

BlazeMaster Fire Sprinkler Quiz**Fee \$100**

Instructions

1. Print these pages and [Click Here](#) for the **necessary** installation manual.
2. Answer the **Simple questions** that follow the manual in a consecutive order.
3. Circle the correct answers and transfer the answers to [the answer sheets](#) (see last 3 pages).
4. After answering the simple questions you will become familiar with the new code changes.
5. Page down to the last page for the [verification form](#), answer sheets and mailing instructions.

12 hour course for:

- | | |
|---|----------------------------------|
| 1. Automatic Fire Sprinkler Contractor. | 4. Commercial Building Inspector |
| 2. Automatic Fire Sprinkler Contractor Maintenance. | 5. UDC Construction Inspector |
| 3. Journeyman Automatic Fire Sprinkler fitter | 6. Dwelling Contractor Qualifier |

Questions: call Amy at 920-727-9200 or 920-740-4119 or 920-740-6723 or email aklinka@hotmail.com

1. BlazeMaster pipe and fittings are designed specifically for fire sprinkler systems. They are made from a specialty thermoplastic known chemically as post _____.
 - a. CPVC
 - b. chlorinated polyvinyl chloride
 - c. both a & b
 - d. none of the above
2. This installation manual provides _____ BlazeMaster fire sprinkler system.
 - a. instructions for handling
 - b. instructions for installing
 - c. information regarding system design for
 - d. all of the above
3. This installation manual is intended as a supplement to basic, fundamental knowledge relating to the _____ of CPVC fire sprinkler systems.
 - a. installation
 - b. repair
 - c. both a & b
 - d. none of the above
4. Before commencing installation, a user should understand and confirm applicable _____ for CPVC fire sprinkler systems.
 - a. National Fire Protection Association (NFPA) guidelines
 - b. local code approval
 - c. installation requirements
 - d. all of the above
5. BlazeMaster CPVC _____ carry the markings of Underwriters Laboratories, Inc. (UL & C-UL) and Underwriters Laboratories of Canada (ULC), Factory Mutual (FM)*, The Loss Prevention Council (LPC), and the NSF International (NSF).
 - a. pipe
 - b. fittings
 - c. supporting materials
 - d. both a & b
6. BlazeMaster CPVC pipe and fittings are for use with only non-potable water.
 - a. true
 - b. false

7. The BlazeMaster products listing does include the combination of BlazeMaster CPVC pipe with other types of specially listed CPVC fire sprinkler pipes, fittings and solvent cements.
- true
 - false
8. BlazeMaster CPVC pipe and fittings are listed by Underwriters Laboratories (UL & C-UL) and Underwriters Laboratories of Canada (ULC) for use in:
- Air plenums, as defined by the Installation of Air Conditioning and Ventilating Systems, NFPA 90A.
 - Installation of Private Fire Service Mains and Their Appurtenances, NFPA 24
 - System risers in residential buildings up to five stories in height, NFPA 13, 13R and 13D.
 - only a & b
9. BlazeMaster CPVC pipe and fittings are listed by Underwriters Laboratories (UL & C-UL) and Underwriters Laboratories of Canada (ULC) for use in:
- Light Hazard occupancies as defined in the Standard for Installation of Sprinkler Systems, NFPA 13R and 13D.
 - Residential occupancies as defined in the Standard for Sprinkler Systems in One and Two Family Dwellings and Manufactured Homes, NFPA 13D.
 - Residential occupancies as defined in the Standard for Sprinkler Systems in One and Two Family Dwellings and Manufactured Homes, NFPA 13D.
 - only b & c
10. BlazeMaster fire sprinkler systems shall be employed in wet-pipe or dry-pipe systems.
- true
 - false
11. BlazeMaster CPVC pipe and fittings must never be used in a system using compressed air or other gases.
- true
 - false
12. Fire Protection Association Standards for _____ must be referenced and followed for design and installation requirements in conjunction with this design manual.
- 13
 - 13R or 13D
 - NFPA 24
 - all of the above
13. With concealed installation the minimum protection shall consist of _____.
- one layer of 1/2" gypsum wallboard
 - a suspended membrane ceiling with lay-in panels or tiles having a weight of not less than 0.55 pounds per square foot when installed with metallic support grids
 - 3/4" plywood soffits
 - none of the above
14. For residential occupancies defined in NFPA 13R and 13D, the minimum protection may consist of one layer of _____ for concealed installations.
- one layer of 1/2" gypsum wallboard
 - a suspended membrane ceiling with lay-in panels or tiles having a weight of not less than 0.55 pounds per square foot when installed with metallic support grids
 - one layer of 1/2" plywood
 - none of the above

