



Building Structural Safety in Renovation and Retrofit Works: A Practical Guide to Compliance, Inspection, and Accident Prevention

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ABSTRACT

Hong Kong's built environment, characterized by a high concentration of aging buildings alongside ongoing urban renewal, poses distinct challenges for managing structural safety. This paper reviews the regulatory framework, inspection processes, and practical approaches related to renovation, alteration, addition, and retrofitting activities within commercial settings such as shops, offices, restaurants, and cafes. Centered on key legislative instruments (namely the Building Ordinance Cap123, the Minor Work Control System, and the Mandatory Building Inspection Scheme) the study explores the roles and responsibilities assigned to Registered Inspectors, Registered Professional Engineers, and contractors in mitigating structural failure risks. Additionally, analysis of accident case studies, including building collapses and failures of temporary structures, highlights systemic weaknesses and underscores the value of thorough inspection documentation. By systematically evaluating inspection methods, contractor classifications, and the phases involved in renovation projects, the paper offers a detailed framework to assist practitioners in balancing regulatory adherence, construction quality, and the prevention of structural incidents.

1. Introduction

1.1 Background and Rationale

Hong Kong's urban environment is characterized by a paradoxical mixture: modern skyscrapers rise prominently alongside an aging building stock, much of which predates current regulatory standards. According to the Building Department (BD), there are approximately 27,000 private buildings over 30 years old within the region, a figure expected to grow significantly in the next decade. This substantial presence of older structures, when considered alongside Hong Kong's dense population and the widespread integration of commercial uses within mixed-function buildings, elevates concerns about structural safety to a critical level.

This article is prompted by a series of fatal incidents that have marked Hong Kong's recent past, revealing notable deficiencies in safety measures, inspection thoroughness, and contractor accountability. As highlighted in the reference document, recent years have seen fatal accidents including the collapse of tower cranes at construc-

tion sites and the failure of heavy hoisting frames during the Mirror Concert (Leisure and Cultural Services Department, 2022). Both events resulted in deaths and serious injuries. Moreover, a part of building collapses in To Kwa Wan over a decade ago, triggered by the unauthorized demolition of a structural column, led to the total failure of the structure. These episodes collectively emphasize the severe risks associated with insufficient oversight.

1.2 Scope and Objectives

This article conducts a detailed analysis of structural safety protocols relevant to renovation, alteration, addition, and retrofitting activities within commercial settings. The focus includes establishments such as shops, offices, restaurants, and cafes, which together account for a substantial portion of building utilization and renovation projects in Hong Kong. The discussion is organized around several key objectives:

- (a) To clarify the regulatory environment governing building works in Hong Kong, with particular attention to the Minor Work Control System and the Mandatory Building Inspection Scheme,
- (b) To specify the respective roles and responsibilities of Registered Inspectors, Registered Professional Engineers, and contractors across various registration categories,
- (c) To systematically examine inspection techniques, highlighting technical standards for structural components, fire safety systems, drainage installations, and unauthorized building structures,
- (d) To outline a phased procedural framework for renovation operations, incorporating safety considerations at each stage,
- (e) To evaluate the types of evidence required to establish professional due diligence in the event of post-incident investigations,
- (f) To critically assess existing regulatory and inspection frameworks, identifying their limitations and areas requiring improvement.

1.3 Methodological Approach

This article employs a doctrinal approach to legal and regulatory analysis, focusing on primary sources such as the Building Ordinance (Cap123) and its related subsidiary legislation, alongside codes of practice issued by the Buildings Department and Fire Services Department, as well as official guidance materials. The study further incorporates case studies involving documented structural failures and enforcement actions to enrich the analysis. Practitioner insights found within the source documents (including detailed inspection methods, equipment specifications, and procedural steps) are incorporated as practical recommendations, while being critically assessed in the context of the prevailing regulatory framework.

2. Foundations of Structural Safety in Hong Kong

2.1 The Building Ordinance Cap123 and Its Operational Mechanisms

The Building Ordinance (Cap 123) serves as the fundamental legal framework regulating building activities in Hong Kong. It provides the statutory foundation for the Buildings Department to oversee the planning, design, construction, and upkeep of buildings and related works. A key aspect of this legislation is the differentiation between building works that require prior approval and consent from the Building Authority, and minor works, which can be carried out under a streamlined notification procedure.

