BS9991

2024 New Evacuation Lift Requirements

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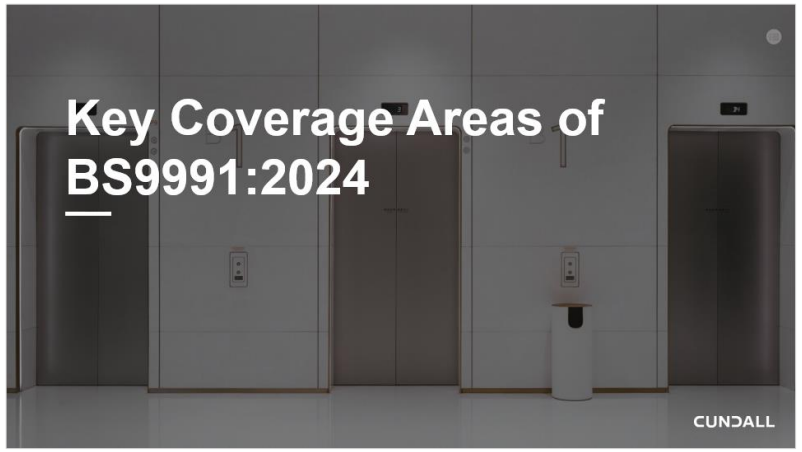
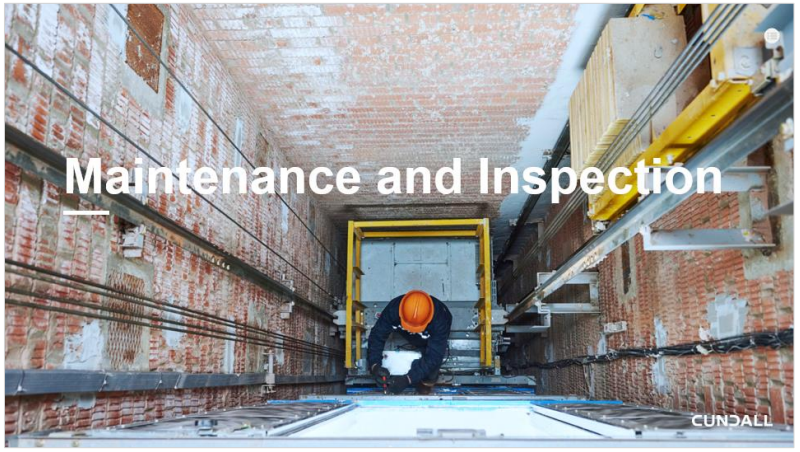
Topics for discussion





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Introduction

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Historical Context and Changes

- Publication of BS9991:2024 – the Biggest change in lift assisted evacuation from buildings in years
- Previously BS9999:2008 had limited definition for evacuation lifts
- Development of EN81-76
    - Standard for design of evacuation lifts under development for many years
    - Yet to be published but expected soon (??)
- Mandate for Evacuation Lifts
    - Prior to BS9991:2024, evacuation lifts were not mandated by guidance for compliance with Building Regulations in the UK (except in London under the London Plan)
    - Now seen as essential for life safety in certain circumstances

BS9991:2024 Publication and Scope

- British Standard for fire safety in residential buildings
- Published and enforced from 30 November 2024
- Supersedes and withdraws the 2015 version
- Significant expansion on evacuation lift requirements
- Important for
  - Fire safety professionals
  - Firefighters
  - Architects
  - VT Consultants
  - Everyone involved in building design

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Key Coverage Areas of BS9991:2024

Overview of BS9991:2024

- Fire Safety Design, Management, and Use
    - Applicable to various residential buildings
    - Includes houses, flats, student accommodation, and care homes
- Building Height and Construction Type
    - Up to 100m tall with traditional non-combustible construction
    - Up to 11m tall with combustible construction
- Exclusions
    - Does not apply to Houses in Multiple Occupation (HMOs)
    - Excludes hotels and certain other building types

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Evacuation Lift Requirements

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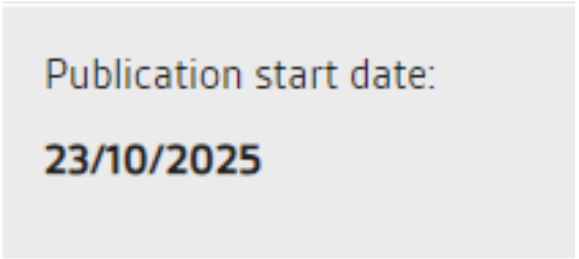
When Are Evacuation Lifts Required

- Buildings provided with passenger lifts should also be provided with a means to use lifts for escape (aka evacuation lifts).
- At least one evacuation lift should be provided for each escape stairway, and more if required (e.g. if there is a high number of persons on a floor that may rely on a lift to evacuate).
- For buildings with floors above 50m high and with a stay put strategy, every lift should be designed as a firefighters lift and have the ability to function as an evacuation lift.
- Buildings provided with lifts for access should also be provided with a means of using lifts for escape, and that lifts may be used for both access and escape or else be separate/different lifts with separate or individual functions.
- Any lift provided for use in building escape should be an evacuation lift.
- One evacuation lift is needed for each escape stair as a minimum, and where escape stairs are in separate locations, an evacuation lift should be provided at the location of each stair instead of in a single location.
- EN81-76 due for publication in 2025 (??)
    - Will detail design requirements for evacuation lifts further
    - Expected to be adopted by BS9991 users upon publication

