Emergency Escape Ladder - Legislation, Inspection and Maintenance Requirements

Executive Summary

Fixed or hooped ladders used **solely for emergency escape** are subject to different regulatory requirements than ladders used for normal work access. The primary legislation is the **Regulatory Reform (Fire Safety) Order 2005** (fire safety), with additional requirements under **PUWER 1998** (maintenance) and **Building Regulations Approved Document B** (design).

Critical Finding: Under **Approved Document B section 3.28**, fixed ladders ARE acceptable as a means of escape in specific circumstances:

- They should **NOT** be provided for members of the public
- They should **ONLY** be provided where a conventional stair is impractical
- They are suitable for areas **not normally occupied** (such as plant rooms)

Key Distinction: Emergency escape ladders that are NEVER used for work access have reduced inspection frequency requirements compared to ladders used for normal work, but must still be maintained in serviceable condition and kept available at all times.

1. REGULATORY STATUS - EMERGENCY USE ONLY

Building Regulations Position

Approved Document B: Fire Safety, Section 3.28 states:

> "Fixed ladders should not be provided as a means of escape for members of the public. They should only be provided where a conventional stair is impractical, such as for access to plant rooms which are not normally occupied."

Key Requirements for Acceptable Use:

Fixed ladders ARE acceptable as a means of escape provided:

1. **NOT for members of the public** - Only for staff, maintenance personnel, or authorized persons
2. **Areas not normally occupied** - Such as plant rooms, roof access, equipment spaces
3. **Where conventional stair is impractical** - Due to space constraints, infrequent access needs, or building layout

When Fixed Ladders Are NOT Acceptable:

- As primary means of escape for occupied workspaces (offices, production areas, etc.)
- For members of the public
- In areas with regular occupancy where a conventional stair is practical
- As sole means of escape for areas with high occupancy numbers

Practical Considerations (From Approved Document B):

Approved Document B notes concerns with vertical ladders:

- Additional time required to use them
- Limit the number of people who can escape simultaneously
- Potential for people to be trapped waiting behind others
- Reliance on maintenance without guaranteed availability
- Risk of vandalism or deterioration without detection

However: For plant rooms and similar spaces not normally occupied, where staff access is infrequent and a conventional stair is impractical, fixed ladders are an acceptable and compliant means of escape under section 3.28.

Sources:

- Building Regulations Approved Document B: Fire Safety (Section 3.28)
- LABC: When Means of Escape is Unacceptable

Work at Height Regulations 2005 - Limited Application

Key Finding: The Work at Height Regulations 2005 **do NOT contain specific exemptions for emergency escape ladders**.

Practical Application:

- Schedule 6 requirements for ladder design and installation **DO apply** if the ladder was designed/installed after 2005
- Requirements for inspection and maintenance under PUWER **DO apply**
- **However:** Requirements for "work at height" risk assessments and "three points of contact" during use do NOT apply to emergency escape situations (emergency use is not "work at height")

Clarification:

- WAHR 2005 regulates **work activities**, not emergency escape
- In an emergency, occupants use whatever means necessary to escape - WAHR requirements do not constrain emergency actions
- The ladder must be safe for emergency use, but emergency users are not subject to work safety protocols

Source: Work at Height Regulations 2005

2. PRIMARY LEGISLATION - FIRE SAFETY ORDER 2005

The Regulatory Reform (Fire Safety) Order 2005

This is the **primary legislation** governing emergency escape ladders.

Article 14: Emergency Routes and Exits

The **Responsible Person** (typically the employer or building owner) must ensure:

1. **Kept Clear:** "Routes to emergency exits from premises and the exits themselves are kept clear at all times"
2. **Direct Routing:** Emergency pathways must "lead as directly as possible to a place of safety"
3. **Rapid Evacuation:** It must be feasible for occupants to "evacuate the premises as quickly and as safely as possible"
4. **Adequate Provision:** The quantity, placement, and size of emergency routes must be appropriate to:

- Use of the premises
- Equipment present
- Dimensions of premises
- Maximum occupancy

5. **Accessibility:** Emergency exits "must not be so locked or fastened that they cannot be easily and immediately opened" by anyone needing emergency use
6. **Signage:** Emergency routes and exits require **appropriate signage** complying with the Health and Safety (Safety Signs and Signals) Regulations 1996
7. **Emergency Lighting:** Where illumination is needed, "emergency lighting of adequate intensity" must function if normal lighting fails

Source: RRF(SO) 2005 - Article 14: Emergency Routes and Exits

Article 17: Maintenance

The Responsible Person must ensure:

- All emergency routes and exits are maintained in working order
- "Sustained, suitable and sufficient programme of inspection and maintenance"
- Defects remedied without delay

Practical Implication for Emergency Escape Ladders:

- Ladder must remain structurally sound and safe for use
- Must not deteriorate to point where emergency use would be unsafe
- Access to ladder must not be obstructed
- Signage and emergency lighting must remain functional

Source: Regulatory Reform (Fire Safety) Order 2005

3. DESIGN AND INSTALLATION REQUIREMENTS

Design Standards

Emergency escape ladders should comply with the same design standards as fixed ladders used for work:

BS 4211:2005+A1:2008 - Specification for Permanently Fixed Ladders

Key requirements:

- **Rung spacing:** 225-300 mm
- **Rung diameter:** 20-35 mm (or equivalent non-circular profile)
- **Width between stringers:** 300 mm minimum (400 mm preferred)
- **Clearances:** 200 mm behind rungs, 600 mm on user side
- **Load capacity:** 1.5 kN per rung, 3 kN per stile

BS EN ISO 14122-4:2016 - Safety of Machinery - Fixed Ladders

Additional requirements for machinery access ladders (may apply if escape ladder is on industrial equipment).

