



3. Fire - Risk Assessments & Planning - Stopping & Service Penetration Inspection

Category:	Fire
Subcategory:	Risk Assessments & Planning
Frequency:	Yearly
Status:	Best Practice
Type:	Approved Contractor
Priority:	Recommended
Commonality:	Common

Note: This document provides guidance to support compliance but is not a substitute for professional advice.

Why This Task Matters

Your diligent attention to service penetrations and fire stopping ensures that potential fire pathways through walls and floors are properly sealed, protecting pupils and staff from invisible dangers. By maintaining these critical barriers in educational buildings where frequent IT upgrades and modifications occur, you preserve the integrity of fire compartments and demonstrate your essential role in creating safe learning spaces. Your expertise in identifying and addressing these often-overlooked fire safety details builds confidence in the school's comprehensive safety systems.

Task Summary

Best Practice: This inspection checks that all wall and floor penetrations (for cabling, ducting, or pipes) are correctly fire-stopped. The inspection involves systematic examination of all service penetrations throughout the building, including electrical conduits, data cables, ventilation ducts, water pipes, and gas lines. Assessors verify that fire-stopping materials are correctly installed, undamaged, and appropriate for the fire resistance rating required. In schools and colleges, penetrations are frequently altered due to curriculum changes, IT infrastructure upgrades, science lab modifications, or workshop equipment installations, making this a recurring risk. The inspection includes visual checks, measurement of penetration sizes, verification of fire-stopping material specifications, and testing of

seals where possible. Evidence produced includes the inspection report detailing all findings and recommendations, before and after photographs of sealing works, and any material certificates for fire-stopping products used.

Relevant Legislation & Guidance

- **Regulatory Reform (Fire Safety) Order 2005:** Requires adequate measures to prevent fire spread through service penetrations
- **Fire Safety: Approved Document B (Buildings other than dwellinghouses):** Provides guidance on fire-stopping requirements for service penetrations
- **Building Regulations 2010:** Sets standards for fire resistance of penetrations and sealing methods
- **British Standard BS 476: Fire tests on building materials and structures:** Specifies test methods for penetration seals
- **British Standard BS 9999: Fire safety in the design, management and use of buildings - Code of practice:** Includes guidance on maintaining compartmentation integrity

Typical Frequency

The inspection should be conducted annually, though this may vary based on the rate of building modifications and service installations. In educational settings, the inspection is typically scheduled during school holidays when major building works are less likely to interfere. However, additional inspections may be required following any significant IT upgrades, laboratory refurbishments, or building extensions. Sites with frequent service alterations, such as those with dynamic curriculum requirements or ongoing digital infrastructure projects, might require more frequent inspections. Any building work involving new penetrations should trigger an immediate inspection regardless of the annual schedule.

Applicability

This task is recommended for all educational establishments where service penetrations exist, which is common in virtually all modern school and college buildings. It is particularly important in schools and colleges that have undergone recent refurbishment, have science laboratories, design technology workshops, or extensive IT networks. The task applies to all buildings with fire-rated construction containing services such as electrical cables, data networks, ventilation systems, plumbing, or gas installations. While not statutory for all premises, it is essential best practice in educational settings where penetration sealing failures could have serious consequences for large numbers of occupants.

Responsible Persons

- **Task Type:** Approved Contractor
- **Contractor Requirements:** This task should be carried out by a competent fire safety inspector or building services engineer with expertise in fire-stopping systems. Contractors should be familiar with current fire-stopping products and installation standards. Typical cost range: £800-£2,500 depending on building size and number of penetrations.
- **Permit to Work:** Access to ceiling voids or service ducts may require permit to work procedures.
- **Delivery Model:** Normally contractor-delivered due to the specialist knowledge required for assessing fire-stopping adequacy.

Key Considerations

- **Timing considerations:** Schedule during holidays to allow thorough access and minimise disruption
- **Cost implications:** Budget £800-£2,500 for comprehensive inspections of typical educational buildings
- **Resource requirements:** Ensure access to ceiling voids, service ducts, and riser shafts
- **Potential disruption:** May require temporary access panels to be opened for inspection
- **Risk assessment requirements:** Findings should inform updates to the fire risk assessment

Task Instructions

Prerequisites & Safety

- Ensure the inspector has expertise in fire-stopping systems and current standards
- Confirm access to all service penetrations including those in ceiling voids and ducts
- Provide building plans showing service routes and penetration locations
- Arrange for safe access equipment for working in confined spaces

Tools & Materials

- Building plans and service layout drawings
- Ladder and access equipment for ceiling voids
- Measuring tools for penetration sizes and seal dimensions
- Photographic equipment for documentation
- Inspection mirrors and torches for confined spaces

- Fire-stopping material specifications and certificates

Method (Step-by-Step)

Phase A: Preparation and Documentation Review

1. Review building plans to identify all service penetration locations
2. Gather information about recent building works or service installations
3. Plan access routes for inspecting penetrations in difficult locations
4. Schedule inspection during period of low building occupancy