EN81-76 Publication (As at 4/3/25)



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Minimum Dimensions and Features of Evacuation Lifts

- EN81-20 Compliant Lift
- Minimum Dimensions
    - 1400mm deep by 1100mm wide
    - 900mm door opening width
- Lift landing doors need to be fire doors
- Lift landing doors do not need to be physically marked or labelled as fire doors, unlike all other fire doors.
- Means to prevent water penetration into the lift shaft (as firefighters lifts) where the lift is located close to a firefighting main outlet.
- Clear signage at the evacuation exit floor.

- BS9991 ‘expects’ EN81-76 to include:
    - Driver assisted evacuation (default method)
    - Automatic evacuation (typically where no driver available)
    - Evacuation lift communication system

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Secondary Power Supply Requirements

- Primary and secondary power supplies for:
    - Evacuation lift
    - Emergency communications system
    - Lift lighting
    - Lobby lighting
- Buildings Less Than 18m Tall
    - Can use fire protected diverse routed secondary supply from main incoming electrical supply
- Buildings Over 18m Tall
    - Require a generator, independent supply from a different substation, or UPS system

Evacuation Lift Classifications

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Classifications Overview

- BS9991 clarifies that lift is a device compliant to EN 81–20 with a speed greater than 0.15 m/s
    - ➢ therefore **NOT** a platform lift or similar
- Introduction of two Evacuation Lift Classifications
    - Class B Evacuation Lift
        - Full specification with all features and provisions
        - Secondary power
        - Physically larger with a larger capacity
        - ‘not expected’ to be used for automatic evacuation operation
    - Class A Evacuation Lift
        - Used where secondary power is not available
        - ‘expected’ to be used for automatic evacuation operation

Building Design Requirements

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Key Design Requirements

- Evacuation Lift Shaft and Lobbies
    - Constructed as a protected shaft with fire resistance and ventilation
    - Protected Lift Machinery Spaces
- Visually Contrasting Floor Surface
    - Minimum size of 1500x1500mm outside the evacuation lift
- Emergency Voice Communication System
    - According to BS5839-9 and separate from the evacuation lift communication system
- Step-Free Access to the Evacuation Lift and Waiting Area
    - Minimum size of 1500x2100mm, within or connected to an evacuation stair
- Ventilation in Evacuation Waiting Area
- Stay Put Policy building – any Firefighters lift can also be an Evacuation Lift
- Not Stay Put Policy building - Firefighters lift must be separate from Evacuation Lifts

What is a Stay Put Policy

- A Fire safety measure for high-rise buildings
- Residents are advised to stay in their apartments during a fire
- Residents should stay unless fire directly affects their unit
- Assumption - Building's fire safety features will contain the fire

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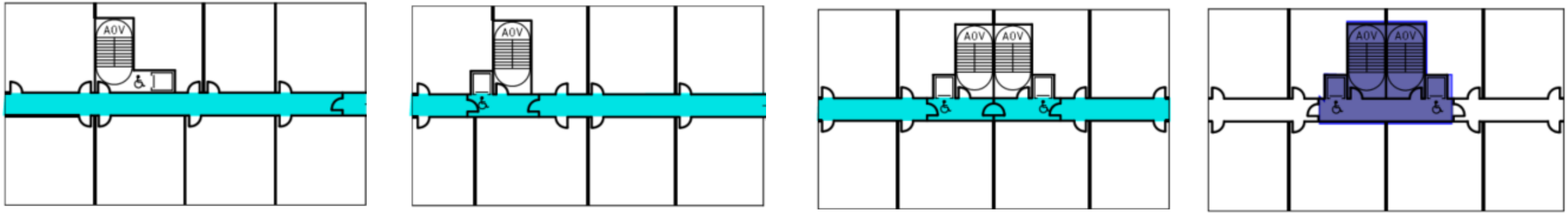
BS9991:2024 – Common Corridor Arrangements