Sources:

- BS 4211:2005+A1:2008
- HSQE Consultancy: Fixed Ladder Requirements

Retrospective Application of Design Standards

Critical Clarification: When Do These Standards Apply?

New Installations (Post-2005/2006)

Ladders **installed or designed after 2005** must comply with:

- BS 4211:2005+A1:2008, OR
- BS EN ISO 14122-4:2016 (fixed ladders in stationary machinery, including non-powered adjustable and movable parts)

This includes:

- ✓ Newly installed emergency escape ladders
- ✓ Complete ladder replacements
- ✓ Ladders relocated to new positions

Existing Installations (Pre-2006)

Ladders **installed before 2005/2006** are *generally* **"grandfathered"** under the principle that design standards apply from the date of installation, not retrospectively.

What This Means:

- You are **NOT required** to upgrade an existing pre-2006 ladder to meet BS 4211:2005+A1:2008 design specifications
- The ladder was compliant with the standards that applied at the time of installation
- You do NOT need to retrofit design features (e.g., specific rung spacing, clearances) to meet current standards

HOWEVER - Ongoing Safety Obligations Still Apply:

Even if your ladder predates current design standards, you MUST still ensure:

1. **Safe Condition (PUWER 1998):**
    - Ladder remains structurally sound and safe for emergency use
    - No deterioration that compromises safety
    - Maintained in working order
2. **Fire Safety Requirements (RRF(SO) 2005):**
    - Kept clear and accessible at all times
    - Emergency exit signage and lighting
    - Cannot be locked in a way that prevents immediate opening
    - Maintained as part of emergency escape routes
3. **Inspection and Maintenance:**
    - Monthly visual checks
    - Annual detailed inspections by competent person
    - Five-yearly structural engineer surveys
    - Post-event inspections after any incident

These ongoing obligations apply regardless of when the ladder was installed.

When Current Standards MUST Be Applied to Existing Ladders

An existing pre-2006 ladder MUST comply with current design standards (BS 4211:2005+A1:2008 or BS EN ISO 14122-4:2016) if you undertake:

Substantial Modifications:

- Adding or modifying safety cages/hoops
- Extending the ladder height
- Replacing major structural components (stringers/stiles)
- Changing the ladder configuration or angle
- Relocating the ladder to a different position

Substantial Upgrades:

- Converting from uncaged to caged ladder
- Adding rest platforms
- Major structural reinforcement
- Replacement of multiple rungs or structural elements

Minor Maintenance Does NOT Trigger Compliance:

- Painting or protective coating application
- Rust treatment and minor corrosion repairs
- Individual bolt or fixing replacements
- Individual rung replacement (like-for-like)
- Tightening of existing fixings
- Repair of self-closing gates

Practical Approach for Existing Ladders

During 5-Yearly Structural Engineer Survey:

If the structural engineer identifies deficiencies, discuss:

1. **Is the deficiency a safety issue?** (If yes, must be addressed)
2. **Can it be repaired to a safe standard?** (May not need to meet exact current specs)
3. **Does the extent of repair constitute substantial modification?** (If yes, apply current standards)

Best Practice Recommendation:

When replacing components on existing pre-2006 ladders:

- Use components that meet current standards **where practical and proportionate**
- This provides improved safety without requiring full ladder replacement
- Discuss with structural engineer during surveys

Example Scenarios:

Situation	Current Standards Apply?
Pre-2006 ladder, routine annual inspection, minor rust treatment	**NO** - grandfathered
Pre-2006 ladder, replacing 2-3 damaged rungs like-for-like	**NO** - minor maintenance
Pre-2006 ladder, adding safety cage where none existed	**YES** - substantial modification
Pre-2006 ladder, extending ladder by 3 metres	**YES** - substantial modification
Pre-2006 ladder, replacing all rungs and repainting	**LIKELY YES** - extent suggests substantial work
Installing completely new ladder in 2025	**YES** - new installation

Documentation for Pre-2006 Ladders

For existing ladders installed before 2006, maintain records showing:

- Original installation date (or best estimate)
- Original design specifications (if available)
- History of modifications (with dates)
- Structural engineer assessments confirming safe condition

This documentation demonstrates that the ladder is grandfathered and helps justify why it may not meet every aspect of BS 4211:2005+A1:2008.

When in Doubt

If uncertain whether your existing ladder needs to comply with current design standards:

- Consult your **structural engineer** during the 5-yearly survey
- Include the question in your **fire risk assessment**
- Seek advice from **Building Control** or a competent fire safety professional
- Consider the extent and nature of any modifications since original installation

Height Thresholds - Do They Apply?

