MASTERING
TEMPORARY WORKS

Best-Practice Management, Design & Company Procedures

aligned with BS 5975-1:2024 and BS 5975-2:2024

VOLUME 1 — FOUNDATION

Chapters 1 to 5 | Introduction, Legal Framework, Roles, Management Procedure and Risk

A practical, safety-first guide for Temporary Works Coordinators, Supervisors, Designated Individuals, principal contractors, designers, SMEs and site teams

Temporary Works Consulting

Expert International Temporary Works Design, Advisory, Construction Management & Tutoring

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Status

BS 5975-1:2024 and BS 5975-2:2024 are codes of practice — they are not in themselves law. However, following their recommendations is the generally accepted way to demonstrate compliance with statutory duties under the Construction (Design and Management) Regulations 2015 (CDM 2015), the Work at Height Regulations 2005, the Provision and Use of Work Equipment Regulations 1998 (PUWER), the Health and Safety at Work etc. Act 1974, and parallel legislation in other jurisdictions. Departures should be justified in writing and supported by equivalent or better outcomes.

Disclaimer

Every reasonable effort has been made to ensure the accuracy of this volume at the time of publication. However, temporary works decisions are always site-specific. Nothing in this volume is a substitute for the engineering judgement of a competent, appointed Temporary Works Designer, Temporary Works Coordinator, or Designated Individual. No liability is accepted for loss, injury or damage arising from reliance on this volume in isolation. Worked examples use illustrative figures expressly flagged as such; they are not a design for any real project.

How this volume is structured

This is Volume 1 of a three-volume set:

- Volume 1 — Foundation (this volume): Chapters 1 to 5. Introduction, legal framework, roles, management procedure, and risk management.
- Volume 2 — Design and Common Types: Chapter 6 (design principles — BS 5975-2:2024 vs Eurocodes with worked examples) and Chapter 8 (common temporary works types).
- Volume 3 — Procedures, Case Studies and Futures: Chapter 7 (writing your company procedure), Chapters 9–10, full appendices, glossary, references and index.

Each volume is self-contained for its topic but is designed to be used together. Cross-references are explicit and resolve across volumes.

How to read this volume

- Site staff and Temporary Works Supervisors: start with Chapters 3 and 4 for operational clarity.
- Designated Individuals and company owners: read Chapters 1 through 5 in full, then use Volume 3 Chapter 7 to write your company procedure.

- Principal Contractors and Project Managers: focus on Chapters 2, 4 and 5 and the responsibility matrix in Chapter 3.
- Designers (permanent and temporary works): read all of Volume 1 for context, then Volume 2 Chapter 6.

Foreword

Temporary works — falsework, propping, façade retention, excavation support, working platforms, hoardings, crane bases and the scores of other structures that come and go during a project — are the real reason construction gets built safely. They carry every tonne of concrete, hold back every cubic metre of ground, and keep every scaffolder, steel-fixer and electrician standing on something that does not move when they step on it.

When temporary works are planned, designed, checked, coordinated and dismantled in accordance with BS 5975, projects go up faster, cost less to insure, finish with fewer snags and — most importantly — people go home in the same condition they arrived.

When they are not, the record of the last fifty years is stark. The Bragg Report of 1975, the Report of the Advisory Committee on Falsework, remains a sobering read. Nearly every significant UK falsework or temporary works failure that followed has repeated at least one of its findings: unclear accountability, no single coordinator, absent or token design checking, rushed loading, or an inspection regime that never matched the drawings.

The evolution of BS 5975 through 1982, 1996, 2008, 2019 and now the 2024 split into Part 1 (Management) and Part 2 (Falsework: Design and Implementation) has systematically closed those gaps. The 2024 revision does three important things at once: it makes the standard more accessible and more affordable for the tens of thousands of companies who only need the management discipline; it clarifies roles and responsibilities; and it embeds environmental thinking alongside the safety and structural disciplines that have always driven temporary works.

This volume is written for the people who actually have to make the standards work on site. It is not a re-typing of BS 5975. It is a practical translation — drawings, flowcharts, sample documents, worked sequences, and honest commentary from consulting experience — intended to turn a British Standard into a company procedure, a weekly site meeting, a permit to load, a completed register, and a dismantled structure without incident.

Read it with a pen. Mark it up. Argue with it where you have better local practice. Then put it to work.

The Expert Construction Engineering Team, Temporary Works Consulting

April 2026

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Chapter 1 — Introduction to Temporary Works

Chapter summary

Temporary works are engineered solutions that support, protect or give access during construction. Properly managed, they are the foundation of safe, fast, profitable delivery. BS 5975 has evolved over four decades, and the 2024 split into Part 1 (Management) and Part 2 (Falsework: Design and Implementation) makes it more accessible, clarifies roles, and for the first time explicitly embeds environmental considerations.

1.1 What are temporary works?

Across all the British Standards, TWf guidance and industry texts, temporary works share a single functional definition: they are the engineered parts of the works that allow the permanent works to be built, modified or demolished safely, and that may or may not remain at the end of the project. In practical terms, a temporary work is any physical provision — usually structural — that carries load, provides stability, controls an excavation, protects people, provides access, or keeps plant in the right place during a construction operation.

The practical test TWC uses on site is simple. Ask three questions. First: is this physical arrangement carrying a load, retaining ground, providing stability, or keeping workers off a drop? Second: is it there because of the way we are building, rather than as a part of the final asset? Third: will it be adjusted, loaded, partially struck or removed at some stage of construction? If the answers are yes, yes, and yes, it is a temporary work and it must be managed under the company procedure.

1.1.1 Typical families of temporary works

Temporary works divide naturally into a handful of families. A site team will commonly encounter several of these in parallel, and many projects have dozens of items open at any time.

- Structural support — falsework to support wet concrete or precast erection; back-propping; temporary steelwork; façade retention; needling and flying shores; propping for openings; stability frames during alteration or demolition.
- Formwork — the contact face and supporting frames for wet concrete, including vertical wall/column forms, soffit forms, climbing and jumping forms, and advancing/launching formwork.
- Excavation support — trench boxes, drag boxes, sheet piles, king posts with struts, berlin walls, contiguous and secant walls used as temporary retention, waling and propping frames, dewatering.
- Access and protection — scaffolding (tube and fitting, system, independent/tied); loading towers and bays; edge protection; stair towers; pedestrian bridges; working platforms; hoardings; protection fans; temporary roofs; segregation barriers.
- Ground engineering — working platforms to BR470; haul roads; crane bases and outrigger spreader arrangements; temporary pile mats; temporary embankments and slopes; soil nails for stabilisation during construction.
- Lifting and movement — lifting frames and beams; temporary lifting attachments; crane ties, outriggers, and spreader pads; tower crane mast bases; skidding, sliding and jacking systems.

- Site control — temporary earthing, bonding and equipotential zones (critical on HV sites); bunds and dewatering; temporary services diversions; temporary drainage; dust, noise and debris control.