15. For residential occupancies defined in NFPA 13R and 13D, during periods of _____ appropriate steps must be taken to protect the piping from fire exposure if the ceiling is temporarily removed for concealed installations.
- new construction
 - remodeling
 - renovation
 - only b & c
16. BlazeMaster CPVC pipe and fittings may be installed (exposed) without any protection and without any additional limitations.
- true
 - false
17. If installing BlazeMaster CPVC pipe and fittings exposed on a smooth, flat, horizontal ceiling construction it would require the use of _____ one step solvent cement.
- BM-5
 - CSC-500
 - TFP-500
 - all of the above
18. Light Hazard or Residential Pendent Sprinklers shall be located in accordance with their listing and a maximum distance between sprinklers not to exceed _____.
- 15 feet
 - 4.57 m
 - both a & b
 - none of the above
19. Light Hazard or Residential Horizontal Sidewall Sprinklers shall be mounted directly to the _____.
- ceiling
 - sidewall
 - both a & b
 - none of the above
20. Listed quick response light hazard upright sprinklers maximums temperature rating would be _____.
- 155°F
 - 68°C
 - both a & b
 - none of the above
21. Light Hazard Extended Coverage and Residential Sprinklers installations shall be below a smooth, flat, horizontal ceiling construction, are limited to unobstructed construction, require the use of Schedule 80 fittings for sizes _____ in. and greater
- $\frac{3}{4}$
 - 1
 - 1 $\frac{1}{4}$
 - 1 $\frac{1}{2}$
22. Light Hazard Extended Coverage or Residential Pendent Sprinklers maximum distance between sprinklers not to exceed _____.
- 15 feet
 - 4.57 m
 - both a & b

d. none of the above

23. Light Hazard Extended Coverage or Residential Pendent Sprinklers should have the deflectors installed within _____ from the ceiling.

- a. 8 inches
- b. 203 mm
- c. 12
- d. both a & b

24. Light Hazard Extended Coverage or Residential Horizontal Sidewall Sprinklers should have the deflectors installed within _____ from the ceiling.

- a. 8 inches
- b. 203 mm
- c. 12 inches
- d. both a & b

25. Light Hazard Extended Coverage or Residential Horizontal Sidewall Sprinklers should have the deflectors installed within _____ from the sidewall.

- a. 6 inches
- b. 203 mm
- c. 12 inches
- d. both a & b

26. BlazeMaster CPVC pipe and fittings may be installed without protection (exposed) in unfinished basements in accordance with NFPA _____.

- a. 13
- b. 13R
- c. 13D
- d. both b & c

27. BlazeMaster CPVC pipe and fittings may be installed without protection (exposed) if the ceiling is horizontal and constructed utilizing nominal 2 in. x 10 in. solid wood joists on _____ centers.

- a. 19 3/16 inch
- b. 16 inch
- c. 24 inch
- d. all of the above

28. BlazeMaster CPVC pipe and fittings may be installed without protection (exposed) if the distance from the floor to the bottom of the solid wood joists shall be between _____.

- a. 7.5 ft. and 8.5 ft.
- b. 7 ft. and 8 ft.
- c. 6 ft. and 8 ft.
- d. any of the above

29. BlazeMaster CPVC pipe and fittings may be installed without protection (exposed) if the maximum system working pressure under flowing conditions shall not exceed _____ psi.

- a. 80
- b. 100
- c. 175
- d. 200

30. BlazeMaster CPVC pipe and fittings may be installed without protection (exposed) if the maximum system working pressure under static (non-flowing) conditions shall not exceed _____ psi.

