



Fire Protection Training

Procedures Handbook 4300

STRUCTURE FIRES

TOPIC: Fixed Smoke Venting Devices

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe fixed smoke venting devices and how they are used.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Fire Ventilation Practices, 6th Edition, Chapter 2

PREPARATION: The need for fixed smoke venting devices is a result of construction and lighting techniques that enable large buildings to be built with windowless exterior walls and without supporting interior walls. If these large structures are not properly vented, curtained and otherwise protected by permanently installed detection and extinguishment systems, the contents are vulnerable to the spread of fire and smoke contamination.



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FIXED SMOKE VENTING DEVICES

PRESENTATION	APPLICATION
<p>I. ROOF OPENINGS</p> <ul style="list-style-type: none">A. Roof StairwaysB. HatchesC. SkylightsD. Ventilator OpeningsE. Elevator Shafts <p>II. MONITOR VENTS</p> <ul style="list-style-type: none">A. Rectangular Projection Through the RoofB. Constructed of Metal, Glass, Wire Glass or Louvered Sides<ul style="list-style-type: none">1. Glass types depend on glass breaking to vent2. Solid wall metal types use fusible links to vent in case of a fire <p>III. CONTINUOUS GRAVITY VENTS</p> <ul style="list-style-type: none">A. Unbroken Narrow Slot OpeningsB. Similar to Gable VentsC. Protected by Weather HoodsD. May be Temperature Control Type Shutters	<p>Instructor Note: Have students list roof openings</p> <p>What is a monitor vent?</p> <p>What is a continuous gravity vent?</p>



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PRESENTATION	APPLICATION
<p>E. May be Automatic Opening Vent activated only in Case of Fire</p> <p>IV. UNIT TYPE VENTS</p> <p>A. Metal Frame and Side Walls</p> <p>B. Hinged Damper Control</p> <p>C. Manually or Automatically Operated</p> <p>D. General Size 4' x 4' to 10' x 10'</p> <p>E. Distributed throughout the Roof</p> <p>F. Number and Location determined by Requirements of Occupancy</p> <p>V. AUTOMATIC HEAT AND SMOKE VENTS</p> <p>A. Operation and Manual Releases should be noted on Preplan</p> <p>B. Forcible Entry on Auto Devices can be dangerous</p> <p> 1. Automatic vents tend to be spring loaded</p> <p>VI. GLASS TYPE VENTS</p> <p>A. Watch for Falling Glass</p> <p> 1. When they open glass fails due to heat within building</p> <p>B. Forcing can do Extensive Damage</p>	<p>Why can forcible entry on auto devices be dangerous?</p>



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<p>C. Skylights Equipped with Wired Glass are of Little Value Unless They are Counter Weighted and Secured with a Fusible Link that Allows the Window to Automatically Open in the Event of a Fire</p> <p>VII. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)</p> <p>A. May Not be Designed to Handle High Temperature, Smoke, and Fire Gases</p> <p>B. Should not be used as a Primary Method to Ventilate in most Older Buildings</p> <p>C. During Ventilation Assessment Must Determine Whether They are Effective or Not</p> <ol style="list-style-type: none">1. If effective, incorporate in your ventilation plan2. If not effective, shut down immediately	

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FIXED SMOKE VENTING DEVICES

SUMMARY:

Vents are not intended to be a substitution for fire detecting or extinguishing systems, but they have proven effective in releasing the heated gases, reducing smoke damage, and retarding the spread of fire.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).