1.1.2 Temporary works that become permanent

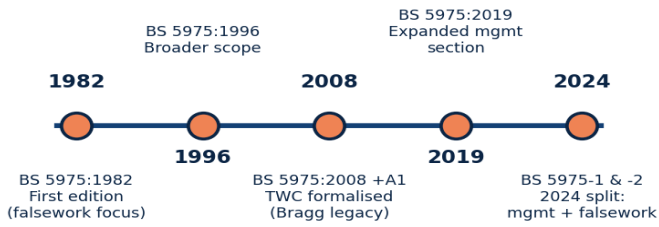
Some temporary works, having served their construction role, are then left in place. Sheet piles used as excavation support that become part of the permanent wall, or blinding concrete that becomes the final base slab, are common examples. These items require particular attention to interface: the permanent works designer must specifically accept them as contributing (or not contributing) to the final capacity, and the handover record must make this explicit. Under no circumstances should a decision to 'leave in' be made on site informally.

1.2 Historical evolution and the Bragg legacy

The modern discipline of temporary works management in the UK traces almost entirely to the Report of the Advisory Committee on Falsework, published in 1975 under the chairmanship of Professor Sir Stephen Bragg. Convened after a series of falsework collapses in the early 1970s, the Bragg Report established the principle that one named competent person — what we now call the Temporary Works Coordinator — must take overall responsibility for the control of temporary works on any site, and that formal procedures must govern design, checking and implementation.

BS 5975 first codified these principles in 1982. Subsequent revisions — 1996, 2008 (with A1:2011), and 2019 — progressively expanded the scope from falsework alone to the full breadth of temporary works, sharpened the definition of the TWC role, introduced design check Categories 0 to 3, and formalised the design brief and register as central management tools. The 2024 revision, published 31 December 2024, is the most significant update since 2008.

Figure 1.1 — Evolution of BS 5975 (1982–2024)



The 2024 split means non-designers need only Part 1 — a significant cost saving for SMEs and site teams.

Figure 1.1 — Evolution of BS 5975 from 1982 through the 2024 split into two parts.

1.3 Why proper management saves lives, time and money

The business case for rigorous temporary works management is not a soft argument. It is operational, financial and reputational, and it is routinely measurable on projects where TWC consulting has been engaged from the design brief onwards.

1.3.1 Safety outcomes

HSE data and Structural-Safety (formerly SCOSS/CROSS) reporting show that temporary works-related incidents continue to account for a disproportionate share of major structural failures and fatalities in the UK construction sector. The failure modes are not mysterious: undetected departures from drawings during erection, back-propping removed early, uninspected ground bearing, missing lateral restraint, incorrect materials substitution, and unauthorised alterations. Every one of these is prevented by the disciplines codified in BS 5975-1:2024 — design brief, register, design check, permit, inspection, change control.

1.3.2 Programme outcomes

Early engagement of a competent TWC and TWD pays back in programme terms in three ways. First, early identification of temporary works need allows permanent works designers to provide lift-off loads, back-propping regimes and pour sequences that are compatible with realistic falsework — avoiding redesign cycles later. Second, standard solutions can be repeated across similar elements, reducing design lead time and erection variability. Third, permits to load and unload replace the ad-hoc 'gut feel' conversations that otherwise cause delay when concrete maturities and striking times are disputed between site and design. On typical multi-storey concrete frames, TWC consulting engagements commonly identify 10 to 20 per cent of programme saving on the critical cycle time.

1.3.3 Cost and insurance outcomes

Insurance markets are increasingly alert to temporary works risk. Underwriters for contractors all-risks and professional indemnity routinely request evidence of BS 5975-compliant procedures, competent TWC appointments, design check regimes and training records. Contractors who can demonstrate these through documented registers, completed design briefs and permits tend to see lower premiums, higher limits of indemnity, and faster renewals. Conversely, enforcement action following a temporary works incident — even where there is no injury — commonly costs more in management time, legal fees and reputation than the entire planned temporary works budget for the project.

1.4 BS 5975:2024 — what changed and why it matters

The 2024 revision replaces BS 5975:2019. The most visible change is structural: what was a single standard has become two separate publications. BS 5975-1:2024, Temporary works — Part 1: Management procedures for the control of temporary works — Code of practice, covers everything that was in Sections 1 and 2 of the 2019 edition. BS 5975-2:2024, Temporary works — Part 2: Falsework: Design and implementation — Code of practice, covers what was Section 3, the detailed design and implementation of falsework.

This split is deliberately pragmatic. The overwhelming majority of companies that need BS 5975 — principal contractors, subcontractors, SMEs, clients, and site teams who manage rather than design — need the management content. Temporary works designers and falsework specialists need the design content. By separating them, BSI has reduced the cost for non-designers without diluting the technical depth for designers.

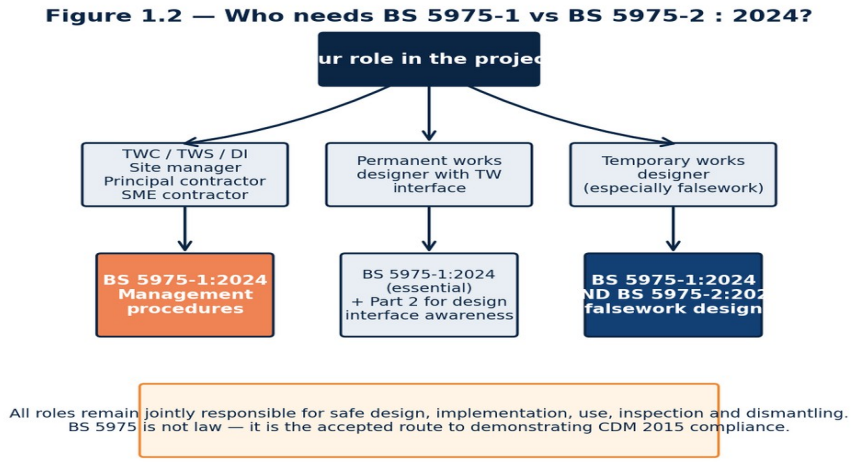


Figure 1.2 — Who needs Part 1, Part 2 or both, depending on their role in a project.

1.4.1 Changes in BS 5975-1:2024 (Management)

The content of Part 1 is largely a carry-over of the management sections from the 2019 edition, with clause renumbering (the 2019 Clauses 2 and 3 have been combined, so all later clauses in Part 1 are numbered one lower). The principles of the procedures are unchanged. However, several areas have been sharpened:

- Roles and accountability are more clearly articulated. The expectations for the Designated Individual (DI), the PC's TWC, the contractor's TWC, the TWS, and the Temporary Works Designer (TWD) are tightened, with explicit statements on independence, authority to stop work, and the relationship between PC's TWC and any contractor TWC.
- The relationship between temporary works and CDM 2015 is reinforced, particularly regarding the role of the Principal Designer in early risk management and the importance of the permanent works designer flagging temporary works implications (for example where partial demolition, back-propping or pre-stress release is required).
- Environmental considerations are formally introduced. Part 1 now includes guidance on the environmental risks associated with temporary works — flooding, erosion, contamination, energy use, and sustainability — reflecting client and regulatory expectations that have grown materially since 2019.
- Implementation risk guidance is refined. The relationship between design check Categories 0 to 3 (which address design complexity) and implementation risk classes Very Low, Low, Medium and High (which address execution plus consequence) is made clearer. This was frequently confused under the 2019 edition.
- Communication and documentation expectations are strengthened. The design brief, design output, design check certificate, Temporary Works Register, handover briefings, permits, and inspection records are each given more explicit content requirements, with a stronger focus on communicating design intent to those erecting, loading, inspecting and dismantling.