Height	Requirement for Work Ladders	Requirement for Emergency Escape Ladders
Over 2.5m	Safety cages/hoops OR fall arrest systems required	**Recommended but not legally mandated** - emergency users won't have time for fall arrest systems
Over 9m	Rest platforms at suitable intervals (WAHR Schedule 6)	**Recommended** - provides rest points during escape, especially for less mobile persons

Practical Guidance:

- Safety cages/hoops: **Strongly recommended** even for emergency-only ladders as they provide passive protection
- Fall arrest systems: **Not practical** for emergency escape (users won't don harnesses during fire)
- Rest platforms: **Advisable** for tall escape ladders, particularly considering disabled/elderly occupants

Building Regulations Approval

Important: If installing a new emergency escape ladder or modifying an existing means of escape, Building Regulations approval may be required. Consult with Building Control before installation.

Note: Building Control will approve fixed ladders as means of escape if they comply with **Approved Document B section 3.28**:

- NOT for members of the public
- Area is not normally occupied (plant rooms, equipment spaces, etc.)
- Conventional stair would be impractical

Fixed ladders serving regularly occupied workspaces or public areas will NOT be approved as compliant means of escape.

4. INSPECTION AND MAINTENANCE REQUIREMENTS

Summary of Inspection Requirements

Inspection Type	Frequency	Responsible Person	Recording Required	Legal Basis
Visual Checks	Monthly (recommended)	Competent person or responsible person	Recommended	RRF(SO) 2005 Article 17
Detailed Annual Inspection	Every 12 months	Competent person	**YES - MANDATORY**	PUWER 1998
Structural Engineer Survey	Every 5 years	Qualified structural engineer	**YES - MANDATORY**	BS 8210:2020 (recommended practice)
Post-Event Inspection	After any event liable to jeopardize safety	Competent person	**YES - MANDATORY**	PUWER 1998

A. Monthly Visual Checks (Recommended)

Frequency: Monthly

Legal Basis: RRF(SO) 2005 requires emergency routes to be maintained in working order. Monthly checks demonstrate compliance.

Who: Responsible person, facilities manager, or competent person

Recording: Recommended (provides evidence of compliance)

What to Check:

- ✓ Ladder access is not obstructed (no materials stored near base or platform)
- ✓ Any self-closing gate operates correctly
- ✓ Signage is present and visible

- ✓ Emergency lighting (if present) is functional
- ✓ No obvious structural damage (from visual ground level observation)
- ✓ No corrosion visible from ground level
- ✓ Ladder appears structurally sound

Action if Defects Found:

- Remove obstruction immediately
- If structural concerns, arrange for detailed inspection
- Do not wait until annual inspection if safety is compromised

B. Detailed Annual Inspection

Frequency: Every 12 months

Legal Basis: PUWER 1998 Regulation 6 (requires equipment to be maintained) and Regulation 5 (suitability of equipment maintained)

Who: Competent person (see Section 5 for definition)

Recording: MANDATORY - Inspection records must be maintained

What to Inspect:

Structural Components

- **Stiles (side rails):** Check for twisting, bending, denting, cracking, corrosion
- **Rungs:** Check for cracks, wear, bending, looseness, corrosion
- **Fixings:** Verify all bolts, anchors, and attachment points are secure
- **Welds:** Inspect for cracks, corrosion, damage
- **Rivets:** Check for looseness, missing rivets, damage

Safety Features

- **Safety cages/hoops (if present):** Check for damage, looseness, corrosion, missing sections
- **Self-closing gates:** Test operation, check springs/hinges, verify gate closes and latches properly
- **Rest platforms (if present):** Check structural integrity, guardrails secure, handrails intact
- **Landing platform at top:** Verify secure attachment, adequate size, guardrails present

Accessibility and Safety Systems

- **Access clearances:** Verify 200mm behind rungs, 600mm on user side remain unobstructed
- **Signage:** Check all emergency exit signs present, visible, in good condition
- **Emergency lighting:** Test operation (main power and emergency battery), verify adequate intensity
- **Surface coatings:** Assess protective paint/coating condition, note areas needing treatment

Environmental Factors

- **Corrosion:** Assess extent (surface rust vs. structural corrosion), prioritize areas requiring treatment
- **Biological growth:** Remove algae, moss, or vegetation that could cause slips
- **Weather damage:** Check for impact damage, water ingress, frost damage

Load Testing: Not typically required annually unless concerns identified. Structural engineer survey (5-yearly) includes load assessment.

Documentation Required:

- Date of inspection
- Name and signature of competent person
- Ladder identification (location, reference number)
- Condition assessment for each component
- Defects identified with severity rating
- Remedial actions required
- Date by which remedial actions must be completed
- Follow-up confirmation when remedial actions completed

Action if Defects Found:

- **Critical defects** (structural damage, missing components, unsafe access): Consider whether ladder remains safe for emergency use - if not, install temporary barriers and warning signs, remedy immediately
- **Non-critical defects** (minor corrosion, worn paint, dirty rungs): Schedule remedial action, re-inspect after completion

C. Five-Yearly Structural Engineer Survey

Frequency: Every 5 years

Legal Basis: BS 8210:2020 Section 17.1.4 (British Standard Guide to Building Maintenance Management) - **Industry best practice recommendation**

Who: Qualified structural engineer

Recording: MANDATORY - Detailed structural report required

Purpose:

- Assess structural integrity comprehensively
- Identify deterioration not visible in annual inspections
- Verify continued safe load-bearing capacity
- Provide professional engineering assessment