Phase B: Systematic Inspection

1. Examine all wall penetrations for cables, pipes, and ducts
2. Inspect floor penetrations and service risers
3. Check ceiling voids for penetrations and fire-stopping integrity
4. Assess fire-stopping materials for correct installation and condition
5. Verify that penetration seals meet required fire resistance ratings
6. Test seals for gaps, cracks, or displacement where accessible

Phase C: Assessment and Reporting

1. Document all penetrations inspected with photographs
2. Identify any inadequately sealed or damaged fire-stopping
3. Assess the adequacy of existing fire-stopping for current services
4. Prepare recommendations for remedial works with prioritisation

Measurements & Acceptance Criteria

- Fire-stopping materials must achieve the required fire resistance rating (typically 30-120 minutes)
- Annular gaps around penetrations must not exceed manufacturer specifications
- Fire-stopping must be continuous and properly bonded to surrounding surfaces
- Seals must accommodate service movement without compromising integrity

If Results Fail

Follow instructions on the Compliance Pod task completion form to record remedial/follow up actions and generate Reactive Task Tickets as required. Immediately isolate any critical unsealed penetrations with temporary measures. Escalate significant findings to facilities management and arrange urgent contractor repairs. Update the fire risk assessment to reflect increased fire spread risks during repair periods.

Reinstatement & Housekeeping

Ensure all access panels and covers are properly replaced after inspection. Clean up any debris from opening inspection points.

Completion Checks

Verify that the inspection report covers all known penetration locations. Confirm that all findings are documented with clear photographs. Ensure recommendations include specific remedial actions and priorities.

Client Oversight Checklist (Before the Visit)

- Confirm inspector's expertise in fire-stopping and penetration sealing
- Provide building plans and details of recent service installations
- Arrange access to ceiling voids and service routes
- Schedule during period when services can be safely inspected

Client Oversight Checklist (During the Visit)

- Observe systematic inspection of all identified penetrations
- Ensure access to ceiling voids, ducts, and other concealed areas
- Confirm thorough documentation with clear photographic evidence
- Verify assessment of fire-stopping adequacy for current services

Deliverables & Acceptance Criteria (After the Visit)

- Receive detailed inspection report listing all penetrations examined
- Review report for clarity of findings and practicality of recommendations
- Ensure all photographs are annotated and cross-referenced in the report
- Confirm that recommendations specify required fire resistance ratings

Defects & Follow-up

Follow instructions on the Compliance Pod task completion form to record remedial/follow up actions and generate Reactive Task Tickets as required. Prioritise sealing of critical penetrations and implement immediate temporary measures. Agree timescales for permanent repairs with contractors. Schedule re-inspection after remedial works are completed.

Reinstatement & Sign-off

Ensure all access points are securely closed. Complete final sign-off once the inspection report is received and reviewed.

Record-Keeping & Evidence

- **Upload Process:** Upload any required statutory or supporting evidence to the corresponding task form in Compliance Pod.
- **Statutory Evidence:** No statutory evidence is required for this task.
- **Supporting/Good Practice Evidence:** The inspection report, before and after photographs of penetrations, and fire-stopping material certificates support audit readiness.

Common Pitfalls & Best Practice Tips

- **Common mistakes to avoid:** Missing penetrations in ceiling voids, failing to check recent installations, or delaying repairs of critical seals
- **Best practices for efficient completion:** Maintain updated building plans, conduct inspections during holidays, and coordinate with IT and maintenance teams
- **Pro tips for educational settings:** Link penetration inspections to planned IT upgrades, involve technical staff in identifying service routes, and maintain a penetration register
- **Warning signs that indicate problems:** Signs of overheating around electrical penetrations, water staining near pipe penetrations, or visible gaps in fire-stopping materials

Quick Reference Checklist

- Building plans and service routes reviewed
- Access to all penetrations arranged
- All wall and floor penetrations inspected
- Ceiling voids and ducts examined
- Fire-stopping condition assessed
- Photographic evidence collected
- Detailed report with recommendations prepared
- Evidence uploaded to Compliance Pod

Grouped Tasks

This task is not normally grouped with other tasks.

Related Tasks

- Fire - Risk Assessments & Planning - Risk Assessment Review & Renew
- Fire - Risk Assessments & Planning - Compartmentation Survey

- Fire - Risk Assessments & Planning - Fire Alarm Zone Plan Update & Verification
- Fire - Risk Assessments & Planning - Personal Emergency Evacuation Plan (PEEP) Review
- Fire - Risk Assessments & Planning - Generic Emergency Evacuation Plan (GEEP) Review
- Fire - Risk Assessments & Planning - Fire Logbook Review & Update
- Fire - Risk Assessments & Planning - Arson Risk Assessment & Perimeter Security Review
- Fire - Risk Assessments & Planning - Fire Safety Management Policy Review

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Users must ensure that all tasks are carried out in line with current legislation, manufacturer instructions, site-specific risk assessments, and organisational policies. Where necessary, professional advice should be sought from competent and accredited specialists — for example, fire risk assessors, water hygiene consultants, electrical engineers, gas safety contractors, or health and safety advisors.