alarm pressure enclosure shall be UL listed and Factory Mutual approved. Alarm pressure switch shall have the ability to be wired for Class A or Class B service. Alarm Pressure Switch manufacturer to be Viking Corporation, part number 09470 or 09471.

Water Motor Alarm

Water flow will activate a hydraulic powered water motor alarm by way of integral valve alarm line trim piping. Water motor gong shall be connected to a water pressure retarding chamber to limit the propensity of unnecessary alarms. Water motor alarm shall be equipped with a rear closure plate to limit the access of foreign materials or accumulation of debris. Water motor alarm shall be UL listed and Factory Mutual approved for the application in

which it is used. Water Motor Alarm manufacturer to be Viking Corporation. Model shall be F-2/G-2.

TOTALPAC FIRECYCLE III (FOR USE IN NYC ONLY)

Praction System (Single Interlock)

Fire sprinkler system shall be of the cycling single interlocked preaction design. The system shall be designed to limit the damage, which may be caused by excessive water flow. The system shall be completely automatic and be designed for on/off operation. The method of detection shall be an approved fixed temperature, self-restoring heat detector with a drop-off tab indicating the detector had been exposed to a temperature of 800°F and requires replacement. On/off operation shall cycle when heat detector senses heat regeneration; when detector cools and restores the system operation shall cease. Water flow shall be controlled through a 90° pattern, spring-aided flow control valve. Once system has operated, a strobe and alarm shall be activated at the control panel. Strobe and alarm will not deactivate until system is manually reset to normal operation. The system release control panel shall be equipped with the capability for a discharge time from 30 seconds to 15 minutes after the detector circuit has returned to no fire or no heat present condition.

System shall operate as a preaction system as outlined in N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Flow control valve trim shall be equipped with a hydraulically latching pressure operated relief valve (PORV) to ensure system will fail open or "fail safe" if system were to lose power during operation.

The system shall incorporate a restricted regulated air supply to supervise the integrity of system piping network. Supervisory air shall be maintained at 30 PSI. A pneumatic actuator between the air supply and the system piping shall be utilized for "fail safe" operation of the system.

Cycling single interlocked preaction system shall be equipped with an A/C powered release control panel with a 90 hour D/C backup power supply. Release control panel shall annunciate a trouble piezo alarm for the following conditions: low system air supply, detector zone disabled, power supply absent, low battery supply, inadequate field wiring.

System riser shall be equipped with a rubber seated check valve with gauge connections and a system main drain connection. Check valve shall have a removable access plate for periodic inspection as per N.F.P.A. 25, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

Cycling single interlocked preaction system shall be a listed system with all system components listed for use in the system. System shall be UL listed and installed according to the manufacturer's installation guidelines. Cycling single interlocked system riser components shall be installed in a 14 gauge steel cabinet. Cabinet shall house a factory assembled and tested cycling single interlocked valve riser assembly. Cycling single interlocked preaction system riser shall be equipped with a water supply manifold, system drain manifold, grooved end system discharge outlet, grooved by grooved system control valve and all trim listed as part of the cycling single interlocked preaction riser valve assembly. Cycling single interlocked preaction system water flow pressure switch and solenoid valves shall be supplied as part of the assembly. Cycling single interlocked preaction system control panel shall be equipped with cabinet and shall have electrical connections to riser solenoid valves and pressure switches terminated by cabinet manufacturer. Cabinet shall be painted fire red with oven baked polyester powder on phosphate base. Cabinet finish shall be rustproof. Cabinet shall be equipped with a door that has gauge viewing ports for supply water pressure, flow control valve priming water pressure as well as a window to monitor panel activity. Cabinet door shall be equipped with separate access doors for the system emergency release and system release control panel. All devices shall be substantially secured to the panel. Cabinet door shall be equipped with a neoprene gasket to eliminate vibration. Integrated cycling single interlocked preaction system shall be a Viking Firecycle III Cycling Single Interlocked Praction System TotalPac.

SYSTEM DEVICES

Firecycle III Release Control Panel

Control panel shall incorporate the necessary relays, timer, and alarm and trouble connections essential to the operation of a Firecycle III system. Release control panel shall be housed in a UL listed and Factory Mutual approved enclosure. Release control panel shall be equipped with 2 detection circuits; 1 detection circuit for normally open detectors and 1 detection circuit for normally close detectors. Release control panel shall accommodate a back-up power supply. Release control panel shall be a Viking Model E-1 Firecycle III Release Control Panel.

Firecycle III Preaction System Trim

Valve trim shall be UL listed for service in the Firecycle III cycling preaction system trim. Cycling preaction system trim shall incorporate the following as stock options when ordering (but not limited to); 1 normally open electric solenoid, 1 normally closed solenoid, 1 water flow alarm pressure switch, 1 pressure operated relief valve, 1 pneumatic actuator, 1 supervisory air pressure switch, 1 alarm shut-off valve, 1 alarm test valve, 1 priming connection, 1 ported riser check valve, 1 flow test valve, 1 manual emergency release, 1 priming chamber water pressure gauge and three-way valve, and 1 water supply pressure gauge and three-way valve.

Firecycle III Detector

Normally closed detectors utilized in the detection system of the Firecycle III cycling preaction system shall be fixed temperature, rate compensating detectors listed for use on the Firecycle III preaction cycling system. Detector shall incorporate a zinc alloy tell-tale tab that shall drop away if the detector is subjected to temperatures of 800° F, indicating that the detector requires replacement. The heat probe utilized in the heat detector shall be constructed of stainless steel. The resistance drop across the detector in a closed position shall be 0.03 Ohms. The mounting box shall be constructed of copper free aluminum with ½" threaded connections and (2) 5/16" mounting lugs. Detector shall withstand 1500°F temperatures for short periods of time without damage. Detector utilized in Firecycle III cycling preaction system shall utilize Viking Model B Firecycle detectors.

