SECTION 10 4400

FIRE PROTECTION SPECIALTIES

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LANL MASTER SPECIFICATION

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| Rev. 3 Summary of changes: Major revision adopting content aligned with commercial industry practice. |

Word file at <http://engstandards.lanl.gov>

The component importance factor, *Ip*, for fire extinguishers is typically 1.0 unless required for life-safety purposes, in which case it is 1.5. The fire protection engineer is responsible to coordinate with the structural engineer on seismic anchorage/fastener requirements for non-structural components in accordance with ASCE 7, Chapter 13, as applicable.

This template must be edited for each project.  In doing so, specifier must add job-specific requirements.  Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.  Once the choice is made or text supplied, remove the brackets.  The specification section must also be edited to delete requirements for processes, items, or designs that are not included in the project -- and specifier’s notes such as these.  To seek a variance from requirements in the specification sections that are applicable, contact the Engineering Standards Manual Fire [POC](http://engstandards.lanl.gov/POCs.shtml#fire). Please contact POC with suggestions for improvement as well.

When assembling a specification package, include applicable specification sections from all Divisions, especially Division 1, General requirements.

This template is developed for ML-4 projects.  For ML-1, 2, and 3 applications, additional requirements and independent reviews should be added if increased confidence in procurement or execution is desired; see ESM Chapter 1 Section Z10 Specifications and Quality sections.
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PART 1 GENERAL

1. SECTION INCLUDES
2. Fire extinguishers.
3. Fire extinguisher cabinets.
4. Accessories.
5. RELATED SECTIONS
6. Section 01 2500, *Substitution Procedures*
7. Section 01 7823, *Operation and Maintenance Data*
8. Section 01 8734, *Seismic Qualification of Nonstructural Components (IBC)*
9. Section 09 2116, *Gypsum Board Systems*: Roughed-in wall openings.
10. Section 09 9100, *Painting*: Field paint finish.
11. REFERENCES
12. ASTM International:
13. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems.
14. FM Approvals
15. FM (AG) - FM Approval Guide.
16. National Fire Protection Association (NFPA)
17. NFPA 10 - Standard for Portable Fire Extinguishers.
18. Underwriters Laboratories (UL) Inc.
19. UL (DIR) - Online Certifications Directory.
20. ACTION SUBMITTALS
21. Product Data: Provide extinguisher operational features, extinguisher ratings and classifications, color and finish, and anchorage details.

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Require Shop Drawings submittal if fire extinguisher or cabinet locations and types are not provided in the engineering drawings.

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1. Shop Drawings: Indicate locations of cabinets, cabinet physical dimensions, rough-in measurements for recessed cabinets; locations, weights and types of individual fire extinguishers; mounting measurements for wall bracket; and accessories required for complete installation.
2. INFORMATIONAL SUBMITTALS
3. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.
4. At Closeout:
5. Operation and Maintenance data.
6. Manufacturer’s warranty.
7. FIELD CONDITIONS
8. The space shall be dried-in and conditioned prior to installation of permanent fire extinguishers. Permanent fire extinguishers shall not be used during construction.
9. WARRANTY
10. The manufacturer shall provide, at no additional cost, a standard parts warranty in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within the specified warranty period.
11. Failures include but are not limited to:
12. Failure of NFPA-10 hydrostatic test, when the required test falls within the warranty period.
13. Faulty operation of release levers or valves.