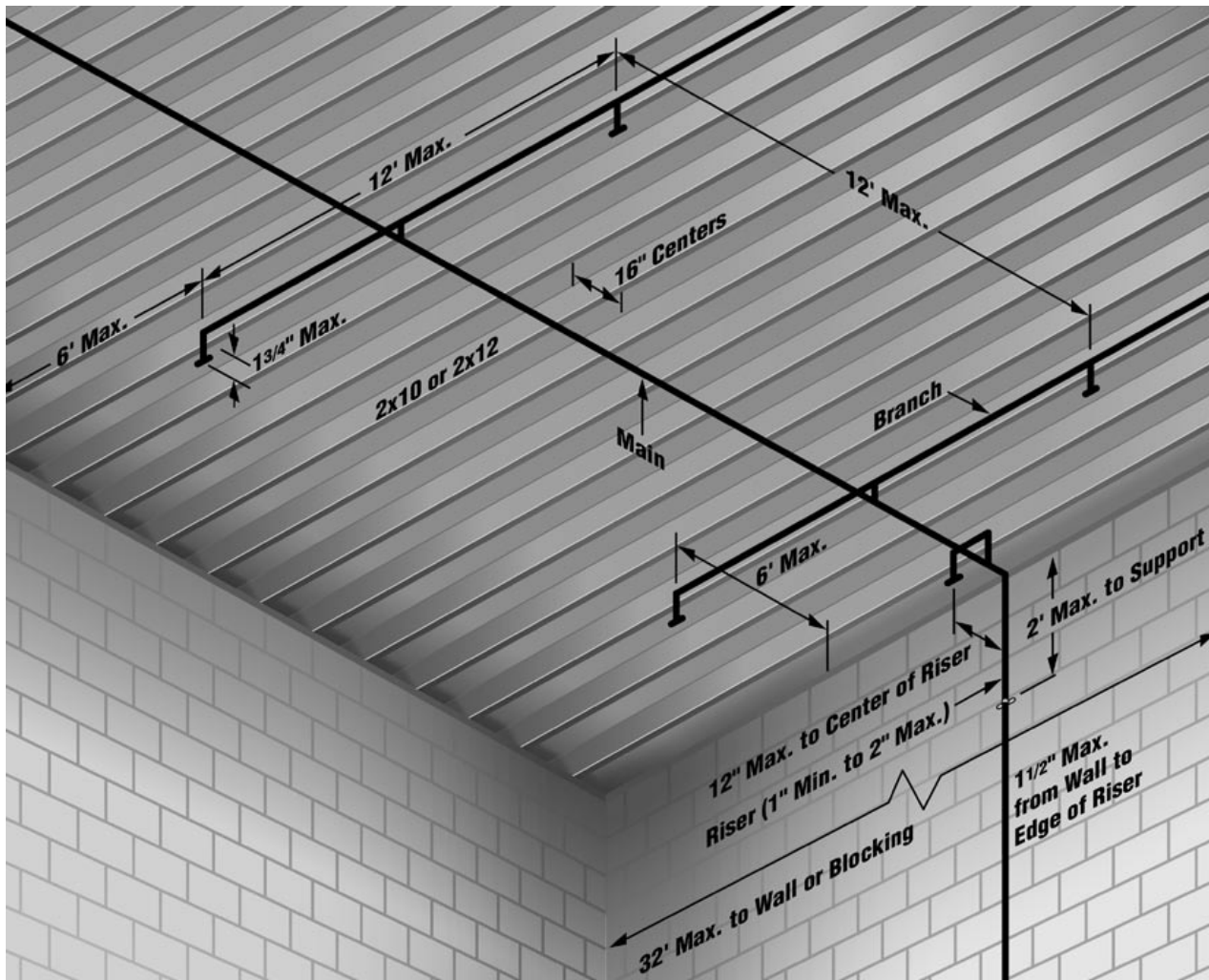
- a. 80
- b. 100
- c. 175
- d. 200

31. Reference the Table on Page 6 of the manual. The table is For Exposed BlazeMaster applications (Use in unfinished basements, system risers and mechanical tees and crosses are included by this table)

- a. true
- b. false

32. Reference the Table on Page 6 of the manual. Using an upright sprinkler configuration a hanger must be installed ___ inches from the centerline of the sprinkler head.