1.4.2 Changes in BS 5975-2:2024 (Falsework design)

Part 2 carries the majority of the technical changes. In summary:

- Wind loading calculations on falsework have been updated, with site-specific methods emphasised. Given how often falsework collapses have wind as a contributing factor, this is a material change that designers must incorporate.
- Permissible stress design is retained and clarified, providing continuity for designers who work in the long-established BS 5975 tradition.
- Limit state design is explicitly recognised alongside permissible stress. Designers may use either approach; guidance is given on consistent application, alignment with Eurocode principles where appropriate, and the implications for material factors.
- Specification, construction, use and dismantling guidance has been expanded, with greater emphasis on constructability, on-site verification and inspection regimes that properly match the design.

1.4.3 What this means for your company

If your company manages or uses temporary works but does not design them, buy and adopt Part 1 only. Your existing procedure almost certainly needs only targeted updates: references to the 2024 parts, refreshed role descriptions and appointment letter templates, an environmental risk section, and refined register and permit templates. Allow six to twelve months for a controlled transition.

If your company designs falsework or has an in-house temporary works design function, you need both parts. Expect to update calculation templates (especially wind), clarify whether schemes are delivered in permissible stress or limit state, and refresh training for designers and checkers.

If you are a client or principal designer, use Part 1 to set contractual expectations. The cost of imposing a proportionate, BS 5975-compliant temporary works regime at contract stage is trivial compared to the cost of fixing a broken one mid-project.

1.5 Key takeaways and actions

- Temporary works are engineered and must be managed as engineering, not improvisation.
- BS 5975-1:2024 is the practical route to CDM 2015 compliance for most companies; BS 5975-2:2024 is essential for falsework designers.
- Confirm within the next two weeks that your company has purchased the correct part(s) of BS 5975:2024 and that the current versions are held in your document control system.
- Schedule a DI/TWC briefing within thirty days to walk through the changes in Chapter 1.4.1 and 1.4.2 above.
- Identify the single change most at risk of being missed in your organisation — most commonly the environmental section or the refined check-category guidance — and assign an owner to close it.

Checklist 1.1 — Actions after reading Chapter 1

1. Confirm current versions of BS 5975-1 and, where applicable, -2 are held. 2. Issue a team briefing on the 2024 changes. 3. Audit your current procedure against the refined role descriptions. 4. Add an environmental risk section to your procedure. 5. Diary a twelve-month review date.

Chapter 2 — Legal and Regulatory Framework

Chapter summary

Temporary works sit inside an interlocking statutory framework. CDM 2015, the Work at Height Regulations 2005, PUWER 1998, the Workplace (Health, Safety and Welfare) Regulations 1992 and the overarching Health and Safety at Work etc. Act 1974 all apply. BS 5975 is not law, but it is the accepted means of demonstrating that these duties have been discharged competently. This chapter maps each duty to the practical actions expected of DIs, PCs, TWCs, designers and clients.

2.1 The UK statutory framework

No single piece of legislation is titled 'temporary works'. Instead, temporary works are captured by the general framework that governs construction activity, with specific regulations layered for particular hazards. The hierarchy is straightforward once understood.

2.1.1 Health and Safety at Work etc. Act 1974

The 1974 Act is the umbrella. Sections 2 and 3 place duties on employers to ensure, so far as reasonably practicable, the health, safety and welfare at work of their employees and of others who may be affected — which plainly includes those working on and near temporary works. Section 7 imposes parallel duties on employees. Most temporary works prosecutions rely on breaches of Sections 2 or 3, with detailed regulations providing the specific standard that was not met.

2.1.2 The Construction (Design and Management) Regulations 2015 (CDM 2015)

CDM 2015 is the central construction regulation. It allocates duties to the client, the principal designer, the principal contractor, designers, contractors and workers, from project inception through design, construction and hand-over. Every CDM duty has a temporary works dimension.

- Clients must make suitable arrangements for managing a project, including the control of temporary works risks arising from early design and procurement decisions.
- Principal designers must plan, manage, monitor and coordinate health and safety in the pre-construction phase, including the identification of foreseeable temporary works risks in the permanent design.
- Designers, including permanent works designers, must eliminate, reduce or control foreseeable risks that may arise during construction. This includes flagging permanent works features that require specific temporary conditions — back-propping regimes, sequential demolition, critical load transfer during alteration, or interfaces with existing structures.
- Principal contractors must plan, manage, monitor and coordinate health and safety during the construction phase. In practice this is where the TWC appointment, the company procedure, the register, the design brief process, the design check regime, and the permit system live.
- Contractors must plan, manage and monitor their own work, which includes their own TWC appointments where they manage their own temporary works, and alignment with the PC's procedure at interfaces.

2.1.3 The Work at Height Regulations 2005

The 2005 Regulations impose a hierarchy: avoid work at height where reasonably practicable; prevent falls where work at height cannot be avoided; and mitigate the consequences where a fall cannot be prevented. Much temporary works exists precisely to satisfy this hierarchy — scaffolds, edge protection, working platforms, stair towers, loading bays. Design and management of these must specifically satisfy Regulations 6, 7 and 8, and the selection of equipment must follow Schedule 2 to 6 of the Regulations.

2.1.4 The Provision and Use of Work Equipment Regulations 1998 (PUWER)

PUWER treats any work equipment — including falsework, props, excavation supports and lifting appliances — as requiring to be suitable for purpose, maintained, inspected and used only by trained persons. Inspection requirements for specific categories (scaffolds, excavations, lifting) are echoed in the more specialised regulations but PUWER is the backstop.

2.1.5 Other regulations that commonly apply

- The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) — wherever temporary works involve lifting appliances, crane bases, outrigger spreader arrangements, lifting frames, or temporary lifting attachments.
- The Control of Substances Hazardous to Health Regulations 2002 (COSHH) — grout, release agents, concrete dust, wood preservatives, and numerous materials used in temporary works.
- The Electricity at Work Regulations 1989 — for any temporary works in, on or near electrical apparatus. Critical in high-voltage environments; see Volume 2, Chapter 8 for detail.
- The Workplace (Health, Safety and Welfare) Regulations 1992 — access, lighting, falls and falling objects, and working environment in occupied parts of a site.
- The Building Act 1984 and the Party Wall etc. Act 1996 — particularly where façade retention, needling or underpinning affect third-party property.
- The Environmental Permitting (England and Wales) Regulations 2016 and equivalent devolved regulations — dewatering, discharges, waste and contamination.