PART 2 PRODUCTS

1. MANUFACTURERS
2. Fire Extinguishers:
3. Activar Construction Products Group, Inc. - JL Industries [multipurpose dry chemical; Class K wet chemical; Purple K dry chemical; clean agent]*.*
4. Ansul, a Tyco Business[multipurpose dry chemical; Class K wet chemical; clean agent].
5. Brooks Equipment [multipurpose dry chemical; Class K wet chemical; Class D dry chemical; clean agent].
6. Kidde, a unit of United Technologies Corp [multipurpose dry chemical; clean agent; Purple K dry chemical].
7. Getz Fire Equipment Company [multipurpose dry chemical; Class D; Class K wet chemical]
8. Nystrom, Inc [multipurpose dry chemical; Class K wet chemical].
9. Oval Brand Fire Products [multipurpose dry chemical; Purple K dry chemical].
10. Potter-Roemer [multipurpose dry chemical; Class D; Class K wet chemical; Purple K dry chemical; clean agent].
11. Pyro-Chem, a Tyco Business [multipurpose dry chemical; Class K wet chemical].
12. Substitutions: [Alternate products may be accepted, follow Section 01 2500 – *Substitution Procedures*; Not permitted – No Substitutions].
13. Fire Extinguisher Cabinets and Accessories:
14. Activar Construction Products Group, Inc. - JL Industries [Ambassador Series; Academy Series; Cosmopolitan Series; Embassy Series; Panorama Series; Clear Vu Series; Security Series].
15. Kidde, a unit of United Technologies Corp [Surface-mounted; semi-recessed; keyed semi-recessed]
16. Larsen's Manufacturing Co [Specifier select from website]
17. Nystrom, Inc [Alpine; Palisade; Summit; Ridge]
18. Oval Brand Fire Products [CRST; CRSS; CSST; CSSS]
19. Potter-Roemer [Specifier select from website]
20. Substitutions: [Alternate products may be accepted, follow Section 01 2500, *Substitution Procedures*; Not permitted – No Substitutions].
21. FIRE EXTINGUISHERS
22. Fire Extinguishers - General: Comply with product requirements of [NFPA 10](https://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=NFPA%2010).
23. Provide extinguishers labeled by [UL (DIR); FM (AG)] for purpose specified and acceptable to the LANL Fire Marshal (Authority Having Jurisdiction).
24. [Multipurpose Dry Chemical; Halogenated Agents] Type Fire Extinguishers: [Carbon steel; Aluminum] tank, with pressure gauge.
25. Stored Pressure Operated: [Deep Drawn; or \_\_\_].
26. Class: [ABC; BC; Purple K; or \_\_\_\_] type.
27. Size: [2.5 pound; 2.6 pound; 5 pound; 10 pound; 30 pound; 20 pound].
28. Size and classification as scheduled.
29. Finish: [Baked polyester powder coat, \_\_\_\_ color; \_\_\_\_; or Polished chrome].
30. Temperature range: [Minus 40 degrees Fahrenheit; Minus 65 degrees Fahrenheit; \_\_\_ degrees Fahrenheit] to [\_\_\_ degrees Fahrenheit; 120 degrees Fahrenheit].
31. Wet Chemical Type Fire Extinguishers: Stainless steel tank, with pressure gauge.
32. Class: K - type.
33. Size: [1.6 gallons; \_\_\_\_ gallons]
34. Size and classification as scheduled.
35. Finish: Polished stainless steel.
36. Temperature range: [Minus 20 degrees Fahrenheit; 32 degrees Fahrenheit; \_\_\_ degrees Fahrenheit] to [120 degrees Fahrenheit); \_\_\_ degrees Fahrenheit]
37. FE-36 Clean Agent Type Fire Extinguishers: [Stainless steel; Carbon steel; \_\_\_\_\_\_\_\_] tank, with pressure gauge.
38. Class: [ABC; BC; \_\_\_\_\_] type.
39. Size: [2.5 pound; 5 pound; 9 pound; 10 pound; 13 pound; \_\_\_ pound].
40. Size and classification as scheduled.
41. Finish: [Baked polyester powder coat, \_\_\_\_ color; Polished chrome; No. 4 brushed Satin chrome; \_\_\_\_].
42. Temperature Range: [Minus 40 degrees Fahrenheit; \_\_\_ degrees Fahrenheit] to [120 degrees Fahrenheit; \_\_\_ degrees Fahrenheit].
43. FIRE EXTINGUISHER CABINETS
44. Fire Rating: Listed and labeled in accordance with [ASTM E814](http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM%20E814) requirements for fire resistance rating of walls where being installed.
45. Cabinet Construction: Non-fire rated.
46. Formed [primed; galvanized; stainless; \_\_\_\_\_] steel sheet; [0.036 inch; \_\_\_\_ inch] thick base metal.
47. Formed aluminum; *\_\_\_\_* inch thickbase metal*.*
48. Fire Rated Cabinet Construction: [One-hour fire rated; Two-hour fire rated; \_\_\_\_\_].
49. Steel; [double wall; outer and inner boxes; or \_\_\_\_\_] with [5/8 inch; \_\_\_\_ inch] thick fire barrier material.
50. Cabinet Configuration: [Recessed; Semi-recessed; Surface mounted] type.
51. Size to accommodate accessories.
52. Exterior nominal dimensions of *\_\_\_\_* inch wide by *\_\_\_\_* inch high by *\_\_\_\_* inchdeep*.*
53. Trimless type.
54. Trim: [Flat square edge; Flat rolled edge; or \_\_\_\_\_], with *\_\_\_\_* inch wideface*.*
55. Projected Trim: Returned to wall surface, with *\_\_\_\_* inchprojection*, and \_\_\_\_* inchwide face*.*
56. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim [and door stiles; or None - N/A].
57. Door: [0.036 inch; \_\_\_\_ inch] metal thickness, reinforced for flatness and rigidity [with nylon catch; with roller type catch; with lock and breakable window access; \_\_\_\_\_]. Hinge doors for 180 degree opening with [two butt hinges; continuous piano hinge; or \_\_\_\_\_].
58. Door Glazing: [Float; Tempered; Heat strengthened; \_\_\_\_\_] glass, clear, [1/8 inch; \_\_\_\_ inch] thick, and set in resilient channel glazing gasket.
59. Door Glazing: [Acrylic; Polycarbonate; or \_\_\_\_\_] plastic, clear, [1/8 inch; *\_\_\_\_* inch] thick, [flat; full view bubble; or \_\_\_\_\_] shape and set in resilient channel glazing gasket.
60. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
61. Fabrication: Weld, fill, and grind components smooth.
62. Finish of Cabinet Exterior Trim and Door: [Primed for field paint finish; Polished chrome; Satin chrome; No. 4 - Brushed stainless steel; Red enamel; Red baked enamel; Baked enamel, \_\_\_\_\_\_\_\_ color; Baked enamel, color as selected; Anodized to \_\_\_\_\_\_\_\_ color; Anodized to color as selected; or \_\_\_\_\_].
63. Finish of Cabinet Interior: [White colored enamel; \_\_\_\_\_ colored enamel; \_\_\_\_\_].
64. ACCESSORIES
65. Extinguisher Brackets: Formed steel, [chrome-plated; galvanized and enamel finished; \_\_\_\_\_].
66. [Cabinet Signage; or Graphic Identification]: *\_\_\_\_\_\_\_\_.*
67. Lettering: “FIRE EXTINGUISHER” decal, or vinyl self-adhering, pre-spaced black lettering.