What Structural Engineer Assesses:

- Load-bearing capacity of ladder structure
- Condition of structural fixings and anchors
- Foundation/mounting point integrity
- Corrosion extent and impact on structural strength
- Compliance with design standards (BS 4211, BS EN ISO 14122-4)
- Remaining service life estimate
- Recommendations for remedial works or replacement

When to Commission Earlier:

- Suspected structural damage
- After significant building alterations near ladder

- Following severe weather events or impacts
- If annual inspection raises structural concerns
- Before major building works that might affect ladder

Report Should Include:

- Structural calculations (if load capacity in question)
- Photographic evidence
- Severity rating of any defects
- Prioritized recommendations for remedial works
- Timeline for implementing recommendations
- Statement on continued safe use

Source: BS 8210:2020 - Fire Escape Inspections

D. Post-Event Inspections

Frequency: After any event liable to jeopardize safety

Legal Basis: PUWER 1998 Regulation 6(3)

Triggering Events:

- Impact damage (vehicle collision, dropped object)
- Severe weather (high winds, flooding, heavy snow loading)
- Structural alterations to building near ladder
- Fire (even if ladder not directly involved - heat exposure may have affected strength)
- Observed misuse or vandalism
- Any near-miss or incident involving the ladder

Who: Competent person (structural engineer if significant structural concerns)

Recording: MANDATORY

Action: Do not return ladder to service until inspection confirms safety

5. COMPETENT PERSON REQUIREMENTS

Who Can Conduct Annual Inspections?

A **competent person** for emergency escape ladder inspections must have:

1. **Knowledge:** Understanding of ladder types, components, structural integrity, and deterioration mechanisms
2. **Experience:** Practical familiarity with fixed ladders and their inspection
3. **Training:** Appropriate instruction on inspection methods and defect recognition
4. **Ability:** Can systematically inspect, identify defects, assess severity, and make safety decisions
5. **Assignment:** Formally given the responsibility to conduct inspections

Important: HSE does **NOT** require specific qualifications or certifications. Competence is based on knowledge + experience + training.

Can internal employees be competent persons? YES - provided they have appropriate knowledge, experience, and training.

Refer to: `Competent Person Fixed Ladder Inspections.pdf` for detailed guidance on competence requirements.

Who Must Conduct Structural Surveys?

Five-yearly structural surveys MUST be conducted by a qualified structural engineer with:

- Professional engineering qualification (e.g., CEng, IEng, chartered engineer status)
- Experience in structural assessment of metalwork and access structures
- Professional indemnity insurance
- Ability to perform structural calculations and load assessments

Cannot be delegated to internal facilities staff - this requires professional engineering expertise.

6. KEY DIFFERENCES: EMERGENCY ESCAPE vs. WORK ACCESS LADDERS

Comparison Table

Aspect	Ladders for Normal Work Access	Emergency Escape Ladders (Never Used for Work)
Primary Legislation	Work at Height Regulations 2005 + PUWER 1998	Regulatory Reform (Fire Safety) Order 2005 + PUWER 1998
Building Regulations Status	Acceptable for low-risk, short-duration work	**Acceptable for plant rooms/areas not normally occupied** (Approved Document B s.3.28) where conventional stair impractical
Risk Assessment (WAHR Schedule 6)	**Required** - must justify ladder use over safer alternatives	**Not applicable** - emergency use is not "work at height"
Pre-Use Checks	**Daily** - before each use by users	**Not applicable** - ladder not used in normal operations
Detailed Visual Inspections	**6-12 monthly** (based on frequency of use and environment)	**12 monthly** (can be less frequent as no wear from regular use)
Structural Engineer Survey	Not standard requirement (unless specific concerns)	**Recommended every 5 years** (BS 8210:2020 best practice)
Safety Cages/Hoops (>2.5m)	**Legally required** OR fall arrest system	**Recommended but not legally mandated** (practical for emergency use)
Rest Platforms (>9m)	**Legally required** "where reasonably practicable" (WAHR Schedule 6)	**Recommended** (improves accessibility for less mobile persons)
Three Points of Contact Rule	**Applies** during work use	**Does not apply** during emergency escape
User Training	**Mandatory** - all users must be competent or supervised	**Not required** - occupants use in emergency without training
Fall Arrest Equipment	May be required for tall ladders (>6m typical threshold)	**Not practical** - emergency users won't don harnesses during evacuation
Signage	General safety signage	**Mandatory emergency exit signage** (Fire Safety Order)
Emergency Lighting	Not typically required	**Mandatory if natural light inadequate** (Fire Safety Order)
Keeping Clear	Good practice	**Legal requirement** - must be kept clear at all times (Fire Safety Order)
Locking/Securing	May be secured to prevent unauthorized access	**Must not be locked so it cannot be immediately opened** in emergency (Fire Safety Order)

Key Takeaways

Emergency escape ladders are subject to LESS STRINGENT inspection regimes than work access ladders because:

1. No wear and tear from daily use
2. No risk to workers during normal operations
3. Deterioration is slower without regular loading

However, emergency escape ladders have ADDITIONAL fire safety requirements:

1. Must be kept clear and accessible at all times
2. Require emergency exit signage and emergency lighting
3. Must not be locked or secured in ways that prevent immediate opening
4. Subject to fire risk assessment under RRF(SO) 2005

