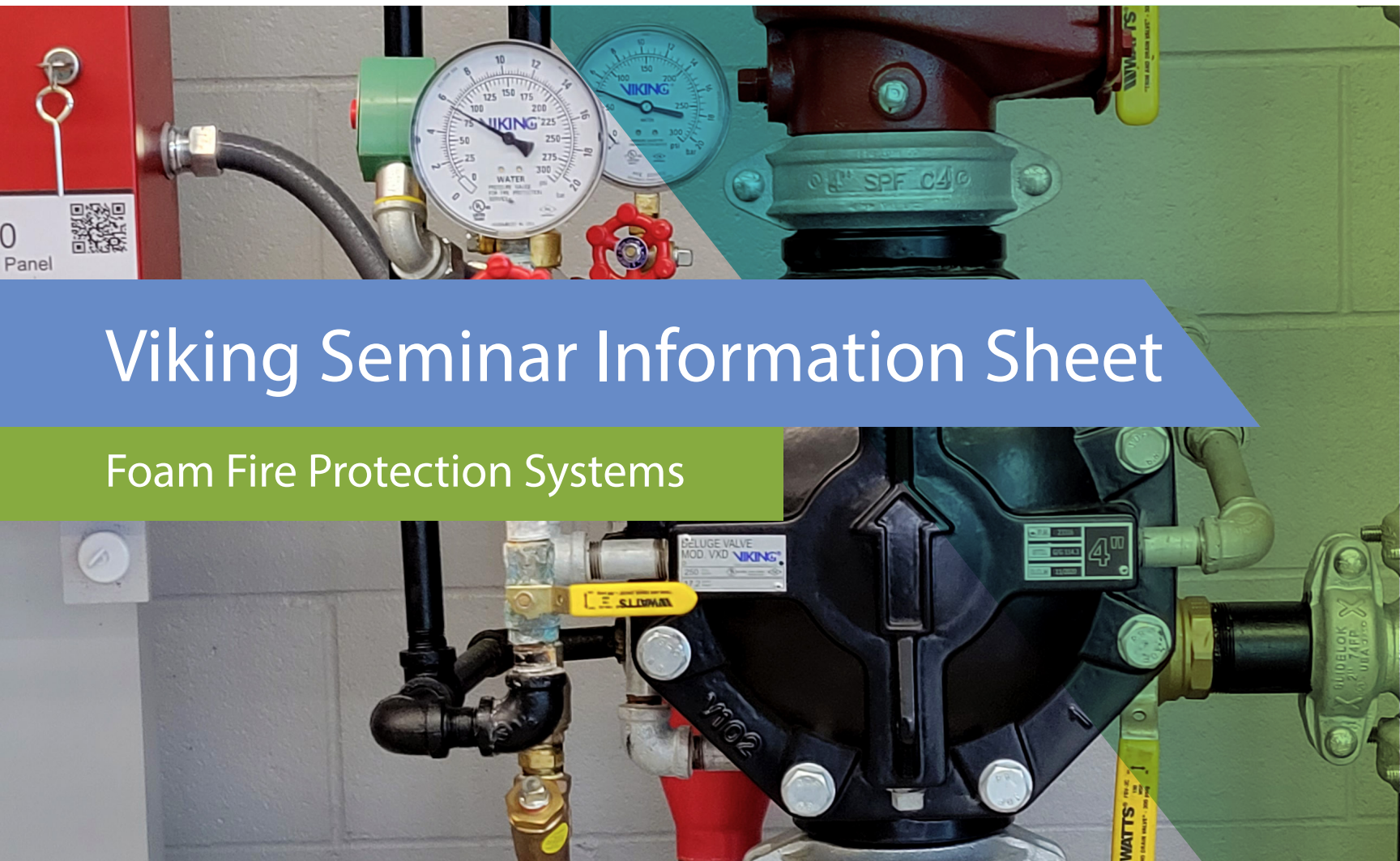




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# Viking Seminar Information Sheet