The Building Authority, a position held by the Director of Buildings, is empowered to approve building plans, authorize the commencement of construction, and issue certificates of completion. As indicated in the source document, new buildings may be constructed by Register Grade Building Contractors (RGBC), representing the top tier of construction firms regulated under the Building Ordinance Cap 123. This tiered classification reflects a risk-based regulatory approach, whereby contractors and projects facing higher risks are subject to more rigorous controls.

2.2 The Minor Work Control System (MWCS)

The Minor Work Control System (MWCS) (2024) constitutes a notable regulatory development implemented as a direct response to the building collapse in To Kwa Wan. According to the source document, an older

structure collapsed approximately a decade ago when a subcontractor removed a structural column, leading to the entire building's failure. In reaction, the Building Department and Building Authority introduced the MWCS alongside the Mandatory Building Inspection Scheme (MBIS) to provide guidance to subcontractors and mitigate the risk of similar incidents.

The MWCS defines a regulatory framework allowing certain small-scale building activities, categorized as minor works, to be performed by Registered Minor Work Contractors without requiring prior approval or consent from the Building Authority, provided these works conform to specified categories and standards. The system currently classifies minor works into three categories, each encompassing between 60 and 70 listed items, summing up to around 200 regulated types.

Within this framework, Class 1 minor works represent the highest regulatory tier for minor projects. Although these works remain designated as minor, they often involve structural components or pose a greater risk of adverse outcomes. As noted in the source, Class 1 Registered Minor Work Contractors operate similarly to Registered General Building Contractors but on a smaller scale; they must collaborate with Authorized Persons, obtain consent before commencing work, and submit completion documentation to the Building Department once the tasks are finalized. This detail underscores that the regulatory distinction between building works and minor works is not absolute but reflects a spectrum of regulatory oversight intensity.

2.3 The Mandatory Building Inspection Scheme (MBIS)

The Mandatory Building Inspection Scheme (MBIS) (2025) functions alongside the Mandatory Window Certification Scheme (MWCS) as a proactive framework aimed at detecting and addressing safety issues in aging buildings. Within the MBIS, the Building Authority designates buildings that have reached 30 years of age (or 40 years in the case of industrial buildings) for compulsory inspection. Registered Inspectors, appointed by the Building Authority, are tasked with examining the common areas of these buildings and providing detailed reports that highlight defects and suggesting appropriate remedial measures.

According to the source document, the responsibilities of Registered Inspectors encompass a defined set of inspection items. These mandatory checks include assessing the Uniform Building Standards (UBS), verifying structural safety, ensuring proper drainage conditions, and evaluating fire services installations (FSIs). Specific FSI elements subject to inspection include fire doors, means of escape (MOE), means of access (MOA), escape routes, as well as the dimensions of staircases and corridors. Compliance with the Building Department's Code of Practice (BD COP) (2024a) on fire services is required. This list illustrates the complex nature of building safety, which extends beyond structural soundness to include fire protection, evacuation pathways, and critical building services.

2.4 Contractor Classification and Registration

The Buildings Department classifies registered contractors into three distinct categories, each subject to specific scopes of practice and regulatory frameworks:

(a) Registered General Building Contractor (RGBC): This category represents the highest level of construction company registration. RGBCs are permitted to undertake new building construction and significant building projects without imposed restrictions. According to the source document, new buildings can be constructed by RGBC, which is the highest grade of construction company, governed by Building Ordinance Cap123.

(b) Registered Minor Work Contractor (RMWC): Contractors in this category are authorised to perform minor works as defined by the Minor Works Control Scheme (MWCS). RMWCs are further divided into three classes (1, 2, and 3) with Class 1 contractors having the broadest authority, including the capacity to engage in minor works that involve structural components.

(c) Registered Specialist Contractor (RSPC): This category includes five specialisations: Foundation, Ground Investigation, Site Formation, Demolition, and Ventilation. Notably, ventilation specialisation is pertinent to commercial settings such as restaurants and cafes, where the installation of mechanical ventilation and air conditioning (MVAC) systems must address both structural factors and fire safety regulations.

3. The Role and Responsibilities of Registered Inspectors

3.1 Appointment and Statutory Basis

Registered Inspectors are designated by the Buildings Department to perform inspections under the Mandatory Building Inspection Scheme. The Building Authority oversees the selection process, and Registered Inspectors must submit their inspection reports to both the building owners and the Buildings Department. This requirement positions the Registered Inspector as a statutory agent responsible for safeguarding public safety, regardless of any commercial ties with the building owners.