2.2 How BS 5975 supports CDM 2015

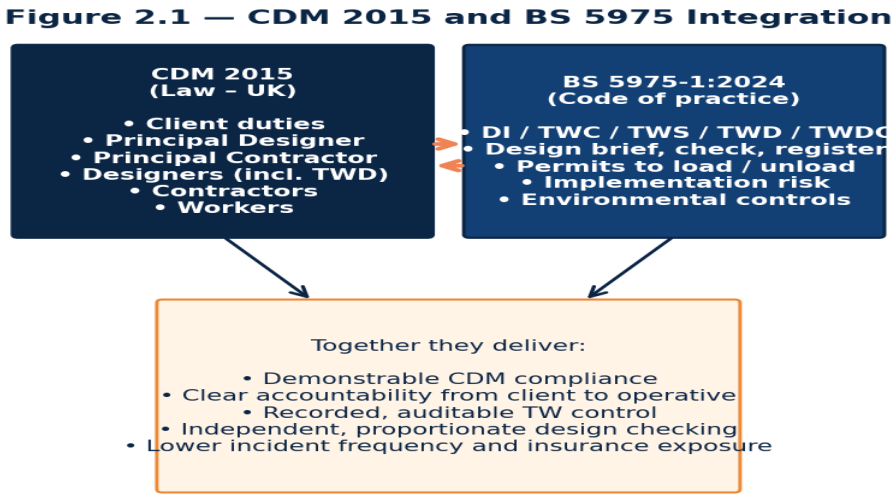


Figure 2.1 — The interaction between CDM 2015 (legal duties) and BS 5975-1:2024 (the practical means of discharging them).

CDM 2015 states what must be achieved. It does not prescribe how. BS 5975-1:2024 is the accepted 'how'. The relationship is symbiotic: CDM gives the legal duty to control temporary works risk; BS 5975 provides the systematic method of control that enforcement, insurers and courts recognise as competent.

In practical terms, every CDM duty translates into one or more elements of a BS 5975-compliant procedure. A client's duty to make suitable arrangements becomes the client's DI and the client-procedure references in contracts. A principal designer's duty to coordinate pre-construction risk becomes the temporary works pre-construction schedule and the interface information passed to the PC. A principal contractor's duty to plan and manage becomes the company TW procedure, the PC's TWC appointment, the register, the design brief process, the design check regime, and the permits. A designer's duty to eliminate or reduce risk becomes the design brief inputs and the residual risk information in the design output.

Departures from BS 5975 are not unlawful, but they must be justified. If, for example, a contractor adopts an equivalent procedure (such as a Network Rail or highway-authority-specific regime), that procedure must deliver outcomes at least as good as BS 5975. In practice, most bespoke regimes explicitly reference BS 5975 and then add.

2.3 Parallel legislation — international overview

For international readers and for UK consultants working abroad, the underlying principles of temporary works control are widely adopted but the local legislation differs. The following summary is indicative and must always be checked against current local law before deployment.

Jurisdiction	Primary legislation	Equivalent of CDM	Role of BS 5975
Republic of Ireland	Safety, Health and Welfare at Work Act 2005	Construction Regulations 2013 (S.I. 291/2013)	BS 5975 widely referenced as good practice

Jurisdiction	Primary legislation	Equivalent of CDM	Role of BS 5975
Australia	WHS Act 2011 (model)	Managing the work environment under state regulations	AS 3610 (formwork) and AS 1576 (scaffolding) dominate; BS 5975 principles aligned
New Zealand	Health and Safety at Work Act 2015	Principal designer/PCBU duties	Good practice guides reference BS 5975 principles
UAE / Saudi Arabia / Qatar	Local labour & civil defence codes	Client/consultant/ contractor duties in contract	BS 5975 often adopted by reference in specifications
USA	OSH Act and 29 CFR 1926	Not directly equivalent; designer duties lighter	ACI 347 (formwork) and ASCE 37 (construction loads) dominate
Singapore	Workplace Safety and Health Act	Factories Regulations, WSH Council codes	BS 5975 referenced in BCA guidance
EU member states	Framework Directive 89/391/EEC + Eurocodes	National transpositions vary	Eurocode EN 12812 covers falsework performance classes; BS 5975 principles remain useful

The universal engineering logic — competent design, independent checking, coordination by a named person, documented permits, inspection to drawings, controlled change and dismantling — applies regardless of jurisdiction. What varies is the specific statutory label and the specific design code.

2.4 Enforcement, liability and insurance consequences

2.4.1 Enforcement

The Health and Safety Executive (HSE) is the principal enforcing authority in Great Britain. Enforcement actions following temporary works incidents range from improvement and prohibition notices through to criminal prosecution. The typical investigation will review competence of appointees, the company procedure, the TW register, design briefs and outputs, design check certificates, permits, inspection records, change control records, and witness accounts of the sequence and authority under which the work was loaded and dismantled.

It is worth being blunt about what this means in practice. In any serious temporary works incident, the investigator's first paper request is for the TW register, the design brief, the design check certificate, the permit to load, and the inspection record. If these do not exist, or do not match what was built, the company's legal position is acutely difficult.

2.4.2 Liability

Civil liability following temporary works failure typically extends across multiple parties: the principal contractor, the contractor who erected the works, the temporary works designer, the design checker, and potentially the permanent works designer and client. Apportionment depends on the factual chain — who specified, who designed, who checked, who erected, who inspected, who loaded. The

documentation required by BS 5975-1:2024 is precisely the evidence that apportions liability correctly. Absence of documentation tends to concentrate liability on whoever did the work, regardless of whose instruction caused the failure.

2.4.3 Insurance

Contractor's all-risks (CAR), professional indemnity (PI), and public liability (PL) underwriters treat temporary works as a risk class of its own. Claims experience from the last twenty years shows that where a BS 5975-compliant regime is in place and properly executed, claim frequency and severity are materially lower. Premiums and limits of indemnity increasingly reflect this. A company without a demonstrable TW procedure, or with a procedure that is nominally in place but unevidenced in project records, may find some markets closed entirely.

2.5 Key takeaways and actions

- Temporary works duties are embedded in general construction legislation, chiefly CDM 2015, WAHR 2005, PUWER, LOLER and the 1974 Act.
- BS 5975 is not law but is the accepted means of discharging those duties; courts, HSE and insurers expect to see it.
- Ensure every client and contract reference in your company names BS 5975-1:2024 and, where falsework is involved, BS 5975-2:2024 explicitly.
- Audit your project records against the enforcement-readiness test: TW register, design briefs, design check certificates, permits, inspection records. If any of these are thin, act now.
- For international projects, always map the UK framework onto the local equivalent before mobilising. Engineering logic is universal; statute is not.