## Foam Fire Protection Systems



# Foam Fire Protection Systems

<b>Seminar Description:</b>	Through discussion, activities, and interactive labs this seminar will explore the operation and components of fixed foam solution fire protection systems. Topics covered will include an introduction to foam, concentrates, system types, foam system components, and commissioning systems.
<b>Duration (Days):</b>	2
<b>Number of Modules:</b>	10
<b>Total Instructional Minutes:</b>	120
<b>Seminar Format(s):</b>	Lecture, activity, hands-on labs, and demonstration.
<b>Participation Materials:</b>	Participant guide with data sheets.
<b>Learning Outcomes:</b>	<p>Upon completion of this seminar the attendee will be able to:</p> <ul style="list-style-type: none"><li>■ Identify the need for a foam fire protection system in accordance with applicable codes.</li><li>■ Identify various types of foam systems.</li><li>■ Identify and describe the operation of the components of foam systems.</li><li>■ Differentiate between the various types of foam concentrates.</li><li>■ Describe recommended installation practices.</li><li>■ Describe the process for the inspection, testing, and maintenance of foam fire protection systems.</li></ul>
<b>Assessment Method(s):</b>	Participation and written exam.

## Module 1: Introduction to Foam

<b>Duration:</b>	**
<b>Learning Outcomes:</b>	<ul style="list-style-type: none"><li>■ Evaluate applicable codes and standards for foam fire protection systems.</li><li>■ Recognize various hazards and applications that foam systems protect.</li><li>■ Identify various Viking foam system products.</li></ul>

## Module 2: Foam Concentrates and Concentrate Update

<b>Duration:</b>	**
<b>Learning Outcomes:</b>	<ul style="list-style-type: none"><li>■ Discuss the requirements for and the development of fluorine free foams.</li><li>■ Detail the impact of fluorine free foams on existing systems.</li><li>■ Recognize the key components of foam make-up.</li><li>■ Understand the importance of various foam concentrates.</li><li>■ Identify expansion ratios of foam and their importance.</li><li>■ Effects of foam on combustion.</li><li>■ Proper storage and handling of foam concentrates.</li></ul>

## Module 3: Foam Storage Tanks and Proportioning Components

**Duration:**

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**Learning Outcomes:**

- Compatibility of foam concentrates.
- Identify advantages and disadvantages of various storage methods.
- Recognize features and guidelines of specific foam storage tanks.
- Identify appropriate types of proportioning devices.
- Identify proper location of proportioning devices.
- Determine pipe sizing for concentrate line.
- Explain factors in foam skid sizing.

## Module 4: System Types

**Duration:**

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**Learning Outcomes:**

- Discuss appropriate system types for foam application.
- Describe operating principles for each system type.

## Module 5: Discharge Devices

**Duration:**

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**Learning Outcomes:**

- Identify non-aerating low expansion discharge devices.
- Identify aerating low expansion foam discharge devices.
- Identify high expansion foam discharge device.

## Module 6: Proportioning Methods

**Duration:**

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**Learning Outcomes:**

- Describe the importance of proper proportioning device selection.
- Identify proportioning methods.
- Express the importance of the correct proportioning method.
- Identify the correlation between proportioning devices and specific systems.
- Analyze the correlation of flow and concentrate by proportioning device using technical data.

## Module 7: Concentrate Control Valves and Trims

**Duration:**

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**Learning Outcomes:**

- Identify appropriate concentrate control valve & trim package.
- Explain benefits of CVC against hydraulic actuated ball valve.
- Determine need for priming connection.



## Module 8: Commissioning of New Systems

**Duration:** \*\*

- Learning Outcomes:**
- Illustrate proper preparation ahead of acceptance testing (Hydro & Flush, elevated costs).
  - Recognize proper acceptance testing procedures (NFPA & Manufacturer).
  - Properly fill a bladder tank.

## Module 9: Inspection, Testing, and Maintenance

**Duration:** \*\*

- Learning Outcomes:**
- Recognize proper ITM resources/references (NFPA & Manufacturer).
  - Evaluate condition of system piping and equipment per NFPA frequencies (Inspection).
  - Identify and conduct required system component testing frequencies (Testing).
  - Identify and conduct required system maintenance frequencies (Maintenance).

## Module 10: Transitioning Existing Low Expansion Foam Systems

**Duration:** \*\*

- Learning Outcomes:**
- Discuss the background to Synthetic Fluorine Free Foam (SFFF).
  - Identify the impact of SFFF on foam system components.
  - Explain the FM product approval process & phases.
  - Identify the change-out challenges for SFFF.

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