Not fire-fighting

Smoke Ventilation System

Pressurisation System

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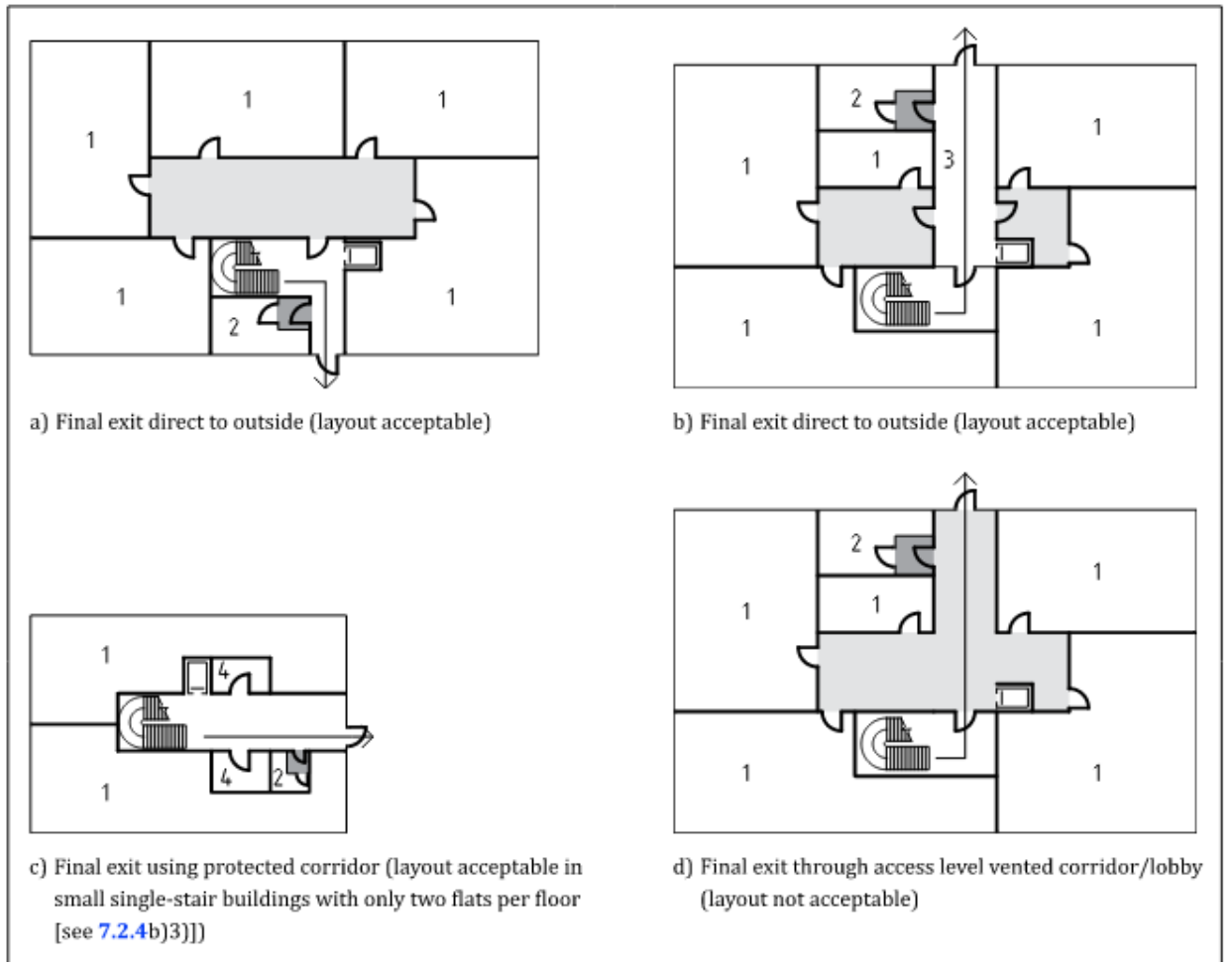
BS9991:2024 – Evacuation Lift Discharge

Evacuation lifts should discharge either

1) Directly to the final exit
2) Into a protected corridor leading to the final exit
    - Protected corridor should have the same level of fire resistance as the lift
    - Where 2 Evacuation lifts provide alternative means of escape, should have separate final exit enclosures



General Design and Construction

Coordination needed among all involved in building design

- Fire resisting construction
- Lobbies
- Ventilation
- Power & lighting
- Communications
- Evacuation lift

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Maintenance and Inspection

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Maintenance and Inspection

- Weekly Tests
    - Firefighters and evacuation lift recall switches
    - Fire alarm recall features connected to lifts
- Notification to Fire Service if lift fault cannot be rectified within 24 hours (Evacuation and Fire lifts)
- Monthly Power Supply Failure Simulation
    - Simulate failure of primary power supply
    - Generator should energize the lift for at least 60 minutes
- Biannual Inspection and Testing
    - Conducted by a competent person (Q. – is this a LOLER Competent person, or something else ?)
- Annual Performance Tests
    - Coordinated test of interconnected and interrelated systems

Maintenance and Inspection Summary

Required Action	Weekly	Monthly	6 monthly	Yearly
Test of lift recall switch	Y	Y	Y	Y
Lift recalls on fire alarm activation	Y	Y	Y	Y
Secondary power test and 60 minute operation of lift		Y	Y	Y
FF & Evac lift operation inspection & testing, with certificate issued (by competent person)			Y	Y
Full function test of fire alarm, secondary power, and lifts operating together				Y

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Conclusion

Conclusion

- Evacuation lift requirements for Residential are now clearer
- Who is doing all of the inspections, and what training / competence do they need?
- But:
    - What are the specific design requirements and functionality
    - Should an evacuation lift in an office be as BS9999:2017, or now BS9991:2024?
    - EN81-76 is needed soon
    - What happens if EN81-76 isn’t published….

Evacuation Lifts

BS9991 Guide

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