Checklist 2.1 — Legal readiness

1. Name BS 5975:2024 in your contracts and procedures. 2. Evidence DI and TWC appointments in writing. 3. Keep registers, briefs and permits for the statutory retention period. 4. Confirm training records for TWC, TWS and operatives. 5. Ensure your broker has seen your TW procedure at renewal.

Chapter 3 — Key Roles and Responsibilities

Chapter summary

BS 5975-1:2024 defines a clear chain of responsibility: every organisation appoints a Designated Individual (DI); every site has one TWC in overall charge; TWSs assist as required; temporary works designers produce designs; design checkers provide independent verification. Clients, principal designers and permanent works designers have integrating duties. This chapter sets out each role in detail, the competence expected, the appointment mechanics, and the authority to stop work that underpins the whole system.

3.1 Overview and the 'one person in charge' principle

The single most important idea in BS 5975 is that on every site, one named person carries overall responsibility for the coordination of temporary works. This is the principal contractor's Temporary Works Coordinator — the PC's TWC. The principle traces directly to the Bragg Report: without one person visibly in charge, temporary works slip through the gaps between trades, between designers and constructors, and between shifts.

Around that central role, every organisation involved in temporary works — client, permanent works designer, principal designer, principal contractor, subcontractor, temporary works designer, supplier — also has a senior person who owns their organisation's procedure and competence. This person is the Designated Individual (DI). The DI is not a site role. It is a company role, typically held by a director or senior manager who reports to the board.

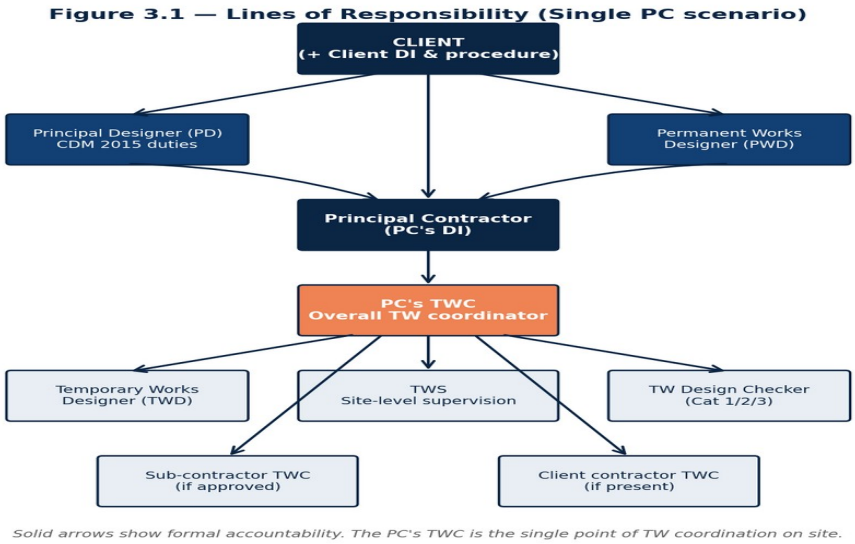


Figure 3.1 — Lines of responsibility where the principal contractor coordinates all temporary works on a single site.

3.2 Designated Individual (DI)

3.2.1 Purpose

The DI is the senior person in an organisation who owns the temporary works procedure, ensures it is implemented, and ensures that competent TWCs, TWSs and (where relevant) TWDs and TWDCs are

appointed. Every organisation with any temporary works involvement should have a DI. In small companies the DI may be the managing director; in large contractors it is typically a senior engineering or operations director.

3.2.2 Key duties

- Prepare, maintain and implement the organisation's procedure for the control of temporary works, including updating for BS 5975:2024.
- Ensure competent TWCs and, where appropriate, TWSs, TWDs and TWDCs are appointed to projects, in writing.
- Ensure those appointed have the authority, time, resources and protection from commercial pressure to discharge their role.
- Set competence criteria and ensure training and continuing professional development (CPD) are provided.
- Take final responsibility for their organisation's compliance with the procedure and for any departures approved within the organisation.
- In a principal contractor's organisation, ensure the PC's TWC has the authority and support set out in Section 8 of BS 5975-1:2024.

3.2.3 Competence

The DI does not personally need to be a design engineer. They do need to be senior enough to enforce the procedure across commercial and operational pressure, and technically literate enough to understand the outputs being signed off. In practice the DI should be able to interrogate a TW register, recognise when a design brief is inadequate, and know when to commission independent advice.

3.3 Temporary Works Coordinator (TWC)

3.3.1 The two TWC roles

BS 5975-1:2024 distinguishes two TWC roles:

- The PC's TWC. Appointed by the DI of the principal contractor, the PC's TWC has overall responsibility for the coordination of all temporary works on the site, regardless of which organisation is physically carrying them out.
- The contractor's TWC (the 'TWC' simpliciter). Appointed by the DI of a subcontractor or client-appointed contractor that is managing its own temporary works, this person coordinates their own organisation's temporary works and is accountable both to their own DI and to the PC's TWC.

On small sites with a single contractor, there is one TWC — that contractor's TWC will by default take the role of the PC's TWC.

3.3.2 Duties of the PC's TWC

Drawing from BS 5975-1:2024 Clause 10, the PC's TWC is responsible for:

- Being the single point of contact for all temporary works matters with the client, principal designer, temporary works designer, site team, and any contractor TWC.
- Implementing on site the principal contractor's procedure for the control of temporary works.

- Coordinating with any contractor TWCs that manage their own temporary works, and verifying those procedures are being implemented.
- Establishing and maintaining the TW register (or overseeing it where a contractor TWC maintains their own).
- Ensuring design briefs are prepared and adequate, and verifying the implementation of the TW design against construction-issue drawings and specification.
- Confirming the design check category and implementation risk class for items at interfaces between contractors.
- Issuing permits to load and unload, or delegating to a competent contractor TWC or TWS only where authority has been expressly granted.
- Stopping work where safety of the temporary works is at risk. This authority is absolute and overrides production pressure.

3.3.3 Duties of the contractor's TWC (not the PC's)

- Coordinating the temporary works activities of their own organisation.
- Providing the PC's TWC with the information needed to discharge the PC's TWC role — designs, design checks, approvals, briefs, registers as agreed.
- Managing interfaces under the direction of the PC's TWC.
- Stopping work within their own scope where safety requires.

The contractor's TWC is accountable both to their own DI, for implementation of their organisation's procedure, and to the PC's TWC, for coordination on the site. BS 5975-1:2024 is explicit that the PC's TWC remains ultimately responsible for the temporary works on site.

3.3.4 Competence

A TWC must be technically competent to understand the scope, risks and design content of the temporary works they coordinate; experienced enough to manage interfaces, change and site pressure; and trained in the company procedure. TWf-recognised CITB courses (the Temporary Works Coordinator Training Course — TWCTC) set a baseline, but a certificate is not competence. Competence is demonstrated by a combination of qualifications, training, experience on comparable works, and a portfolio of evidence that the DI can interrogate.