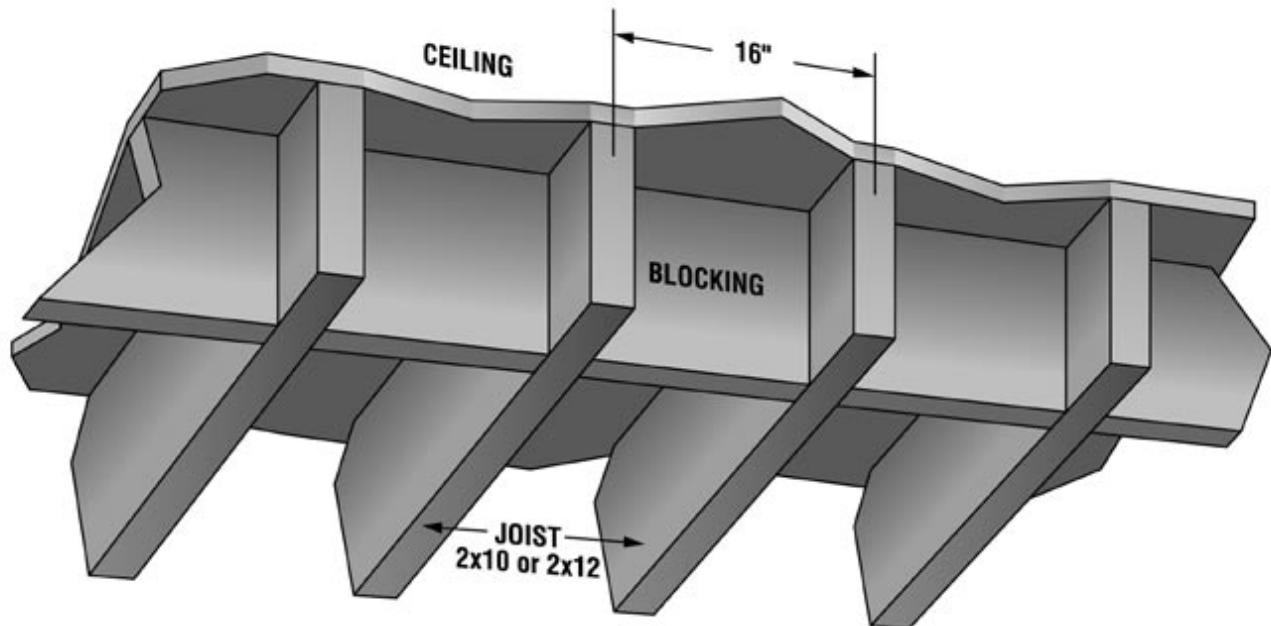
- a. none
- b. 3
- c. 4
- d. 6



33. The maximum sprinkler spacing in the above diagram shall not exceed ___ feet.

- a. 8
- b. 12
- c. 15
- d. 20

34. The sprinklers are to be installed with their deflectors a maximum of ____ in. below the bottom of the solid wood joists in anticipation of future installation of a finished ceiling.
- 1
 - 1 ½
 - 1 ¾
 - 2
35. All system mains shall be run parallel to the joists.
- true
 - false
36. All branch lines shall be run parallel to the joists.
- true
 - false
37. Schedule 40 fittings shall be used for sizes 1-1/2 inch and larger.
- true
 - false
38. All solvent cement joints shall be made with BlazeMaster One Step Solvent Cement ____.
- TFP-500
 - BM-5
 - CSC-500
 - all of the above



39. When the total protected area exceeds 1,000 square feet, blocking shall be utilized. to divide the area into individual compartments not exceeding _____ square feet.
- 800
 - 900
 - 1000
 - 1200
40. When the length exceeds 32 feet, blocking shall be utilized. The blocking shall be constructed of minimum _____ and shall be the full depth of the wood joists.

- a. 2" x materials
- b. 1 1/2" materials
- c. 1/2 in. plywood
- d. 3/4 in. plywood

41. As an alternative to mounting the pipe and fittings below the I-joists, it is also acceptable to cut holes in the I-joists at or below the center of the depth of the I-joist for support - the holes should be oversized to allow for the structural integrity of the I-joists.

- a. true
- b. false

42. When drilling holes in the solid wood joists, the structural integrity must . be maintained. Consult the _____ for requirements.

- a. Authority Having Jurisdiction
- b. AHJ
- c. building code
- d. all of the above

43. When installing BlazeMaster CPVC pipe and fittings parallel (branch lines) to the solid wood joists the pipe shall be installed utilizing listed support devices for thermoplastic sprinkler piping or other listed support devices which mount the piping directly to nominal 2 in. wood blocking or listed support devices for thermoplastic sprinkler piping which offset the pipe a nominal distance of _____ in. from the solid wood joists.

- a. 1
- b. 1 1/4
- c. 1 1/2
- d. 2

44. Use of BlazeMaster CPVC pipe and fittings is limited to basements where the quantity and combustibility of contents is low to medium and fires with relatively low to medium rates of heat release are expected.

- a. true
- b. false

45. Factory Mutual standards permit the use of nonmetallic fire sprinkler piping in areas where seismic protection is required.

- a. true
- b. false

46. In Factory Mutual insured properties BlazeMaster CPVC pipe and fittings are permitted to be installed exposed (without protection) when the following conditions are met:

- a. Only dry pipe sprinkler systems are to be used with BlazeMaster pipe and fittings.
- b. Sprinklers must have regular response thermal sensing elements.
- c. both a & b
- d. none of the above

47. The following FM Approved sprinklers must be used:

- a. Extended coverage light hazard (ECLH) control mode specific application . sprinklers with minimum flow or pressure established for the sprinkler as covered . in Data Sheet 2-8N.
- b. Quick response control mode density area sprinklers with a minimum density . of 0.1 gpm/ft² (4 mm/min).
- c. Residential sprinklers with a minimum 0.1 gpm/ft² (4 mm/min).
- d. all of the above