3.2 Structural Safety Inspection Protocols

The structural safety inspection carried out by Registered Inspectors (RIs) covers both the main structural components of the building and secondary elements that may present safety risks if they become compromised. The relevant documentation indicates that the inspection should include external building features such as advertisement signs, wall tiles, amenities, and eaves, with particular attention to any loose parts that could potentially fall onto the street. Additionally, structural defects related to the aging of the building (such as spalling or surface cracks) must also be assessed.

This inspection scope further involves verifying the anchorage and support systems for elements attached to the building. Specifically, the support for advertisement signs and amenity items must be evaluated to ensure they are sufficiently robust and securely connected to the building's reinforcement beams, columns, and floor slabs. This focus on the linkage to primary structural elements highlights a key principle in structural safety: secondary components need to be anchored to load-bearing structures capable of effectively transferring forces to the foundation, rather than depending on non-structural facades or surface finishes.

3.3 Fire Safety Installations and Means of Escape

Fire safety represents a fundamental aspect of the inspection responsibilities within the RI framework, with a particular focus on passive fire protection (Salako & Eze, 2024) and evacuation routes. The original document identifies several critical inspection criteria: fire doors in service should remain intact and functional, for instance, window panels within these doors must not be broken, and doors should be kept closed. Additionally, staircases and escape routes must remain unobstructed, with no items placed that would impede passage. It is also imperative that no locked metal gates or doors obstruct these evacuation pathways.

One technical issue of note involves the evaluation of enclosed staircases lacking natural ventilation. The document suggests assessing whether a staircase has external windows; if it is fully enclosed, the risks associated with smoke inhalation and suffocation increase significantly. To mitigate these dangers, it recommends the installation of staircase pressurization systems in accordance with BS5588 standards (British Standard Institute, 1998) and smoke extraction measures outlined in the Fire Services Department's (2022) Codes of Practice. This guidance reflects the recognition that smoke inhalation, rather than direct flame contact, often accounts for most fatalities during fires, an observation frequently summarized by the phrase smoke is the primary killer in fire.

3.4 Drainage Systems and Public Health Considerations

The consequences of the SARS and COVID-19 pandemics (Centre for Health Protection, 2025) have led to heightened regulatory scrutiny of drainage systems as possible conduits for disease transmission. The source document specifies that, in response to these outbreaks, the Building Department (BD) provides financial assistance to property owners to address deficiencies in drainage within older structures. It mandates that Registered Inspectors (RI) examine sewage drainage pipes in such buildings to ensure there are no cracks causing leaks or blockages caused by debris, utilizing robotic CCTV cameras capable of navigating underground pipes.

This inspection directive necessitates specialised equipment, stating explicitly that either procurement of a robotic CCTV camera or engagement of a subcontractor with expertise in operating such technology is required for the assessment of subterranean sewage systems. This focus on investment in equipment underscores a broader theme within the source material: that professional competence encompasses not only theoretical knowledge and practical skills but also the effective application of suitable technological resources.

3.5 Unauthorised Building Structures

Unauthorized building structures pose a significant risk within Hong Kong's urban environment, as they are often erected without adherence to regulatory standards and may compromise structural safety. The source document highlights a specific example, stating that one responsibility of the Registered Inspector (RI) is to examine such unauthorized structures, including cases like the collapse of the Redhill Peninsula's unauthorized building structures in 2024, and to report them promptly to the Buildings Department.

This immediate reporting requirement underscores the inherent hazards of unauthorized structures, which typically lack the oversight related to design quality, material standards, and construction practices that govern approved buildings.

4. Accident Analysis and Preventive Strategies

4.1 Case Study: To Kwa Wan Building Collapse

The To Kwa Wan building collapse in 2010, mentioned in the source document as having occurred about a decade plus ago, marks a significant moment in the evolution of building safety regulations in Hong Kong. Although the document does not elaborate extensively on the incident, its description of the cause (specifically, that a subcontractor demolished a structural column, leading to the collapse of the entire building) indicates a classic example of progressive collapse.

