

## Contractor's Material and Test Certificate for **A**boveground Piping

**PROCEDURE**

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

PROPERTY NAME	DATE
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PROPERTY ADDRESS

PLANS	ACCEPTED BY APPROVING AUTHORITIES (NAMES)	
	ADDRESS	
	INSTALLATION CONFORMS TO ACCEPTED PLANS	<input type="checkbox"/> YES <input type="checkbox"/> NO
	EQUIPMENT USED IS APPROVED IF NO, EXPLAIN DEVIATIONS	<input type="checkbox"/> YES <input type="checkbox"/> NO

INSTRUCTIONS	HAS PERSON IN CHARGE OF FIRE EQUIPMENT BEEN INSTRUCTED AS TO LOCATION OF CONTROL VALVES AND CARE AND MAINTENANCE OF HIS NEW EQUIPMENT? IF NO, EXPLAIN	<input type="checkbox"/> YES <input type="checkbox"/> NO
	HAVE COPIES OF THE FOLLOWING BEEN LEFT ON THE PREMISES? 1. SYSTEM COMPONENTS INSTRUCTIONS 2. CARE AND MAINTENANCE INSTRUCTIONS 3. NFPA25	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO

LOCATION OF SYSTEM    SUPPLIES BUILDINGS

SPRINKLERS	MAKE	MODEL	YEAR OF MANUFACTURE	ORIFICE SIZE	QUANTITY	TEMPERATURE RATING

PIPE AND FITTINGS    Type of Pipe \_\_\_\_\_  
Type of Fittings \_\_\_\_\_

ALARM VALVE OR FLOW INDICATOR	ALARM DEVICE			MAXIMUM TIME TO OPERATE THROUGH TEST CONNECTION	
	TYPE	MAKE	MODEL	MIN	SEC

DRY PIPE OPERATING TEST	DRY VALVE				Q. O. D.				
	MAKE	MODEL	SERIAL NO.	MAKE	MODEL	SERIAL NO.			
	TIME TO TRIP THROUGH TEST CONNECTION <sup>1</sup>		WATER PRESSURE	AIR PRESSURE	TRIP POINT AIR PRESSURE	TIME WATER REACHED TEST OUTLET <sup>1</sup>		ALARM OPERATED PROPERLY	
	MIN	SEC	PSI	PSI	PSI	MIN	SEC	YES	NO
Without Q.O.D.									
With Q.O.D.									
IF NO, EXPLAIN									

<sup>1</sup>MEASURED FROM TIME INSPECTOR'S TEST CONNECTION IS OPENED.