Critical Difference - Structural Surveys:

- Work access ladders: No standard requirement for structural engineer surveys
- Emergency escape ladders: **5-yearly structural surveys recommended** under BS 8210:2020 because structural failure during emergency could be catastrophic

7. PRACTICAL COMPLIANCE FOR YOUR SITE

Initial Assessment

Step 1: Confirm Status

- Verify ladder is **genuinely never used for work access**
- If ladder is occasionally used for maintenance/inspection access, it must comply with FULL work ladder requirements (see `General Ladders Compliance.pdf`)
- Document that ladder is designated **"Emergency Escape Only - Not for Work Access"**

Step 2: Building Regulations Check

- Confirm ladder use complies with **Approved Document B section 3.28**:
  - NOT for members of the public
  - Area is not normally occupied (e.g., plant room, roof access, equipment space)
  - Conventional stair would be impractical
- If ladder is for regularly occupied workspace or public areas, it does NOT comply with section 3.28
- If in doubt, consult Building Control or fire risk assessor

Step 3: Fire Risk Assessment

- Include emergency escape ladder in fire risk assessment under RRF(SO) 2005
- Assess adequacy of emergency lighting at ladder location
- Verify signage is compliant with Safety Signs Regulations
- Confirm ladder access is not obstructed and remains clear
- Assess whether less mobile occupants could reasonably use ladder in emergency

Inspection Program Setup

Monthly Checks:

- Assign responsibility (e.g., facilities manager, fire marshal)
- Create simple checklist covering:
  - Access clear and unobstructed
  - Signage visible and intact
  - Emergency lighting functional
  - No obvious damage from ground level observation
- Record checks (logbook or electronic system)

Annual Detailed Inspection:

- Appoint competent person (internal or external)
- Schedule inspection date (recommend fixed date each year, e.g., month before fire risk assessment renewal)
- Create detailed inspection checklist based on Section 4B above
- Ensure inspector has:
  - Safe access to ladder for close inspection (may need MEWP or scaffolding to inspect top sections)
  - Personal protective equipment (harness if climbing ladder to inspect)
  - Camera for photographic evidence
  - Inspection forms and previous inspection records for comparison

Five-Yearly Structural Survey:

- Engage qualified structural engineer with relevant experience
- Provide engineer with:
  - Previous inspection records
  - Original design specifications (if available)
  - Any known incidents or alterations
- Schedule survey to allow time for remedial works if required
- Budget for potential remedial works identified in survey

Post-Event Inspection:

- Establish clear procedure: "If X occurs, ladder must be inspected before being considered safe"
- Examples of X: severe weather warning issued, nearby construction work, any impact damage to building
- Nominate person responsible for triggering inspection
- Have contact details for competent person/engineer readily available

Maintenance Program

Reactive Maintenance:

- Defects identified in inspections must be remedied **without delay** (RRF(SO) requirement)
- Prioritize based on severity:
  - **Critical:** Structural damage, missing components, unsafe access - immediate action
  - **High:** Significant corrosion, worn fixings, malfunctioning gates - remedy within 1 month
  - **Medium:** Minor corrosion, paint deterioration - remedy within 3 months
  - **Low:** Cosmetic issues - remedy within 6 months

- Record completion of remedial works and link to original inspection report

Preventive Maintenance:

- **Annual repainting/protective coating:** Recommended for external ladders in harsh environments (coastal, industrial areas)
- **Cleaning:** Remove algae, moss, debris at least annually (improves slip resistance and prevents accelerated corrosion)
- **Lubrication:** Self-closing gate hinges and springs (annually)
- **Vegetation control:** Keep area around ladder base clear of vegetation

Component Replacement:

- Worn or damaged components should be replaced with parts meeting original design specification
- Major structural repairs may require structural engineer design/supervision
- After significant repairs, commission structural engineer to verify structural integrity

Signage and Emergency Lighting

Signage Requirements:

Must comply with **Health and Safety (Safety Signs and Signals) Regulations 1996**:

- **At ladder base:** Green and white "Emergency Exit" sign with directional arrow
- **At top platform/landing:** "Emergency Exit" sign indicating escape route
- **On building exterior:** If ladder leads to ground, sign indicating "Fire Escape" visible from outside
- Signs must be:
  - Illuminated (either by emergency lighting or photoluminescent)
  - Visible in darkness
  - Unobstructed by equipment or materials

Emergency Lighting Requirements:

Under RRF(SO) 2005, emergency lighting required if natural light is inadequate:

- **At ladder base:** Adequate illumination to locate ladder and assess first rungs
- **Along ladder route:** Sufficient lighting to see rungs during climbing (can be spaced if ladder has cage)
- **At top platform:** Illumination of landing area and onward escape route
- Emergency lights must:
  - Operate automatically on mains failure
  - Provide adequate intensity for safe movement
  - Have sufficient battery duration (typically minimum 3 hours)
  - Be tested monthly (lamp function test)
  - Have full discharge test annually

Responsibility: Ensure emergency lighting is included in building's overall emergency lighting maintenance regime.