3.3.5 The authority to stop work

BS 5975-1:2024 is unambiguous: the TWC has authority to stop temporary works where safety requires it. This authority is essential. Without it, the whole procedure becomes advisory. The DI appointing a TWC must explicitly confer this authority in writing — typically in the appointment letter. The site manager, project manager and commercial team must all understand and respect it.

A practical warning: TWCs should never be put in the position of carrying day-to-day programme or commercial responsibility in parallel with the TWC role, because the conflict is real and has historically produced catastrophic outcomes. Where this is unavoidable on small sites, the DI must recognise the conflict and brief the TWC that their TWC role overrides their production responsibility.

3.4 Temporary Works Supervisor (TWS)

The TWS is the site-level deputy to the TWC. On larger or more complex sites, one or more TWSs are appointed to supervise specific temporary works items, carry out day-to-day checks, witness erection

and dismantling, and participate in permit issue where authorised. The TWS is a doer; the TWC is a coordinator.

3.4.1 Key duties of the TWS

- Monitor erection, use and dismantling of allocated temporary works against the certified design and method statement.
- Carry out inspections per the inspection and test plan, record the results, and escalate non-conformities.
- Verify that materials delivered match those specified — not a substitute grade, size or supplier.
- Witness loading, striking and dismantling operations; verify prerequisites are met (for example, concrete cube strengths for striking).
- Support the TWC in the issue of permits; where authorised, issue permits directly.
- Stop work where they observe a safety issue, and escalate to the TWC.

3.4.2 Competence

A TWS should have a robust site-engineering background, formal TWS training (the CITB TWSTC is a recognised baseline), and demonstrable familiarity with the types of temporary works they will supervise. The TWS is not expected to design, but should understand design intent sufficiently to recognise departure.

3.5 Temporary Works Designer (TWD) and Design Checker (TWDC)

3.5.1 The Temporary Works Designer

The TWD produces the temporary works design — calculations, drawings, specification, residual risk register. The TWD may be an in-house designer within the contractor, a designer within a specialist supplier, or a consulting engineer. The TWD is responsible for satisfying the design brief, using appropriate design codes, producing clear output, and flagging residual risks and construction assumptions.

BS 5975-1:2024 reinforces that the TWD should not merely produce calculations, but communicate the design intent — how the works are erected, loaded, maintained and dismantled safely. The designer's output is a principal source of the information passed through the TWC to the site team.

3.5.2 The Temporary Works Design Checker (TWDC)

For designs in Categories 1, 2 and 3 the design must be checked by a person or organisation at the appropriate level of independence. The checker is responsible for verifying that the design satisfies the brief, that appropriate codes and assumptions have been used, and that the design output is fit for construction. Under BS 5975-1:2024, the checker works from the brief and the design output and does not rely on the designer's calculations to construct their own check (except for Category 1, where process is more collegiate).

3.5.3 Independence of design checker

The independence required is driven by the design check Category, not by the implementation risk. The four categories are (paraphrased):

Category	Scope	Independence required
Cat 0	Standard manufacturer solutions; the check is a verification that the chosen standard solution fits the site conditions and is within its stated limits.	Another member of the site or design team, competent in selecting the standard solution.
Cat 1	Simple bespoke designs — for example, simple formwork, falsework without assumed top restraint, needling and propping to a brickwork opening in a single-storey building.	Another competent member of the same design team.
Cat 2	More complex or involved designs — foundations, excavation support where soil interpretation matters, structural steelwork connections.	A competent individual not involved in the design and not consulted by the designer.
Cat 3	Complex or innovative designs, or designs with complex moving or construction sequences, or with unusual analyses or significant departures from standards.	A competent individual in another organisation. Peer review is appropriate where consequence of failure is CFR3.

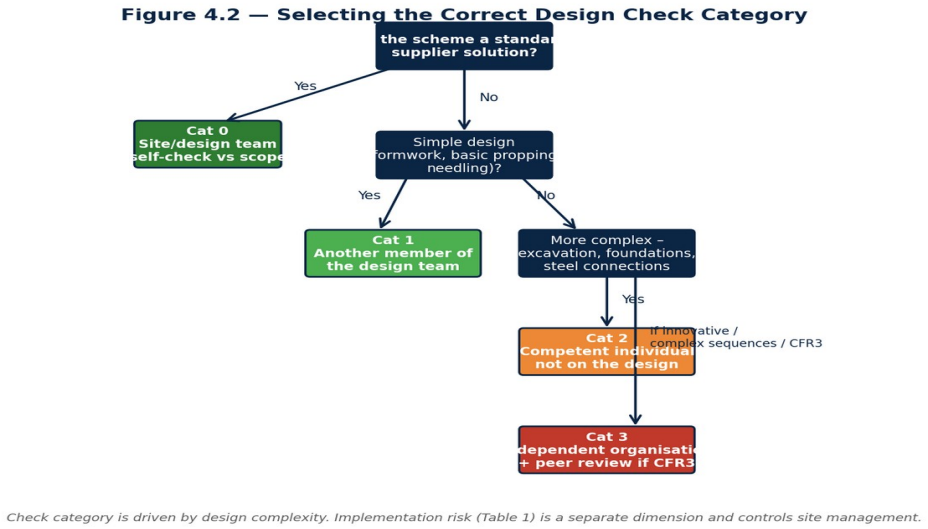


Figure 3.2 — Decision flow for selecting the design check category.

3.6 Clients, Principal Designers and Permanent Works Designers

3.6.1 The client

Clients have a procedural role in temporary works whether they realise it or not. Under BS 5975-1:2024 a commercial or public client should have a procedure, appoint a client DI, set out expectations on procurement and contracts, and — where the project is complex — participate in the initial temporary works procedures meeting. Where the client directly appoints contractors alongside the PC, the client must also set out how those contractors' procedures will interface with the PC's. Under CDM 2015 the client has a parallel statutory duty.

3.6.2 The principal designer

The principal designer plans, manages, monitors and coordinates health and safety in the pre-construction phase. Their temporary works role is principally about early risk — identifying where the

permanent design will create demanding temporary conditions (heavy one-off lifts, complex sequences, high-consequence interfaces with third parties, buried services, HV apparatus, or sensitive neighbours) and ensuring that information is passed to the PC.

3.6.3 The permanent works designer

The permanent works designer's temporary works duties are often underappreciated. They must state, in the design output, the loads and sequences that the permanent works assume during construction — back-propping regimes for slabs, partial-demolition stability, pre-stress release sequences, load paths in stage-by-stage erection, and critical cure or bond strengths. They must also flag where the permanent works is being used to provide support to temporary works (a common configuration in façade retention, for example), because that changes the verification they need to provide.

3.7 Competence, appointment letters and authority to stop work

Appointments must be in writing. An oral appointment, however senior the parties, is not evidence in an investigation. The appointment letter should state the role, the scope (site, contract, or area), the authority conferred (including stop-work authority), the lines of accountability (to which DI and, for a contractor's TWC, to which PC's TWC), the deputies or TWSs, and the training and CPD expectation.