DELUGE AND PREACTION VALVES	OPERATION <input type="checkbox"/> PNEUMATIC <input type="checkbox"/> ELECTRIC <input type="checkbox"/> HYDRAULIC							
	PIPING SUPERVISED <input type="checkbox"/> YES <input type="checkbox"/> NO				DETECTING MEDIA SUPERVISED <input type="checkbox"/> YES <input type="checkbox"/> NO			
	DOES VALVE OPERATE FROM THE MANUAL TRIP, REMOTE, OR BOTH CONTROL STATIONS <input type="checkbox"/> YES <input type="checkbox"/> NO							
	IS THERE AN ACCESSIBLE FACILITY IN EACH CIRCUIT FOR TESTING <input type="checkbox"/> YES <input type="checkbox"/> NO					IF NO, EXPLAIN		
	MAKE	MODEL	DOES EACH CIRCUIT OPERATE SUPERVISION LOSS ALARM?		DOES EACH CIRCUIT OPERATE VALVE RELEASE?		MAXIMUM TIME TO OPERATE RELEASE	
		YES	NO	YES	NO	MIN	SEC	
PRESSURE REDUCING VALVE TEST	LOCATION & FLOOR	MAKE & MODEL	SETTING	STATIC PRESSURE		RESIDUAL PRESSURE (FLOWING)		FLOW RATE
				INLET (PSI)	OUTLET (PSI)	INLET (PSI)	OUTLET (PSI)	FLOW (GPM)
TEST DESCRIPTION	<p><b>HYDROSTATIC:</b> Hydrostatic tests shall be made at not less than 200 psi (13.6 bars) for 2 hours or 90 psi (6.2 bars) above static pressure in excess of 150 psi (10.2 bars) for 2 hours. Differential dry-pipe valve dappes shall be left open during the test to prevent damage. All aboveground piping leakage shall be stopped.</p> <p><b>PNEUMATIC:</b> Establish 40 psi (2.7 bars) air pressure and measure drop, which shall not exceed 1 1/2 psi (0.1 bars) in 24 hours. Test pressure tanks at normal water level and air pressure and measure air pressure drop, which shall not exceed 1 1/2 psi (0.1 bars) in 24 hours.</p>							
TESTS	ALL PIPING HYDROSTATICALLY TESTED AT ___ PSI (___ BARS) FOR ___ HRS						IF NO, STATE REASON	
	DRY PIPING PNEUMATICALLY TESTED <input type="checkbox"/> YES <input type="checkbox"/> NO							
	EQUIPMENT OPERATES PROPERLY <input type="checkbox"/> YES <input type="checkbox"/> NO							
	DO YOU CERTIFY AS THE SPRINKLER CONTRACTOR THAT ADDITIVES AND CORROSIVE CHEMICALS, SODIUM SILICATE OR DERIVATIVES OF SODIUM SILICATE, BRINE, OR OTHER CORROSIVE CHEMICALS WERE NOT USED FOR TESTING SYSTEMS OR STOPPING LEAKS? <input type="checkbox"/> YES <input type="checkbox"/> NO							
	<b>DRAIN TEST</b>	READING OF GAUGE LOCATED NEAR WATER SUPPLY TEST CONNECTION: ___ PSI (___ BARS)			RESIDUAL PRESSURE WITH VALVE IN TEST CONNECTION OPEN WIDE: ___ PSI (___ BARS)			
UNDERGROUND MAINS AND LEAD IN CONNECTIONS TO SYSTEM RISERS FLUSHED BEFORE CONNECTION MADE TO SPRINKLER PIPING								
VERIFIED BY COPY OF THE U FORM NO. 85B <input type="checkbox"/> YES <input type="checkbox"/> NO				OTHER EXPLAIN				
FLUSHED BY INSTALLER OF UNDERGROUND SPRINKLER PIPING <input type="checkbox"/> YES <input type="checkbox"/> NO								
IF POWDER-DRIVEN FASTENERS ARE USED IN CONCRETE, HAS REPRESENTATIVE SAMPLE TESTING BEEN SATISFACTORILY COMPLETED? <input type="checkbox"/> YES <input type="checkbox"/> NO						IF NO, EXPLAIN		
BLANK TESTING GASKETS	NUMBER USED		LOCATIONS				NUMBER REMOVED	
WELDING	WELDED PIPING <input type="checkbox"/> YES <input type="checkbox"/> NO							
	IF YES...							
	DO YOU CERTIFY AS THE SPRINKLER CONTRACTOR THAT WELDING PROCEDURES COMPLY WITH THE REQUIREMENTS OF AT LEAST AWS D10.9, LEVEL AR-3? <input type="checkbox"/> YES <input type="checkbox"/> NO							
	DO YOU CERTIFY THAT THE WELDING WAS PERFORMED BY WELDERS QUALIFIED IN COMPLIANCE WITH THE REQUIREMENTS OF AT LEAST AWS D10.9, LEVEL AR-3? <input type="checkbox"/> YES <input type="checkbox"/> NO							
DO YOU CERTIFY THAT WELDING WAS CARRIED OUT IN COMPLIANCE WITH A DOCUMENTED QUALITY CONTROL PROCEDURE TO ENSURE THAT ALL DISCS ARE RETRIEVED, THAT OPENINGS IN PIPING ARE SMOOTH, THAT SLAG AND OTHER WELDING RESIDUE ARE REMOVED, AND THAT THE INTERNAL DIAMETERS OF PIPING ARE NOT PENETRATED? <input type="checkbox"/> YES <input type="checkbox"/> NO								
OUTTOUTS (DISCS)	DO YOU CERTIFY THAT YOU HAVE A CONTROL FEATURE TO ENSURE THAT ALL OUTTOUTS (DISCS) ARE RETRIEVED? <input type="checkbox"/> YES <input type="checkbox"/> NO							

