

Unit of Competency

CPPFES3040 Install passive fire and smoke containment systems

Modification history

Release	Comments
1	Supersedes and is equivalent to CPPFES3040A Install passive fire and smoke containment systems. Unit updated to meet the Standards for Training Packages 2012. This version first released with CPP Property Services Training Package Release 13.0.

Application

This unit of competency specifies the skills and knowledge required to install passive fire and smoke containment systems and follow labelling and certification procedures. It includes both fireproofing and fire-stopping installations. Installation activities are conducted in compliance with the requirements of the National Construction Code (NCC) and manufacturer instructions for the fire and smoke stopping products and systems being installed.

The unit does not cover any installation, maintenance, replacement or repair functions that are restricted to licensed trades or occupations.

A person who has achieved this unit of competency would be expected to take responsibility for organising and completing these tasks with a high degree of self-direction.

Licensing, legislative, regulatory or certification requirements apply to this unit of competency in some states and territories. For further information, check with the relevant regulatory authority.

Unit Sector

Fire Protection Inspection and Testing

Elements and Performance Criteria

1. Plan and prepare for installation operation.	<ul style="list-style-type: none">1.1 Interpret work instructions to clarify client needs and installation timeframes and location.1.2 Discuss planned installation procedures with relevant persons to select suitable passive fire and smoke containment system to meet client and regulatory requirements.1.3 Plan work activities to comply with relevant Australian Standards, NCC, regulatory, work health and safety (WHS) and workplace requirements.1.4 Arrange access to worksite and communicate with responsible entity and affected persons to advise duration and impact of planned installation procedures and to ensure alternative safety arrangements are implemented.1.5 Select and use required personal protective equipment (PPE) and identify and control hazards in the work area according to workplace requirements.1.6 Measure installation site and verify calculations against installation requirements for selected fire and smoke stopping products according to manufacturer requirements.1.7 Identify and assemble required tools, equipment, components
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	and fireproofing or fire-stopping materials according to manufacturer and workplace requirements.
2. Prepare fireproofing substrate or fire-stopping opening.	2.1 Check structural or penetrated elements to confirm compliance with required smoke resistance or fire resistance level. 2.2 Prepare fireproofing substrate or fire-stopping opening according to manufacturer requirements. 2.3 Measure and prepare materials for installation of fireproofing or fire-stopping system according to manufacturer requirements.
3. Install passive fire and smoke containment system.	3.1 Install passive fire and smoke containment system according to manufacturer requirements. 3.2 Inspect and test passive fire and smoke containment system to verify quality of installation and workmanship to meet client, NCC and workplace requirements. 3.3 Take actions required to rectify quality issues or defects to meet client, NCC and workplace requirements.
4. Label or mark and certify passive fire and smoke containment system.	4.1 Assess installation and label or mark according to the relevant Australian Standard, NCC and manufacturer requirements. 4.2 Complete relevant schedule of evidence of compliance according to the relevant Australian Standard, NCC and workplace requirements.
5. Finalise installation operation.	5.1 Complete and distribute installation documentation according to workplace requirements. 5.2 Check tools and equipment for faults, wear or damage and rectify or report problems according to workplace requirements. 5.3 Leave client premises in a clean and tidy condition.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPPFES3040A Install passive fire and smoke containment systems.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPFES3040 Install passive fire and smoke containment systems

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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by installing passive fire and smoke containment systems for three different penetrated elements of construction, including:

- installing different types of fireproofing to structural steel and ductwork:
 - spray
 - intumescent paint
 - board
- installing fire-stopping systems.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- action to take when a breach of regulation, work health and safety (WHS) or other policy occurs when installing fire and smoke stopping products and systems
- dangers of incorrect installation of passive fire and smoke containment systems
- implications of not complying with National Construction Code (NCC) and manufacturer requirements when installing fire and smoke stopping products and systems
- key features of legislation, regulations, NCC and Australian Standards relevant to the installation of fire and smoke stopping products and systems:
 - design, construction, selection, installation and performance requirements for installed fire and smoke stopping products and systems
 - requirements for labelling and certifying installed fire and smoke stopping products and systems, including types of labels and documents to be used when marking and certifying products and systems
 - records and documentation
- meaning of common technical terms used in the installation of passive fire and smoke containment systems:
 - plumb, level, square and perpendicular
 - mix ratio, density, wet film thickness, dry film thickness, section factor (H_p/A), exposed surface to mass (ESM) ratio and critical temperature
 - fire-rated walls, masonry, concrete, plasterboard and shaft wall
 - fire-rated floors and floor ceiling systems
 - penetration dimensions, i.e. width, height, depth and orientation
 - ambient and cold smoke, medium smoke and elevated and hot smoke

- o intumescent products and ablative products
 - o clearance, field of application, fire resistance levels, incipient spread of fire, spread of flame indices, fire test report, assessments and letters of opinion
- passive fire and smoke containment labelling types
- principles of passive fire protection related to overall fire safety and containment systems specific to passive fire and smoke containment systems
- procedures for determining fire resistance levels and smoke resistance levels
- fireproofing and fire-stopping variables, including types, components and fire barrier types
- types and purpose of tools and equipment used when installing fire and smoke stopping products and systems:
 - o hand and power tools
 - o personal protective equipment (PPE)
- types of quality defects that may cause loss of fire or smoke resistance when installing fire and smoke stopping products and systems
- types, purpose and key physical features of a range of fire and smoke stopping products and systems:
 - o access panels and hatches
 - o ceiling and partition systems
 - o control and expansion joints
 - o duct and damper penetration protection
 - o duct fireproofing and protection
 - o fabric and timber protection, including impregnated or sprayed
 - o fire-resistant mortars and grouts, including load bearing and non-load bearing
 - o fire-resistant pillows, including intumescent and non-intumescent
 - o fire stop collars, including cast in, retrofit and wall
 - o fire-rated air transfer grilles
 - o fire-rated sealants, caulks and putties, including acrylic, polyurethane and silicone
 - o fire-resistant boards, including calcium silicate and vermiculite
 - o industrial fire protection
 - o intumescent dampers and seals
 - o intumescent paints and coatings, other than those used for fireproofing structural steel
 - o linear gaps seals, including impregnated foams, tapes, intumescent gaskets and sealants
 - o materials into or onto which passive fire and smoke containment products are installed
 - o mechanical and intumescent fire dampers
 - o openings in structural elements
 - o penetration solutions
 - o protection against spread of flame
 - o smoke dampers
 - o structural steel fireproofing
 - o unplasticised polyvinyl chloride (UPVC) and plumbing penetrations
- workplace requirements for installing fire and smoke stopping products and systems:

- o maintenance of tools and equipment
- o WHS, including hazard and risk identification and control.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to documentation, tools, equipment, fire and smoke stopping products and systems and associated manufacturer/product information, and installation sites required to achieve the performance evidence.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>