Record Keeping

Fire Safety Records (RRF(SO) 2005):

- Fire risk assessment including emergency escape ladder
- Monthly check records (access clear, signage, emergency lighting)
- Emergency lighting test records
- Any incidents or near-misses involving escape routes

Equipment Maintenance Records (PUWER 1998):

- Annual detailed inspection reports
- Five-yearly structural engineer reports
- Post-event inspection reports
- Records of all remedial works
- Component replacement records

Retention Period:

- Current + previous inspection report minimum (i.e., retain until replaced by next inspection)
- Recommended: Retain all inspection records for life of equipment (provides deterioration trend evidence)
- Structural engineer reports: Retain until next survey completed

Format:

- Can be paper or electronic
- Must be readily accessible for inspection by fire authority or HSE
- Should be referenced in fire risk assessment

8. FIRE AUTHORITY INSPECTIONS

What Fire Inspectors Will Check

Under the Regulatory Reform (Fire Safety) Order 2005, fire authorities have powers to inspect premises and enforce compliance.

Regarding Emergency Escape Ladders, inspectors will assess:

1. **Fire Risk Assessment:** Does it adequately cover the emergency escape ladder?
2. **Accessibility:** Is the ladder access clear and unobstructed?
3. **Signage:** Is appropriate emergency exit signage present and visible?
4. **Emergency Lighting:** Is adequate emergency lighting provided and functional?
5. **Condition:** Is the ladder in serviceable condition (visual assessment)?
6. **Maintenance Records:** Evidence of inspection and maintenance program
7. **Suitability:** Is the ladder suitable as a means of escape considering:
    - Height and number of floors served
    - Number of occupants who might use it
    - Mobility of occupants (elderly, disabled persons)
    - Whether adequate alternative means of escape exist

Potential Enforcement Actions

If fire inspector identifies non-compliance:

Informal Notice: Minor issues - advice given, no formal action

Enforcement Notice (Article 30): Requiring specific actions within specified timeframe. Examples:

- Remedy obstructed access to escape ladder
- Install or repair emergency lighting
- Install compliant signage
- Provide evidence of inspection and maintenance regime

Prohibition Notice (Article 31): If serious risk to life identified:

- May prohibit use of premises or restrict occupancy
- Example: If ladder is sole means of escape and found to be structurally unsound

Prosecution: Failure to comply with fire safety legislation is a criminal offense

- Fines up to £5,000 (summary conviction) or unlimited (on indictment)
- Imprisonment up to 2 years for serious breaches

Best Practice: Maintain comprehensive records demonstrating ongoing compliance. Inability to produce inspection records is a common trigger for enforcement action.

9. WHEN TO CONSIDER REMOVING OR REPLACING LADDER

Indicators for Removal/Replacement

Consider removing or replacing emergency escape ladder if:

Structural Concerns:

- Structural engineer identifies significant deterioration affecting load capacity
- Corrosion is extensive and repair is not economical
- Foundation or mounting points are compromised
- Ladder no longer meets design standard load requirements

Regulatory Concerns:

- Fire risk assessment identifies ladder is inadequate as supplementary escape route
- Building layout changes make ladder position unsuitable
- Changes in occupancy (e.g., increased elderly/disabled occupants) make ladder impractical
- Fire authority raises concerns about suitability

Practical Concerns:

- Repeated maintenance costs exceed replacement cost
- Ladder is no longer needed (improved primary means of escape installed)
- Building works make ladder inaccessible or inappropriate

Legal Changes:

- Changes to Building Regulations or fire safety standards
- New guidance from HSE or fire authorities

Replacement Options

If replacement required, consider:

1. **Improved fixed ladder design** - wider, better handholds, intermediate platforms
2. **External fire escape staircase** - superior to ladder for emergency use
3. **Alternative means of escape** - internal protected staircase, separate exit route
4. **Remove ladder** - if adequate alternative means of escape exist and ladder is no longer required

Important: Any replacement or removal affecting means of escape requires Building Regulations approval and should be reflected in updated fire risk assessment.

10. COMMON ISSUES AND NON-COMPLIANCES

Common Issues Found During Inspections

Access and Availability:

- ✗ Materials stored at base of ladder blocking access
- ✗ Ladder access door locked with key (should have push-bar or easily openable mechanism)
- ✗ Vegetation overgrowth obscuring ladder base
- ✗ Self-closing gate wedged open or missing

Signage and Lighting:

- ✗ No emergency exit signage or signs faded/missing
- ✗ Emergency lighting not installed or not functional
- ✗ Emergency lighting not included in building's test regime
- ✗ Signs obstructed by equipment or materials

Structural Condition:

- ✗ Significant corrosion on rungs or stiles (reduces load capacity)
- ✗ Loose fixings or missing bolts
- ✗ Cracked welds
- ✗ Bent or damaged rungs
- ✗ Cage sections missing or damaged

Maintenance and Records:

- ✗ No inspection records available
- ✗ Inspection regime not established
- ✗ Defects identified but not remedied
- ✗ No five-yearly structural engineer survey conducted
- ✗ Emergency escape ladder not included in fire risk assessment

Design Issues:

- ✗ Ladder terminates more than 1m from ground (difficult/dangerous to dismount)
- ✗ Inadequate handholds at top platform
- ✗ No rest platforms on tall ladders (>9m)

- ✗ Inadequate clearances (less than 200mm behind rungs)