HYDROSTATIC TEST	ALL NEW UNDERGROUND PIPING HYDROSTATICALLY TESTED AT _____ PSI FOR _____ HOURS		JOINTS COVERED <input type="checkbox"/> YES <input type="checkbox"/> NO
LEAKAGE TEST	TOTAL AMOUNT OF LEAKAGE MEASURED _____ GALS. _____ HOURS		
	ALLOWABLE LEAKAGE _____ GALS. _____ HOURS		
HYDRANTS	NUMBER INSTALLED	TYPE AND MAKE	ALL OPERATE SATISFACTORILY <input type="checkbox"/> YES <input type="checkbox"/> NO
	WATER CONTROL VALVES LEFT WIDE OPEN IF NO, STATE REASON		<input type="checkbox"/> YES <input type="checkbox"/> NO
CONTROL VALVES	HOSE THREADS OF FIRE DEPARTMENT CONNECTIONS AND HYDRANTS INTERCHANGEABLE WITH THOSE OF FIRE DEPARTMENT ANSWERING ALARM		<input type="checkbox"/> YES <input type="checkbox"/> NO
	DATE LEFT IN SERVICE		
REMARKS			
SIGNATURES	NAME OF INSTALLING CONTRACTOR		
	TESTS WITNESSED BY		
	FOR PROPERTY OWNER (SIGNED)	TITLE	DATE
	FOR INSTALLING CONTRACTOR (SIGNED)	TITLE	DATE
ADDITIONAL EXPLANATION AND NOTES			

Figure 8-1(b) Part 2.

**8-5\* Hydraulic Design Information Sign.** The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion-resistant wire, chain, or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, preaction valve, or deluge valve supplying the corresponding hydraulically designed area. The sign shall include the following information:

- Location of the design area or areas.
- Discharge densities over the design area or areas.
- Required flow and residual pressure demand at the base of riser.
- Occupancy classification or commodity classification and maximum permitted storage height and configuration.
- Hose stream demand included in addition to the sprinkler demand.

**8-6 Circulating Closed Loop Systems.** Discharge tests of sprinkler systems with nonfire protection connections shall be conducted using system test connections described in 2-7.2. Pressure gauges shall be installed at critical points and readings taken under various modes of auxiliary equipment operation. Waterflow alarm signals shall be responsive to discharge of water through system test pipes while auxiliary equipment is in each of the possible modes of operation.

## Chapter 9 Marine Systems

**9-1 General.** This chapter outlines the deletions, modifications, and additions that are necessary for marine application. All other requirements of this standard shall apply to merchant vessel systems except as modified by this chapter.

**9-1.1** The following definitions shall be applicable to this chapter.

**A-Class Boundary.** A boundary designed to resist the passage of smoke and flame for 1 hr when tested in accordance with ASTM E 119, *Standard Test Methods for Fire Tests of Building Construction and Materials*.

**B-Class Boundary.** A boundary designed to resist the passage of flame for 1/2 hr when tested in accordance with ASTM E 119, *Standard Test Methods for Fire Tests of Building Construction and Materials*.

**Central Safety Station.** A continuously manned control station from which all of the fire control equipment is monitored. If this station is not the bridge, direct communication with the bridge shall be provided by means other than the ship's service telephone.

**Heat-Sensitive Material.\*** A material whose melting point is below 1700°F (926.7°C).

**Heel.** The inclination of a ship to one side.