Removing a structural column without implementing appropriate temporary support or redistributing loads compromises a critical load path. This action can initiate a sequence of failures as the loads shift to adjacent structural components that may exceed their intended capacity. The resulting total collapse demonstrates the complex, non-linear progression of structural failure, where localized damage, if not properly addressed, can extend throughout the structure, producing consequences that are disproportionate to the initial damage.

4.2 Temporary Structures and Event Installations

The source document cites two recent fatal incidents involving temporary structures: the collapse of tower cranes at a construction site and the failure of a heavy hoisting frame during the Mirror Concert in 2022. These events share notable similarities with the To Kwa Wan collapse, particularly in that they all involved structures or structural components which, although not traditionally categorized as building works, present substantial safety hazards if inadequately designed, installed, or maintained.

According to the document, the regulatory response has emphasized the responsibility of Registered Professional Engineers to verify the safety of temporary structures. Specifically, it states that mechanical RPEs must procure appropriate tools or instruments to assess the quality of welds, such as ultrasonic devices that facilitate an efficient evaluation of weld strength. This focus on non-destructive testing (NDT) of welds reflects an understanding that the safety of metal structures is heavily dependent on the integrity of their connections, with welded joints representing areas of susceptibility.

4.3 Handrail Failures in Commercial Complexes

The source document highlights a hazard scenario involving handrail failures in commercial complexes during festive occasions. It notes that numerous festive events held in atria attract large crowds, where many individuals lean on handrails at upper-level floors to observe activities below. This results in significant loading on the handrails, which may subsequently collapse, causing numerous people to fall to lower levels and leading to severe accidents.

This example underscores the necessity of accounting for live loads and user behavior in both structural design and inspection processes. While handrails are generally engineered to withstand typical usage loads, the simultaneous leaning of many individuals during such events can produce forces that far exceed standard design parameters. The document advises that any freestanding structural element should be integrated with adjacent reinforcement elements such as columns and beams. This recommendation stresses the importance of redundancy and connectivity within the structural system to reduce the likelihood of catastrophic failure.

4.4 Welding Integrity and Non-Destructive Testing

Welding quality consistently appears as a crucial factor influencing the structural safety of metal frameworks. The assertion that structural failures often result from inadequate welding underscores this point. It is noted that a well-executed weld can sustain approximately 50% of the metal's ultimate strength, a figure that must be contextualized within the design safety factors commonly applied.

In conventional structural engineering, connections are generally designed to mobilize the full strength of the connected components, with weld specifications intended to meet or exceed this criterion. The reference to welds sustaining 50% of the ultimate metal strength likely denotes a minimum acceptable threshold relative to the base metal's capacity. In practice, properly performed welds tend to achieve strength levels significantly above this baseline.

The mention of an elevated factor of safety reflects the incorporation of design margins that allow for variability in weld quality. However, these margins accommodate such variations only to the extent that they remain within prescribed limits established by engineering standards.

5. Procedural Framework for Renovation Works

5.1 Pre-Renovation Requirements and Statutory Approvals

Prior to initiating renovation activities, especially within food and beverage establishments, practitioners are required to engage in a multi-agency approval process. The source document outlines several essential requirements: obtaining a food licence from the Food and Environmental Hygiene Department (FEHD) for restaurants; securing approval from the Buildings Department (BD) to ensure structural safety and the absence of unauthorized building structures (UBS); receiving confirmation from the Fire Services Department (FSD) that fire safety installations (FSIs) meet operational and safety standards; having ventilation systems inspected and approved by BD's Authorized Person for ventilation and by FSD; and verifying that toilet facilities, including water closets and washbasins, comply with Health and Hygiene Department standards. Furthermore, kitchens must adhere to Environmental Protection Department (EPD) regulations, which specify the use of perforated floor drains with covered channels and that wastewater is directed at grease-filtered tanks.

This set of requirements illustrates the complex regulatory landscape renovation practitioners must navigate. The involvement of multiple governmental departments (FEHD, BD, FSD, and EPD) underscores the integrated approach to ensuring structural integrity, fire safety, public health, and environmental protection in such projects.

5.2 Phased Renovation Procedures

The source document outlines a ten-step process for renovation work, based on practical experience. Below are a summary and analysis of that framework.