PART 3 EXECUTION

1. EXAMINATION
2. Verify existing conditions before starting work.
3. Verify rough openings for cabinet are correctly sized and located.
4. INSTALLATION
5. Install fire extinguishers and cabinets in accordance with manufacturer's instructions.

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Per NFPA 10, top of fire extinguisher shall be 42 inches maximum from finished floor for extinguishers weighing more than 40 lbs and 60 inches maximum from finished floor for extinguishers weighing 40 lbs or less.

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1. Install cabinets plumb and level [in wall openings; or None - N/A], [42 inches; or \_\_\_\_\_ inches] from finished floor to [inside bottom of cabinet; or \_\_\_\_\_\_\_\_].
2. Secure fire extinguishers and cabinets rigidly in place to ensure position retention during a seismic event.
3. Place extinguishers [and accessories; or None - N/A] [in cabinets; and on wall brackets].
4. Position cabinet signage at ***\_\_\_\_\_\_\_\_.***
5. MAINTENANCE
6. See Section01 7823, *Operation and Maintenance Data,* for additional requirements relating to maintenance service.

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Provide fire extinguisher schedule in this specification section or on the engineering drawing. Information to be included in the schedule is noted below. If schedule is not included in this specification section, delete following Article on Fire Extinguisher Schedule.

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1. FIRE EXTINGUISHER SCHEDULE
2. Corridors: Dry Chemical Type
3. Class [ABC; BC; or *\_\_\_\_*]
4. Size [ ]
5. Cabinet [ ]
6. Other [ ]
7. Common Areas: Dry Chemical Type
8. Class [ABC; BC; or *\_\_\_\_*]
9. Size [ ]
10. Cabinet [ ]
11. Other [ ]
12. Kitchens: Dry Chemical type
13. Class [Purple K; or ***\_\_\_\_\_***]
14. Size [ ]
15. Cabinet [ ]
16. Other [ ]
17. Kitchens: Wet Chemical type
18. Class [K; or ***\_\_\_\_\_***]
19. Size [ ]
20. Cabinet [ ]
21. Other [ ]
22. Computer Room: FE-36 Clean Agent Type
23. Class [ABC; BC; or *\_\_\_\_\_*]
24. Size [ ]
25. Cabinet [ ]
26. Other [ ]

END OF SECTION

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Do not delete the following reference information:

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THE FOLLOWING STATEMENT IS FOR LANL USE ONLY

This project specification section is based on LANL Master Specification Section 10 4400 Rev. 3, dated July 18, 2024.