

ATSM-1050: FIRE LIFE SAFETY TECH I

Cuyahoga Community College

Viewing: ATSM-1050 : Fire Life Safety Tech I

Board of Trustees:

2018-01-25

Academic Term:

Spring 2019

Subject Code

ATSM - Applied Ind Tech- Sheetmetal

Course Number:

1050

Title:

Fire Life Safety Tech I

Catalog Description:

Course covers the purpose of life safety as it pertains to dampers in HVAC systems and fire protection. Included are discussions related to codes, standards and installation procedures as prescribed by the manufacturer and the Underwriters Laboratory (UL). Also covers mounting brackets, operating components and access doors. Testing procedures and schedules and maintenance procedures are addressed.

Credit Hour(s):

1

Lecture Hour(s):

1

Requisites

Prerequisite and Corequisite

Departmental approval: admission to Sheet Metal Worker's Apprenticeship program.

Outcomes

Course Outcome(s):

State the purpose of fire life safety as it pertains to different dampers in HVAC systems in accordance with various building and fire codes and standards.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. List and define the different terms related to fire life safety dampers.
2. Describe how HVAC systems affect fire protection systems.
3. Discuss the liabilities of the respective entities with respect to fire life safety.
4. Differentiate between codes and standards
5. Describe the different types of dampers as approved by the Underwriters Laboratory (UL).

Course Outcome(s):

Discuss the installation procedures of dampers as prescribed by the manufacturer, respective codes and construction drawings including locations, accessory components, and access doors.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Explain the proper installation procedures required for access doors including location, size, and fire resistant rating.
2. Review the manufacturer's specifications for each damper type to establish retaining angles, and fire separation clearances and attachment.
3. Explain how different designs of Heating Ventilation and Air Conditioning (HAVC) systems can affect the fire life safety aspects of the fire damper controls.
4. Interpret construction drawings to determine damper locations, model numbers and damper type.
5. List the different types of accessories used with damper installation including mounting brackets, operating components, and access doors.

Course Outcome(s):

Discuss the periodic testing procedures required for fire life safety dampers including schedule and repair techniques.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Examine the National Fire Protection Association (NFPA) code to establish operational testing requirements.
2. List and discuss various repairs and component replacements with respect to dampers.
3. Describe the different maintenance procedures.
4. Explain the importance of proper record keeping with respect to required inspections.

Methods of Evaluation:

- A. Quizzes
- B. Tests
- C. Class participation

Course Content Outline:

- IFire Life Safety
- ATerminology
- 1Damper
- 2Fusible line
- 3Actuators
- 4Retaining angle
- 5Authority Having Jurisdiction (AHJ)
- 6Standards
- 7Codes
- 8Underwriters Laboratories (UL)
- 9National Fire Protection Association (NFPA)
- 10Access door
- 11Multiple blade
- 12Actuator
- 13Thermal blanket
- 14Fire barrier/partition
- 15Heat responsive device
- BHVAC and Fire protection systems
- 1Dampers
- 2Detectors
 - aHeat
 - bSmoke
- CLiabilities
- 1Architect
 - aBarrier location
 - bHourly fire rating

- cOccupancy use
- 2Engineer
 - aHVAC design system
 - bDamper type
 - cDamper location
 - dDamper mounting details
 - eMiscellaneous fire features
- iAlarms
 - iiDetectors
- 3AHJ
 - aCode
 - iEnforcement
 - iiInterpretation
 - iiiClarification
 - bInstallation inspection
- 4Contractor
 - aInstallation
 - iManufacturer specifications
 - iiProper locations
 - bLocal building codes
- 5Manufacturer
 - aProper construction materials/components
 - bFabrication
- DCodes versus standards
 - 1Code
 - aRequired
 - bConflict
 - 2Standards
 - aNot required
 - bGuidelines
- EUL damper types
 - 1Fire
 - aSpring loaded
 - bGravity
 - c

Resources

International Training Institute. *Fire Life Safety Level 1 Technician*. Fairfax Virginia: International Training Institute, 2016.

National Fire Protection Association. *NFPA 101 Life Safety Code*. Quincy, MA; National Fire Protection Association, 2015.

Sheet Metal and Air Conditioning Contractor's National Association Inc. *Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems*. Chantilly, VA, Sheet Metal and Air Conditioning Contractor's National Association, 2002.

Resources Other

www.ruskin.com
www.greenheck.com

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