(a) Phase 1: Site Preparation and Demolition -- The first step is to secure the work area by blocking public access: Construct barricades to separate demolition work from the public. Follow safety procedures. This is important because demolition can create hazards like falling debris, dust, and noise, which need to be controlled to protect both workers and people nearby. During demolition, removing existing finishes and non-structural walls must be done carefully, especially to avoid damaging hidden utilities: Make sure to cut off electricity and water supply. Identify the parts to be demolished. Check for any hidden wiring or water pipes inside walls using a metal detector before starting demolition. Using a metal detector helps find concealed electrical wires or pipes, reducing the risk of accidents involving live wires or water leaks.

(b) Phase 2: Design Planning and Service Coordination -- Before starting installation, detailed design planning is stressed: Create a design layout showing where future cables and pipes for water and drainage will run. This is very important to know if a raised floor is needed to house water pipes or cable ducts. This issue of raised floors is especially relevant for places like cafes or restaurants, where drainage pipes might have to go under the floor surface. Putting pipes directly into the concrete slab can make future repairs or modifications difficult without damaging the structure.

(c) Phase 3: Ceiling Space Installations -- After demolition, work on the ceiling space follows a specific order: First, install conduits for electrical wiring mounted on the underside of the concrete ceiling. Next, install drainage pipes, since wastewater depends on gravity to flow, so these pipes must be properly sloped. Then put in the MVAC

fan coils, which are large and cannot be bent or turned easily. Lastly, install sprinklers, as their pipes are pressurized and flexible, allowing them to bend and navigate around obstacles, including concrete beams with pre-made holes. This order is based on practical reasons. Electrical conduits are lightweight and flexible and go in first to set routes. Drainage pipes need to have the right slope before other systems take up space. MVAC fan coils are bulky, so they must be placed before the ceiling grid is installed. Sprinkler pipes can handle bends and pressure, so they go in last to avoid clashes with other services.

(d) Phase 4: Coordination of Ceiling Installations and Provision of Openings -- Effective coordination of ceiling-mounted components necessitates thorough planning. The positions of luminaires, public address systems, CCTV dome cameras, MVAC louvers and diffusers, lighting troffers, downlights, sprinkler heads, smoke and heat detectors, among others, should be clearly indicated on the reflected ceiling plan. This allows ceiling contractors to reserve appropriate openings in the plasterboard ceiling for wiring and installation purposes. Such coordination is critical to minimizing clashes among structural elements, services, and architectural finishes. The reflected ceiling plan thus functions as an integrative tool, consolidating inputs from various trades into a unified drawing that informs installation sequencing and opening allocation.

(e) Phase 5: Electrical Distribution -- Electrical work typically begins with the installation of the main distribution board. In commercial units such as shops or offices, an isolator (commonly rated at 100A or 200A, three-phase) is usually installed. This isolator serves as the supply point from which tenants can extend electrical connections to their equipment and services within the premises, including MVAC systems, kitchen appliances, and lighting. The use of three-phase supplies at these capacities corresponds with the common demand levels in commercial settings, where equipment loads frequently surpass what single-phase supplies can support.

(f) Phase 6: Finishing Works -- The final stage involves plastering and surface finishing. After smoothing concrete surfaces with cement mortar (using materials such as Optimix, Kangerloo, or Nippon) panels made of wood or plastic are fixed onto the surface by adhesive or nails. The mention of specific proprietary products underscores the influence of material choice and application techniques on the resulting quality and longevity of the finish.

6. Professional Due Diligence and Evidentiary Requirements

6.1 Documentation and Proof of Inspection

A common point in the source document is the need to keep written records of inspections and professional decisions. This is important because after accidents, having this proof can protect you from government prosecution.

Having documented evidence does several things. It shows that inspections were done following the rules at the time. It also proves that decisions were made based on the information available. Lastly, it helps in investigations into an accident by providing a clear record of what was seen and what actions were taken.

6.2 Equipment Investment and Professional Competence

The source document stresses the need to invest in the right equipment to carry out professional duties effectively. For example, we need a telescopic camera to zoom in on objects on external building walls to see them clearly. Mobile phone cameras are not strong enough to capture distant objects well. We must spend money to get the right tools to do the job properly and responsibly.

This focus on equipment also applies to special inspection tools. The document states, we must buy a CCTV robotic camera or hire a specialist subcontractor who uses one to inspect underground sewage pipes.

It also suggests sharing the cost when buying equipment, explaining, If the RI/RPE Mechanical does not have the necessary instrument, they can ask clients to share the cost 50:50. It is reasonable not to ask the client to cover the entire price. This practical idea recognizes the financial limits professionals face, while still saying that having the right tools is important for competent work.