Competence is evidenced by a combination of qualifications, training, experience and a portfolio of similar works. A blank CITB certificate on a CV is not enough. The DI must be able to point to specific projects where the individual has discharged the role and show what was done. For international projects, DIs should also confirm recognition of UK qualifications and equivalence with local requirements.

3.8 Responsibility matrix

The following matrix summarises common temporary works activities and the typical accountability (A — Accountable, owns the outcome), responsibility (R — Responsible, does the work), consulted (C) and informed (I) relationships. Matrices should be tailored to each project and agreed at the initial temporary works procedures meeting.

Activity	Client	PD	PWD	PC/DI	PC's TWC	TWD	TWDC	TWS	Contractor TWC
Set company TW procedure	I	I	I	A/R	C	I	I	I	I
Maintain TW Register	I	I	I	A	R	I	I	C	C
Produce design brief	I	C	C	A	R	C	I	C	R
Produce design	I	I	C	A	C	R	I	I	I
Independent design check	I	I	I	A	C	C	R	I	I
Issue Permit to Load	I	I	I	A	R	C	C	R	C

Activity	Client	PD	PWD	PC/DI	PC's TWC	TWD	TWDC	TWS	Contractor TWC
Inspect erected TW	I	I	I	A	C	C	I	R	R
Issue Permit to Unload	I	I	C	A	R	C	I	R	C
Dismantle to method	I	I	I	A	C	C	I	R	R

3.9 Key takeaways and actions

- One person — the PC's TWC — is in overall charge of site temporary works. Every DI, TWC, TWS and contractor TWC connects to this central authority.
- All appointments must be in writing, with explicit stop-work authority for TWCs and TWSs.
- Design check category is about design complexity; implementation risk class is about execution and consequence. They are distinct and both must be set.
- Permanent works designers have substantive temporary works duties under CDM — make sure their outputs include construction assumptions and critical loads.
- Build a project-specific responsibility matrix at the initial temporary works procedures meeting. Do not use a generic one without review.

Checklist 3.1 — Role readiness

1. DI appointed and training current. 2. PC's TWC appointed in writing with stop-work authority. 3. Competence evidence on file for every appointee. 4. TWS appointed where site complexity requires. 5. Responsibility matrix issued and agreed. 6. Designer and checker independence confirmed for each scheme.

Chapter 4 — The Temporary Works Management Procedure, Step by Step

Chapter summary

The management procedure runs from identifying a need, through design brief, design and check, permit to construct, erection, inspection, permit to load, use, permit to unload, and dismantle. The Temporary Works Register is the central living document. Each step has its own deliverable, its own owner, and its own evidence. This chapter walks through the cycle and shows how the documents connect.

4.1 The management cycle at a glance

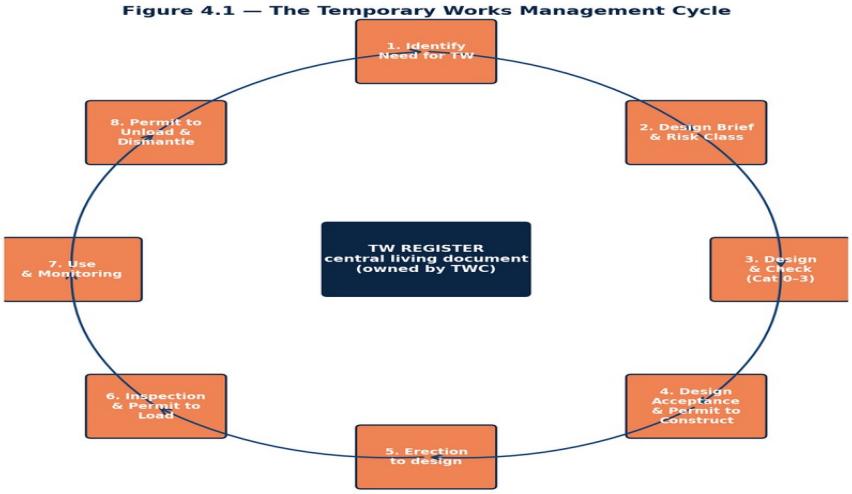


Figure 4.1 — The Temporary Works Management Cycle, centred on the TW Register.

The cycle is circular rather than linear, because projects generate many temporary works items running in parallel at different stages. Some items are in early design brief while others are in use and others again are being dismantled. The register keeps visibility on all of them at once. Think of the cycle as a discipline that applies to each item, while the register is the project-wide view.

4.2 Identifying the need for temporary works and the TW Register

4.2.1 Identifying the need

Need identification starts at the earliest possible stage — ideally during the principal designer's pre-construction planning, certainly no later than the PC's construction phase plan. It continues throughout the project as designs develop and as the sequence becomes clearer. Typical triggers include: any excavation; any work that requires access above 1.5 m or at ground level near a drop; any activity that requires support of wet concrete or the stability of a partially-built or partially-demolished structure; any crane lifting operation requiring a competent bearing or outrigger arrangement; any interaction with a third-party asset, utility or sensitive neighbour; and any transfer of load during construction that is not carried by the permanent structure in its final form.

A useful practical exercise at the start of a project is a temporary works walk-through of the programme and drawings with the TWC, permanent works designer, principal designer and a senior site engineer in the room. Every line on the programme gets asked, 'What is holding this up, holding this back, or getting us to it, during construction?' The answers populate the initial register.

4.2.2 The Temporary Works Register

The register is the single source of truth for all temporary works on a project. It lists every item, its location, its brief status, its designer and checker, its check category, its implementation risk class, its permit status, its inspection status, and its dismantling status. It is owned by the PC's TWC and kept live.

A minimum-content register includes the following columns:

- Unique reference and location.
- Description and type of temporary works.
- Design check category (0, 1, 2, 3) and implementation risk class (Very Low, Low, Medium, High).
- Designer and checker (company and named individual).
- Design brief status (date issued / accepted).
- Design output and check certificate references and dates.
- Permit to construct, load, unload, dismantle — dates and issuer.
- Inspection status and last inspection date.
- Current state — in design, in construction, in use, struck, dismantled, handed back.
- Any open actions or non-conformities.

A sample register template is provided in Appendix A.1.

4.3 The design brief

The design brief is the handshake between the people who need the temporary works and the designer who will provide them. It is owned by the TWC (or by a contractor TWC for their own scope) and issued formally to the TWD. It should be prepared in consultation with the project team, the permanent works designer, and — where the scope requires — third parties.

A good design brief states, at a minimum:

- Purpose and scope — what the temporary works are for, and what they are not.
- Site conditions — geometry, survey data, ground conditions (referencing the geotechnical report explicitly and including the reference and issue date), services, adjacent structures, known constraints.
- Loads to be supported — from the permanent works designer where relevant, including construction loads, wind, surcharge, plant, and dynamic allowances. It is better to give load data as ranges or scenarios than to guess a single value.
- Construction sequence assumptions — phasing, partial loading, curing times, re-entry of following trades.
- Interfaces with the permanent works — where the permanent works supports the temporary works, or vice versa, and any hold points on the permanent works programme.