48. For quick response, non-extended coverage sprinklers, locate the sprinklers so the deflectors are no more than ___ in. below the ceiling.
- 6
 - 8
 - 10
 - 12
49. BlazeMaster fire sprinkler products may be used exposed as a vertical riser. In this installation, there needs to be a sprinkler (of the same type as in the area being protected) located adjacent to and no further than ___ ft. from the riser.
- ½
 - 1
 - 1 ½
 - 2
50. BlazeMaster pipe and fittings should not be used in high hazard applications (BS 5306: Part 2, Section two, paragraph 5.4) and ordinary hazard applications where the fuel load or rate of heat release is high, such as _____.
- boiler rooms & kitchens
 - manufacturing areas
 - certain retail applications
 - only a & b
51. Sprinkler Head Temperature Ratings. BlazeMaster pipe and fittings shall be used in sprinkler systems employing sprinkler heads rated _____ when installed concealed (protected) in accordance with the Listing.
- 245°F
 - 107°C
 - both a & b
 - none of the above
52. BlazeMaster pipe and fittings 3/4" - 3" are rated for continuous service of ___ psi at 150°F.
- 150
 - 165
 - 170
 - none of the above
53. BlazeMaster pipe and fittings are suitable for use in areas where ambient temperatures are within the range of _____.
- 2°C to 65°C
 - 35°F to 150°F
 - both a & b
 - none of the above
54. BlazeMaster pipe can be installed in an area, such as an attic, where the temperature will exceed 150°F (65°C) if ventilation is provided or if insulation is used around the pipe to maintain a _____ environment.
- warmer
 - cooler
 - heated
 - none of the above
55. BlazeMaster piping systems must be laid out so that the piping is not closely exposed to devices that generate heat in excess of 150°F (65°C) such as _____.

- a. light fixtures
- b. ballasts
- c. bathroom fans
- d. both a & b

56. Combustible Concealed Installations BlazeMaster pipe and fittings may be installed in combustible concealed spaces requiring sprinklers, as referenced with only NFPA 13.

- a. true
- b. false

57. NFPA _____ permit the omission of sprinklers from combustible concealed spaces and BlazeMaster pipe and fittings may be installed in these areas when sprinklering residential occupancies according to these standards.

- a. 13R
- b. 13D
- c. 13
- d. both a & b

58. BlazeMaster pipe and fittings are approved for use in air plenums.

- a. true
- b. false

59. BlazeMaster pipe and fittings may be installed in the plenum over, an opening in the ceiling such as ventilation grills.

- a. true
- b. false

60. Section 6.3.6.2 of NFPA 13 (2007 Edition) permits the use of pipe or tube listed for light hazard occupancies to be installed in ordinary hazard rooms of otherwise light hazard occupancies where the room does not exceed _____ square feet.

- a. 300
- b. 400
- c. 500
- d. 600

61. Garage Installations. When installed concealed, BlazeMaster CPVC pipe and fittings may be used to protect 13R garages per the following requirements:

- a. The system shall be installed per the requirements of NFPA 13R.
- b. The system shall be installed per the requirements of NFPA 13D.
- c. The BlazeMaster CPVC sprinkler pipe and fittings shall be installed per the manufacturer's installation instructions and this design manual.
- d. both a & c

62. Garage Installations. When installed concealed, BlazeMaster CPVC pipe and fittings may be used to protect 13R garages per the following requirements:

- a. Minimum protection shall consist of either one layer of 9.5 mm thick plywood or 12.7 mm thick gypsum.
- b. Minimum protection shall consist of either one layer of 3/8" thick plywood or 1/2" thick gypsum.
- c. Listed pendent or sidewall sprinklers with a maximum temperature rating of 225°F (107°C) shall be utilized.
- d. all of the above

63. NFPA 13D, Section 8.6.4 (2007 Edition) states: "Sprinklers shall be required in garages, open attached porches, carports, and similar structures".

- a. true
- b. false

64. Since sprinklers are not required in NFPA 13D garages, these installations do not fall within the scope of the Listing. BlazeMaster CPVC pipe and fittings should not be installed in NFPA 13D garages.

- a. true
- b. false

65. System Risers in NFPA 13, 13R and 13D Applications. BlazeMaster CPVC pipe and fittings may be used as system risers in accordance with NFPA 13, 13D and 13R when subject to the following limitations:

- a. When installed protected (concealed), the minimum protection shall consist of one layer of 3/8 in. thick gypsum wallboard.
- b. When installed protected (concealed), the minimum protection shall consist of one layer of 3/8 in. thick plywood.
- c. both a & b
- d. none of the above

66. System Risers in NFPA 13, 13R and 13D Applications. Only NFPA _____ applications may be installed without protection (exposed).

- a. 13
- b. 13R
- c. 13D
- d. both b & c

67. System Risers in NFPA 13, 13R and 13D Applications. When installed without protection (exposed), the following limitations shall apply:

- a. The riser shall be installed below a horizontal unfinished basement ceiling (in accordance with NFPA 13D) constructed utilizing nominal 2 in. x 10 in. exposed solid wood joists on 16 in. centers.
- b. The riser shall be installed below a horizontal unfinished basement ceiling (in accordance with NFPA 13D) constructed utilizing nominal 2 in. x 12 in. exposed solid wood joists on 24 in. centers
- c. both a or b
- d. none of the above

68. System Risers in NFPA 13, 13R and 13D Applications. When installed without protection (exposed), the following limitations shall apply: The riser shall be installed below a _____ ceiling construction. A Listed residential pendent sprinkler is to be installed with its deflector at the distance from the ceiling specified in the sprinkler Listing.