6.3 Professional Reputation and Risk Management

The source document lays out a straightforward approach to risk management: You must do the job properly. Reputation is more important than money. If the client does not agree, the consultant walks away and accepts earning less. This shows a professional attitude that values safety and reputation above quick financial

gains. Choosing to back out when clients will not allow essential inspections is a way to manage risk that keeps both the professionals and the public safer.

6.4 Consequences of Inadequate Documentation

The source document gives a clear example of the professional problems caused by poor documentation: RPE(Mechanical) had no record of what he had done, the government prosecuted him, and he fled, losing his career in Hong Kong.

This case shows that not keeping proper records of inspection work can lead to serious trouble, such as criminal charges and losing your professional license. The fact that the practitioner fled indicates that the consequences might go beyond just professional penalties, possibly involving criminal responsibility as well.

7. Critical Analysis and Implications

7.1 Strengths of the Current Regulatory Framework

The regulatory framework outlined in the source document has some clear advantages. MWCS offers a step approach to regulating building work, which helps ensure oversight matches the level of risk for each project. The MBIS sets up a way to spot safety issues in older buildings before they become serious problems. Sorting contractors into different registration categories helps make sure they meet certain qualifications and can be held responsible according to how complex the work is.

Focusing on documented inspection evidence and using specialized tools shows a practical approach to managing safety. Also, requiring RIs and RPEs to keep records of what they do helps build a base for investigating accidents and holding people accountable afterward.

7.2 Limitations and Gaps

Despite these strengths, there are some clear limitations and gaps. The source document keeps stressing that RIs and RPEs need to invest in equipment, which suggests that availability of equipment might not be consistent throughout the profession. The idea that practitioners should share equipment costs with clients, though practical, raises the question of whether having the right equipment should be a basic professional standard instead of something to negotiate over.

When it comes to welding quality, the source document focuses more on practical aspects but lacks some theoretical explanation. It says good welding can sustain 50% of ultimate metal strength, but this needs more detail. Ideally, proper welding should achieve the full strength of the base metal. Whether 50% strength is acceptable would depend on the specific design, including safety factors and how the load is applied.

The source document also doesn't discuss how regulatory requirements relate to design standards like Eurocodes or British Standards. Although it mentions BS5588 and some Codes of Practice, it doesn't clearly explain how these standards connect with the Building Ordinance and its related rules.

7.3 Implications for Practice

The source document offers practical advice that affects those working in renovation. First, breaking down renovation into stages (starting with demolition, then installing services, and finally finishing) gives a clear structure that can help different workers coordinate better and avoid conflicts. Second, the focus on investing in equipment suggests that these purchases should be seen as necessary tools for professional work, not just optional costs. Third, since documentation is important, keeping records should be part of the inspection process, not something done only as an administrative step afterward.

For building owners, the document highlights the importance of following laws and the dangers of hiring contractors who are not registered. While unregistered contractors might save money upfront, the risks from poor workmanship, legal penalties, and liability in case of accidents can be much higher.

8. Conclusion

Ensuring structural safety during renovation and retrofit work involves following regulations, having the right technical skills, and being thorough in your approach. Hong Kong's rules came about after serious incidents

like the To Kwa Wan building collapse. These rules cover several areas, such as registering contractors, notifying authorities about small projects, requiring building inspections, and investigating accidents afterward.

Key figures in this system are Registered Inspectors and Registered Professional Engineers. They are responsible for spotting safety issues and recommending fixes. Their duties cover various safety aspects, including the building's structure, fire safety equipment, escape routes, drainage, and any illegal structures. Doing this well means they need not just technical know-how but also the right inspection tools and good record-keeping.

The renovation steps in this article offer a clear plan for professionals. The process starts with demolition, then moves through installing services, coordinating ceilings, setting up electrical systems, and finishing touches. At every stage, safety is a priority, and the plan considers the technical limitations of different building systems.

The article ends with a simple but important point: accidents cannot be foreseen. Hence perform risk assessment. This highlights a key issue in managing structural safety. You can't always predict exactly when or how an accident will happen, but by spotting risks early and addressing them, you can lower the chance of accidents and reduce their impact. The rules, inspection methods, and professional standards discussed here form a safety net that, if used well, helps stop tragedies like those that influenced Hong Kong's building safety rules.

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