11. COMPLIANCE CHECKLIST

Initial Setup

- [ ] Confirm ladder status: Is it **genuinely** emergency use only, or is it occasionally used for work access?
- [ ] If occasionally used for work: Apply FULL work ladder requirements (see `General Ladders Compliance.pdf`)
- [ ] Install signage: "Emergency Escape Only - Not for Work Access" + "No Unauthorized Access"
- [ ] Verify ladder complies with **Approved Document B section 3.28**: NOT for public, area not normally occupied, conventional stair impractical
- [ ] Include ladder in fire risk assessment under RRF(SO) 2005
- [ ] Check adequacy of emergency lighting at ladder location
- [ ] Verify emergency exit signage is compliant and visible
- [ ] Confirm ladder access mechanism complies with RRF(SO) (can be immediately opened in emergency)

Design and Structural Compliance

For Ladders Installed Post-2005:

- [ ] Verify ladder complies with BS 4211:2005+A1:2008 or BS EN ISO 14122-4:2016
- [ ] Check rung spacing is 225-300mm
- [ ] Verify minimum width of 300mm between stringers
- [ ] Check clearances: 200mm behind rungs, 600mm on user side
- [ ] For ladders over 2.5m: Safety cage/hoops installed (strongly recommended even if not legally required)
- [ ] For ladders over 9m: Rest platforms provided at suitable intervals (recommended)
- [ ] Top of ladder has adequate landing platform with handholds
- [ ] Building Regulations approval obtained

For Existing Ladders Installed Pre-2006:

- [ ] Document original installation date (or best estimate)
- [ ] Confirm no substantial modifications have triggered need for current standards compliance
- [ ] Verify ladder remains structurally sound and safe for emergency use (via structural engineer survey)
- [ ] Maintain records of modification history
- [ ] Ensure any component replacements use appropriate specifications
- [ ] If substantial modifications planned: Determine if current standards will apply (see Section 3)

All Ladders (Regardless of Installation Date):

- [ ] Ladder is in safe, serviceable condition
- [ ] No structural deterioration that compromises safety
- [ ] All fixings secure
- [ ] No missing or damaged components
- [ ] Top of ladder has adequate landing platform with handholds
- [ ] Structural engineer confirms safe condition during 5-yearly surveys

Inspection Program

- [ ] Monthly visual checks established and assigned to responsible person
- [ ] Monthly check records maintained (logbook or electronic)
- [ ] Annual detailed inspection scheduled (every 12 months)
- [ ] Competent person appointed for annual inspections (see `Competent Person Fixed Ladder Inspections.pdf`)
- [ ] Five-yearly structural engineer survey scheduled
- [ ] Qualified structural engineer engaged for 5-yearly surveys
- [ ] Post-event inspection procedure established (triggers defined, responsible person identified)
- [ ] Previous inspection reports retained and accessible

Maintenance Program

- [ ] Defect reporting procedure established
- [ ] Defects prioritized by severity (critical/high/medium/low)
- [ ] Remedial works scheduled and tracked to completion
- [ ] Preventive maintenance schedule established (cleaning, painting, lubrication)
- [ ] Vegetation control around ladder base
- [ ] Component replacement procedure (ensuring parts meet design specification)
- [ ] Budget allocated for maintenance and structural surveys

Signage and Emergency Lighting

- [ ] Emergency exit signage installed at ladder base (green/white, directional)
- [ ] Emergency exit signage installed at top platform/landing
- [ ] External signage (if applicable) indicating fire escape
- [ ] All signs illuminated (emergency lighting or photoluminescent)
- [ ] Emergency lighting installed at ladder base, along route, at top platform
- [ ] Emergency lighting operates on mains failure with adequate duration (3+ hours)
- [ ] Emergency lighting included in building's monthly function tests
- [ ] Emergency lighting annual full discharge tests conducted and recorded

Access and Availability

- [ ] Ladder access kept clear and unobstructed at all times
- [ ] Self-closing gate (if present) operates correctly
- [ ] Access mechanism allows immediate opening in emergency (not locked with key)
- [ ] Area around ladder base kept clear of materials, equipment, vegetation
- [ ] Onward escape route from top of ladder is clear and signed

Record Keeping

- [ ] Fire risk assessment includes emergency escape ladder
- [ ] Monthly check records maintained
- [ ] Annual inspection reports maintained and accessible
- [ ] Five-yearly structural engineer reports retained
- [ ] Emergency lighting test records maintained
- [ ] Remedial works records maintained (linked to inspection reports)
- [ ] All records readily accessible for fire authority or HSE inspection

Fire Authority Compliance

- [ ] Fire risk assessment up to date (reviewed annually or after significant changes)
- [ ] Responsible Person identified for RRF(SO) compliance
- [ ] Evidence of "sustained, suitable and sufficient" maintenance program available
- [ ] Ready to demonstrate compliance to fire inspector if inspection occurs

Ongoing Review

- [ ] Annual review of fire risk assessment (includes assessment of ladder adequacy)
- [ ] Monitoring of any near-misses or incidents involving escape routes
- [ ] Review whether changes in building use/occupancy affect ladder suitability
- [ ] Periodic review of whether ladder remains necessary (e.g., if improved primary means of escape installed)