- a. smooth
- b. flat
- c. vertical
- d. both a & b

69. System Risers in NFPA 13, 13R and 13D Applications. When installed without protection (exposed), the following limitations shall apply: When installing BlazeMaster CPVC pipe and fittings in conjunction with 2 in. x 12 in. solid wood joists, the maximum system working pressure under flowing conditions shall not exceed 100 psi and the maximum system working pressure under static _____ conditions shall not exceed 175 psi.

- a. flowing
- b. semi flowing

- c. non-flowing
- d. all of the above

70. System Risers in NFPA 13, 13R and 13D Applications. When installed without protection (exposed), the following limitations shall apply:

- a. The riser shall be supported vertically within 2 feet of the ceiling or bottom of the joist.
- b. The minimum riser diameter shall be 1 in. and the maximum riser diameter shall be 2 in.
- c. The maximum distance between the wall(s) and the outside surface of the riser pipe shall be 1 1/2 in.
- d. all of the above

71. System Risers in NFPA 13, 13R and 13D Applications. When installed without protection (exposed), the following limitations shall apply: All solvent cement joints shall be made with BlazeMaster One Step Solvent Cement _____.

- a. TFP-500
- b. CSC-500
- c. HVC-500
- d. all of the above

72. System Risers in NFPA 13, 13R and 13D Applications. Risers shall be supported by pipe clamps or by hangers located on the horizontal connection close to the riser. Only Listed _____ shall be used.

- a. hangers
- b. clamps
- c. blocking
- d. both a & b

73. System Risers in NFPA 13, 13R and 13D Applications. Requires a riser clamps that squeeze the pipe and depend on compression of the pipe to support the weight.

- a. true
- b. false

74. System Risers in NFPA 13, 13R and 13D Applications. Hangers and straps shall not compress, distort, cut or abrade the piping.

- a. true
- b. false

75. System Risers in NFPA 13, 13R and 13D Applications. Hangers and straps shall not allow for free movement of the pipe to allow for thermal expansion and contraction.

- a. true
- b. false

76. System Risers in NFPA 13, 13R and 13D Applications. Maintain vertical piping in straight alignment with supports at each floor level, or at _____ intervals, whichever is less.

- a. 10 feet
- b. 8.05 m
- c. both a & b
- d. none of the above

77. System Risers in NFPA 13, 13R and 13D Applications. CPVC risers in vertical shafts or in buildings with ceilings over 25 feet (7.62 m), shall be aligned straightly and supported at each floor level, or at 10 feet (3.05 m) intervals, whichever is _____.

- a. more
- b. less

78. Underground Water Pressure Service. Both pipe and fittings may be used in underground water pressure service installations per the following requirements:
- ASTM D 2774, Standard Recommended Practice for Underground Installation of Thermoplastic Pressure Piping
 - ASTM F 645, Standard Guide for Selection, Design and Installation of Thermoplastic Water Pressure Piping Systems.
 - both a & b
 - none of the above
79. Underground Water Pressure Service. Both pipe and fittings may be used in underground water pressure service installations per the following requirements:
- The system shall be installed per the requirements of NFPA 13.
 - The BlazeMaster CPVC sprinkler pipe and fittings shall be installed per the manufacturer's installation instructions and this design manual.
 - both a & b
 - none of the above
80. Underground Water Pressure Service. If thrust blocks are utilized they should be designed per NFPA 13, Section 10.8.2 (2007 Edition).
- true
 - false
81. Underground Water Pressure Service. BlazeMaster fire sprinkler systems utilize a solvent cement joining method. As such, thrust blocks are required with BlazeMaster CPVC pipe and fittings in underground water pressure service. Reference NFPA 13, Section A.10.8.1.1 (2012 Edition).
- true
 - false
82. The trench should be of adequate width to allow convenient installation, while at the same time being as narrow as possible. Minimum trench widths may be utilized by joining pipe outside of the trench and lowering it into the trench always before adequate joint strength has been achieved.
- true
 - false
83. Trenching. Water filled pipe should be buried at least _____ below the maximum expected frost line.
- 12 inches
 - 305 mm
 - both a & b
 - none of the above
84. Trenching. It is recommended that BlazeMaster piping be run within a _____ casing when it is installed beneath surfaces that are subject to heavy-weight or constant traffic such as roadways and railroad tracks.
- metal
 - concrete
 - schedule 80 PVC
 - both a & b
85. The trench bottom should be continuous, relatively smooth and free of rocks. Where ledge rock, hardpan or boulders are encountered, it is necessary to protect the pipe from damage. Use a minimum of ____ inches of clean soil, sand, crushed stone.