Firecycle Detector III Cable Installed Without Conduit

Where local regulations permit, detector cable shall have an outer covering consisting of an aluminum sheath having a minimum thickness of 0.035". The outside diameter of detector cable shall be 0.330". Detector cable shall not emit toxic fumes during a fire. Cable utilized to connect detectors utilized in cycling system shall be of a two wire conductor of a gage wire of 16 AWG. The nominal resistance per 1000 Ft. of detector cable, at 77°F shall be 2.05 Ohms when connected per Firecycle III installation guidelines. Detector cable shall not propagate a fire. Detector cable shall have the ability to cut to length in the field and spliced. Cable splicing must be made in a conduit box. Detector cable shall be manufactured for the Viking Corporation and shall have a part number of 04632A.

Firecycle Detector III Cable Installed In Conduit

Where local regulations require installation of detector cable in conduit, detector cable shall have a thermoplastic zero halogen jacket for use in conduit. The maximum nominal diameter of shielded detector cable shall be 0.305". Cable insulation jacket shall be constructed of Silicon rubber. Cable utilized to connect detectors utilized in cycling system shall be of a two wire conductor of a gage wire of 16 AWG bare soft copper. The nominal resistance per 1000 Ft. of detector cable, at 68°F shall be 2.05 Ohms when connected per Firecycle III installation guidelines. Detector cable shall not propagate a fire. Detector cable shall not emit noxious fumes nor be toxic during a fire. Detector cable shall have the ability to cut to length in the field and spliced. Cable splicing must be made in a conduit box. Detector cable shall be manufactured for the Viking Corporation and shall have a part number of 09954.

Discharge Devices

(Insert applicable product specification)

Detection System

Electrical devices utilized in the supplemental detection system shall be compatible with the water control valve release control panel. Installation of electrical supplemental detection system shall be in accordance with N.F.P.A. 70, N.F.P.A. 72 and local installation requirements. An accessible detector shall be placed for annual testing of deluge system.

System Piping

System piping shall conform to N.F.P.A. 13, Standard for Installation of Sprinkler Systems. System piping shall be listed for the maximum system pressure it is to be exposed to. All system piping shall be metallic and shall be protected against corrosion if corrosive conditions exist.

Hangers

Deluge sprinkler system hangers shall conform to N.F.P.A. 13, Standard for Installation of Sprinkler Systems. System piping shall be substantially supported to prevent sway or thrust. The hanging of non-system components from the sprinkler piping shall be strictly prohibited. The use of non-metallic hanger materials shall be prohibited unless expressed otherwise.

Fittings

Pipe fittings installed on the deluge sprinkler system shall be in conformance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fittings shall be listed for use at the system pressures to be encountered. Fittings shall be corrosion resistant if they are to be installed in a corrosive atmosphere.

Flow Control Valve

Sprinkler systems requiring a means of automatic or remote manual opening or closing of the water supply shall utilize a flow control valve with a spring aided clapper. Flow control valve shall be so constructed that the force of the spring and the differential of the valve clapper to water seat will close valve if detection or release system is reset. Valve trim shall be compatible and listed for valve. Flow control valve shall be UL listed and Factory Mutual approved. Flow Control Valve manufacturer to be Viking Corporation. Valve Model to be H-1.

Fire Department Connection

A system fire department connection shall be provided on the system riser in accordance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fire department connection shall be of a brass body with an integral clapper assembly to separate flow between inlets. Fire department connection shall be installed in an area accessible for the first response unit. Fire department connection shall be UL listed and Factory Mutual approved for fire protection use.

System Control Valve

Preaction system control valve shall be a listed indicating type valve. Control valve shall be UL listed and Factory Mutual approved for fire protection installations. System control valve shall be rated for normal system pressure but in no case less than 175 PSI.

Fire Department Connection

A system fire department connection shall be provided on the system riser in accordance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Fire department connection shall be of a brass body with an integral clapper assembly to separate flow between inlets. Fire department connection shall be installed in an area accessible for the first response unit. Fire department connection shall be UL listed and Factory Mutual approved for fire protection use.

System Check Valve

Check valves utilized in the sprinkler system riser shall be UL listed and Factory Mutual approved for use on fire protection systems. Sprinkler riser check valves shall be manufactured with supply side and system side gauge connections and a main drain outlet in conformance with N.F.P.A. 13, Standard for Installation of Sprinkler Systems. Check valves shall be constructed of a ductile iron body with a brass seat and a rubber faced clapper assembly hinged to a removable access cover. Check valves shall be equipped with a removable access cover for periodic inspection as required in N.F.P.A. 25, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems. Check valves shall have a working water pressure of 250 PSI. Check Valve manufacturer to be Viking Corporation. Valve Model to be F-1 Easy Riser Check Valve.

Compressed Air Supply

An air supply capable of restoring system pressure within 30 minutes shall be provided. Acceptable air supply arrangements are:

- A. Owner supplied air system with an air maintenance device on the supply side of the air supply inlet.
- B. A tank mounted air compressor.

Air Compressor

(Insert applicable product specification.)

Water Motor Alarm

Water flow will activate a hydraulic powered water motor alarm by way of integral valve alarm line trim piping. Water motor gong shall be connected to a water pressure retarding chamber to limit the propensity of unnecessary alarms. Water motor alarm shall be equipped with a rear closure plate to limit the access of foreign materials or accumulation of debris. Water motor alarm shall be UL listed and Factory Mutual approved for the application in which it is used. Water Motor Alarm manufacturer to be Viking Corporation. Model to be F-2/G-2.