12. QUICK REFERENCE SUMMARY

Legal Requirements

Requirement	Legislation	Details
Kept clear at all times	RRF(SO) 2005 Art. 14	Access to ladder and exits must not be obstructed
Maintained in working order	RRF(SO) 2005 Art. 17	Sustained program of inspection and maintenance
Emergency exit signage	RRF(SO) 2005 Art. 14 + Safety Signs Regs 1996	Green/white emergency exit signs, illuminated
Emergency lighting	RRF(SO) 2005 Art. 14	Adequate intensity, operates on mains failure
Cannot be locked	RRF(SO) 2005 Art. 14	Must be immediately openable by anyone in emergency
Annual inspection	PUWER 1998	Detailed inspection by competent person, recorded
Post-event inspection	PUWER 1998	After any event liable to jeopardize safety

Recommended Best Practice

Practice	Basis	Details
Monthly visual checks	RRF(SO) compliance demonstration	Check access clear, signage visible, lighting functional
5-yearly structural survey	BS 8210:2020 Section 17.1.4	By qualified structural engineer
Safety cages/hoops >2.5m	BS 4211 + industry practice	Provides passive fall protection during emergency use
Rest platforms >9m	WAHR Schedule 6 + accessibility	Assists less mobile persons during emergency descent

Inspection Frequency Comparison

Ladder Type	Detailed Visual Inspection	Structural Survey
Emergency escape only (never used for work)	**12 months**	**5 years**
Occasionally used for work access	**6-12 months** (based on use frequency)	As required
Regularly used for work access	**6 months** (harsh environment) / **12 months** (good conditions)	As required

Key Differences from Work Access Ladders

LESS stringent:

- No daily pre-use checks required (ladder not used daily)
- No three points of contact training for occupants
- No fall arrest equipment required
- Longer inspection intervals (annual not 6-monthly)

MORE stringent:

- Must be kept clear at all times (legal requirement)
- Requires emergency exit signage and lighting
- Cannot be locked/secured
- 5-yearly structural survey recommended (not standard for work ladders)
- Included in fire risk assessment

13. SOURCES AND REFERENCES

UK Legislation

- The Regulatory Reform (Fire Safety) Order 2005
- RRF(SO) 2005 - Article 14: Emergency Routes and Exits
- The Work at Height Regulations 2005
- The Provision and Use of Work Equipment Regulations 1998 (PUWER)
- Health and Safety (Safety Signs and Signals) Regulations 1996

Government Guidance

- Building Regulations Approved Document B: Fire Safety
- Building Regulations Part D - Means of Escape
- HSE: Safe use of ladders and stepladders
- HSE: PUWER Overview

British Standards

- **BS 4211:2005+A1:2008** - Specification for permanently fixed ladders
- **BS EN ISO 14122-4:2016** - Safety of machinery - Fixed ladders

- **BS 8210:2020** - Guide to building maintenance management (Section 17.1.4 - Fire escape inspections)
- **BS 9999:2017** - Fire safety in the design, management and use of buildings - Code of practice (supersedes BS 5588 series)

Additional Resources

- LABC: When Means of Escape is Unacceptable
- Eurosafe: Fire Escape Inspection Services
- Fire Escape Inspections under BS 8210:2020
- HSQE Consultancy: Fixed Ladder Access Requirements

Document Created: December 2025 **Based On:** Regulatory Reform (Fire Safety) Order 2005, PUWER 1998, Work at Height Regulations 2005, Building Regulations Approved Document B, BS 8210:2020, industry best practice **Review Date:** Annually or when regulations/guidance updated

14. IMPORTANT DISCLAIMER

This document provides guidance based on current UK legislation, British Standards, and industry best practice for emergency escape ladders. It does **NOT** constitute legal advice or professional engineering advice.

Duty holders should:

- **Conduct site-specific fire risk assessments** under the Regulatory Reform (Fire Safety) Order 2005
- **Engage qualified professionals** where appropriate:
  - Fire risk assessors for fire safety compliance
  - Structural engineers for structural assessments
  - Building Control for building alterations affecting means of escape
- **Consult current versions** of all regulations, standards, and guidance (they may be updated)
- **Monitor HSE and fire authority websites** for guidance updates
- **Verify applicability** of this guidance to their specific circumstances

Key Limitations:

- This guidance is specific to **emergency escape ladders that are NEVER used for work access**
- If your ladder is occasionally used for work access (e.g., maintenance), it must comply with **full work ladder requirements** - see `General Ladders Compliance.pdf`
- Design standards (BS 4211, BS EN ISO 14122-4) are referenced for guidance but site-specific professional assessment may be required
- Building Regulations approval may be required for new installations or alterations - consult Building Control
- Fire authority may have local requirements or interpretations - consult with local fire service

Compliance with this guidance does not guarantee legal compliance in all circumstances. Each installation must be assessed individually based on its specific context, risks, and regulatory requirements.

For complex installations, unusual circumstances, or legal concerns, engage competent health and safety professionals, fire safety consultants, or structural engineers as appropriate.

15. RELATED DOCUMENTS

This document is part of a series on ladder compliance:

- **`General Ladders Compliance.pdf`** - Comprehensive guidance on fixed ladders used for normal work access
- **`Competent Person Fixed Ladder Inspections.pdf`** - Qualification requirements for inspectors
- **`Ladder Types.pdf`** - Overview of different ladder types from HSE perspective