- a. 4
- b. 6
- c. 12
- d. 18

86. This snaking is also especially necessary with pipe that is laid in its trench (necessitating wider trenches than recommended) and is back-filled with _____ earth before the joints are thoroughly dry.

- a. warm
- b. hot
- c. cool
- d. all of the above

87. Backfilling. Underground pipe shall be thoroughly inspected and tested for leaks _____ backfilling.

- a. prior to
- b. during
- c. after
- d. all of the above

88. Backfill material should be placed over pipe joints only, leaving the sections exposed during testing.

- a. true
- b. false

89. Ideally, backfilling should only be done early in the _____ during hot weather when the line is fully contracted and there is no chance of insufficiently dried joints being subjected to contraction stresses.

- a. afternoon
- b. evening
- c. morning
- d. all of the above

90. The pipe should be uniformly and continuously supported over its entire length on firm, stable material. Blocking should be used to change pipe grade or to intermittently support pipe across excavated sections.

- a. true
- b. false

91. Trenching. Backfill materials free of rocks with a particle size of _____ inch or less should be used to surround the pipe.

- a. 3/8
- b. 1/2
- c. 3/4
- d. 1

92. Trenching. Backfill materials should be used to surround the pipe with _____ of cover.

- a. 4" to 8"
- b. 4" to 12"
- c. 6" to 8"
- d. none of the above

93. Trenching. It should be placed in layers. Each soil layer should be sufficiently compacted to uniformly develop lateral passive soil forces during the backfill operation. It may be advisable to have the pipe under hydraulic pressure of _____,

- a. 15
- b. 20
- c. 25
- d. all of the above

94. Backfilling. Large or sharp rocks, frozen clods and other debris greater than ____” in diameter should be removed.

- a. 2
- b. 3
- c. 4
- d. 6

95. Outdoor Installations. BlazeMaster pipe and fittings are listed for exposed, outdoor applications.

- a. true
- b. false

96. BlazeMaster pipe and fittings 3/4"-3" are rated for continuous service of ____ psi at 150°F.

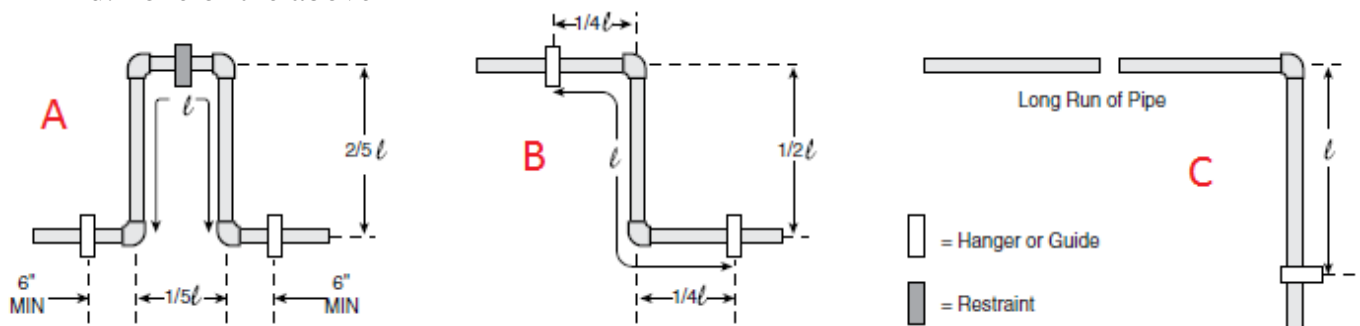
- a. 155
- b. 165
- c. 175
- d. 185

97. A 25°F change in temperature will cause an expansion of ____ inch for a 50 foot straight run of BlazeMaster® pipe.

- a. 1/4
- b. 1/2
- c. 3/4
- d. 1

98. For most operating and installation conditions, expansion and contraction can be accommodated at changes in direction of the pipe run. However, in certain instances, expansion _____ may be required when installing long, straight runs of pipe.

- a. loops
- b. offsets
- c. both a & b
- d. none of the above



99. The letter “A” above represents a _____.

- a. loop
- b. offset
- c. change of direction

100. The letter “B” above represents a _____.

- a. loop
- b. offset
- c. change of direction

101. The letter “C” above represents a _____.

- a. loop
- b. offset
- c. change of direction

102. BlazeMaster pipe must be covered with a nontransparent material when stored out of doors for extended periods of time. Brief exposure to direct sunlight on the job site may result in color fade and will affect physical properties.

- a. true
- b. false

103. Caution should be taken not to over stack boxes of BlazeMaster fittings in extreme temperature environments > _____°F.

- a. 120
- b. 130
- c. 140
- d. 150

104. A square cut provides the surface of the pipe with maximum bonding area. If any indication of damage or cracking is evident at the pipe end, cut off at least _____ inches beyond any visible crack.

- a. 1
- b. 1 ½
- c. 2
- d. 3

105. Deburring. A slight bevel shall be placed at the end of the pipe to ease entry of the pipe into the socket and minimize the chances of wiping solvent cement from the fitting during insertion.

- a. true
- b. false

106. Fitting Preparation Using a clean, dry rag, wipe loose dirt and moisture from the fitting socket and pipe end. Moisture can slow the cure time and at this stage of assembly, excessive water can reduce joint strength. Check the interference fit of the pipe and fitting. The pipe should enter the fitting socket easily 1/4 to 3/4 of the way. At this stage, the pipe _____ bottom out in the socket.

- a. should
- b. should not

107. Solvent Cement Application Cement shall be applied (worked into pipe) with an applicator half the nominal size of the pipe diameter. Apply a _____, even coat of cement to the outside pipe end.

- a. light
- b. medium
- c. heavy
- d. any of the above

108. Solvent Cement Application Cement shall be applied (worked into pipe) with an applicator half the nominal size of the pipe diameter. Apply a _____, even coat of cement to the fitting socket.

- a. light

- b. medium
- c. heavy
- d. any of the above

109. Sprinkler head fittings shall be allowed to cure for a minimum of ____ minutes prior to installing the sprinkler head.

- a. 15
- b. 30
- c. 45
- d. 60

110. Set and Cure Times. The assembly must be allowed to set, without any stress on the joint, for _____ minutes, depending on pipe size and temperature depending on the moisture level.

- a. 10
- b. 15
- c. 30
- d. 1 to 5

111. Pressure Testing. Once an installation is completed and cured, per the above recommendations, the system should be pressure tested at 200 psi for ____ hours.

- a. 1
- b. 2
- c. 3
- d. none of the above

112. Pressure Testing. The system should be pressure tested at ____ psi in excess of maximum pressure when the maximum system pressure is to be maintained in excess of 150 psi.

- a. 25
- b. 50
- c. 75
- d. none of the above

113. Cut-In Procedure for System Modification or Repairs. Several methods can be utilized to tie into an existing system using a socket style tee fitting in combination with the use of _____.

- a. socket unions
- b. grooved coupling adapters
- c. flanges
- d. all of the above

114. Cut-In Procedure for System Modification or Repairs. After cut-in cure times are met, the system must be slowly filled with water and the air bled from the furthest and _____ sprinkler heads before test pressure is applied

- a. lowest
- b. highest
- c. either a or b
- d. none of the above

115. Cut-In Procedure for System Modification or Repairs. _____ **MUST NEVER BE USED FOR PRESSURE TESTING**

- a. AIR
- b. COMPRESSED GAS
- c. WATER
- d. both a & b

116. Hangers and Supports. Acceptable pipe hangers must comply with the requirements in NFPA _____.

- a. 13
- b. 13R
- c. 13D
- d. all of the above

117. Transition to Other Materials. BlazeMaster CPVC male and female threaded adapters or flanges are listed for connecting a BlazeMaster fire sprinkler system to other _____.

- a. materials
- b. valves
- c. appurtenances
- d. all of the above

118. In areas where water supplies are known to have contributed to MIC, NFPA requires metallic fire sprinkler system water supplies to be tested and appropriately treated. Reference Section 23.1.5 of NFPA 13 (2007 Edition). This testing and treatment is not required when using BlazeMaster CPVC products. BlazeMaster CPVC is not susceptible to MIC because:

- a. CPVC surfaces discourage the adherence of the bacteria associated with MIC. In metallic systems, colonies form around the bacteria that entrap organic acids against the wall, causing the pitting which is common with MIC.
- b. As the bacteria associated with MIC cannot adhere to the inner surface of CPVC, the bacteria will not propagate as rapidly.
- c. The organic acids produced by the MIC bacteria promote the oxidation of metals but do not affect CPVC. In fact, the compounds that comprise BlazeMasterR pipe and fittings are known to be unaffected in extreme acid environments far more severe than those environments associated with MIC.
- d. all of the above

119. Painting. Water-based acrylic latex paint is the preferred and recommended paint to use on BlazeMaster CPVC pipe and fittings. All oil or solvent-based paints are also chemically compatible.

- a. true
- b. false

120. Earthquake Bracing. When it is required to earthquake brace BlazeMaster® piping, it is important to use _____ that do not have sharp edges or apply excessive compressive forces sufficient to distort the pipe.

- a. fittings
- b. fasteners
- c. clamps
- d. all of the above

Blaze Master Fire Sprinkler Quiz

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Attendee passed the course with a greater than 70% score on Date _____

Instructor Signature _____