- Third-party constraints — railway, highway, utility, party wall, environmental, planning conditions.
- Implementation risk class and design check category — initially proposed by the TWC, confirmed after consultation with the designer.
- Design codes to be used — BS 5975-2:2024, Eurocodes, client technical standards, or others as appropriate.
- Tolerances, deflection limits, durability requirements, and inspection access provision.
- Residual risk information required in the design output — including any site-specific warnings (HV clearances, clearance to operating rail, wind cut-off speeds).
- Outputs required — drawings, calculations, specification, method statement, lift plan if applicable, and handover record.

4.4 Design, check categories and design acceptance

4.4.1 Design

The TWD works to the brief. Where the brief is inadequate, the TWD must raise a query rather than make assumptions; if they must make assumptions, they must state them in the output. Common failure modes at this stage come from ambiguous ground conditions, unstated loads or sequences, and assumed but unchecked lateral restraint.

4.4.2 Design check

The check is not a peer review of calculations; it is an independent check that the design satisfies the brief and is fit for construction. Check categories are driven by design complexity:

- Cat 0 — Standard solution suitability check by another member of the site or design team.
- Cat 1 — Simple design, checked by another member of the design team.
- Cat 2 — More complex design, checked by an independent individual not involved in or consulted on the design.
- Cat 3 — Complex or innovative design, checked by a separate organisation. For CFR3 a peer review should also be implemented.

The checker should work from the brief and the design output, without constructing their check by reference to the designer's calculations. For Cat 2 and Cat 3 this independence is material and must be evidenced.

4.4.3 Design acceptance

On acceptance of the design and the independent check, the TWC issues — or procures from the relevant contractor TWC — a design and design check certificate. This is the signal that construction of the temporary works can begin, subject to any further permit controls. The certificate should reference the drawings and calculations, state the check category achieved, and list any residual assumptions and limitations.

4.5 Permits — construct, load, unload, dismantle

Permits are the gate mechanism that convert a 'designed and checked' temporary work into a 'usable' one, and then into a 'removable' one. The exact permit regime should be set in the company

procedure; at minimum most projects use Permit to Load and Permit to Unload. Some also use Permit to Construct (before erection) and Permit to Dismantle (before striking).

4.5.1 Permit to Load

Issued by the PC's TWC (or a delegated TWC/TWS with explicit authority) after confirming that:

- The works have been constructed in accordance with the certified design and specification.
- Inspection and test plan items are complete and any non-conformities are cleared.
- All hold points on the permanent works are satisfied (for example, cube strengths reached).
- The method statement and RAMS for loading are in place and briefed.
- Residual risks and limits on use are communicated to the site team.

4.5.2 Permit to Unload / Dismantle

Issued when the permanent works have attained the strength or stability required to do without the temporary works, and when a safe system of work for dismantling is in place. This is a critical gate that is frequently under-respected on site — early striking is a leading cause of collapse. The TWC must have the authority to refuse the permit until the prerequisites are demonstrably met.

4.6 Inspection, test plans and change control

An inspection and test plan (ITP) is prepared for each item, based on the design output. The ITP states what will be inspected, when, by whom, and to what criterion. Inspections are recorded. Any non-conformity stops the work until it is formally resolved, either by correction to match the design or by an approved design change.

Changes arise constantly on site — substituted materials, altered sequences, adjusted dimensions. BS 5975-1:2024 requires changes to be checked against the original design, accepted or rejected formally, and documented. A quiet substitution in the field — a different prop, a different sole plate size, a different timber grade — is one of the most common precursors to temporary works failure.

4.7 Interfaces and hand-offs

Interfaces are where temporary works fail in practice. The interface between the PC and a subcontractor managing their own TW; between two different subcontractors' scaffolds on opposite sides of a building; between a demolition contractor's façade retention and a follow-on groundworks contractor; between a TW designer's prop design and a scaffold supplier's loading tower design — every one of these is a known failure point.

BS 5975-1:2024 requires the PC's TWC to confirm the check category and implementation risk class for items at interfaces, and to coordinate with contractor TWCs actively. Good practice adds a lead designer appointment where more than one TWD is involved, and a lead checker where more than one checker is involved, so that overall structural robustness and interface coherence is checked as a whole.

4.8 Key takeaways and actions

- Populate the TW register at the earliest possible stage — do not wait until the first excavation is open.

- Design briefs are the handshake; a sloppy brief guarantees a sloppy design.
- Permits to load and unload are the gates that stop production overtaking safety.
- Changes must be formally controlled; quiet substitutions kill.
- Interfaces need named coordinators. Do not rely on goodwill.

Checklist 4.1 — Procedural readiness

1. TW Register live and updated weekly. 2. Design brief template in use for every item. 3. Check category and implementation risk set for every item. 4. Design and check certificates held before construction. 5. Permits to Load in place before any loading event. 6. Inspection records signed and filed. 7. Change control log maintained. 8. Interface coordinators named.

Chapter 5 — Risk Management and Implementation Risk

Chapter summary

Temporary works risk is three things combined: design complexity, execution risk, and consequence of failure. BS 5975-1:2024 uses these to arrive at an implementation risk class that drives the level of site control, and the design check category that drives the independence of checking. This chapter explains each concept, provides worked classifications, and covers load path, stability, common failure modes, and the new environmental risk expectations.

5.1 Three risks, not one

The most common error in temporary works risk management is treating risk as a single score. It is not. BS 5975-1:2024 — following the earlier PAS 8811:2017 framework — separates three distinct sources of risk that combine in different ways for different items.

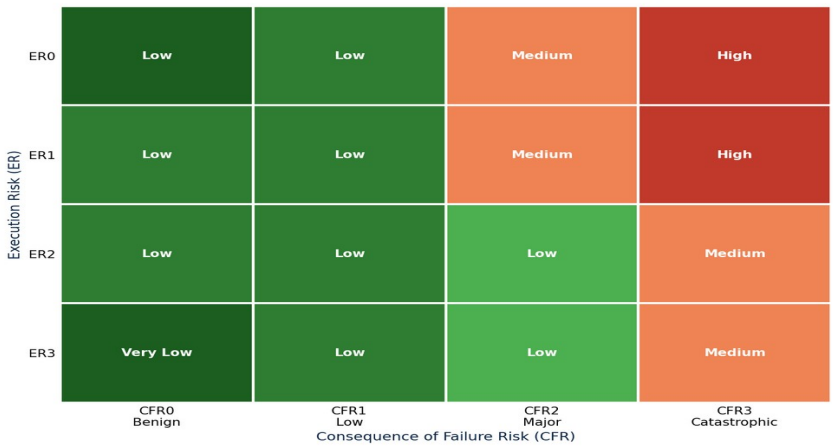
- Design Complexity Risk (DCR) — how intricate, innovative or novel the design itself is.
- Execution Risk (ER) — how susceptible the works are to failure in erection, use or dismantling, given workmanship, materials and operations.
- Consequence of Failure Risk (CFR) — what happens if the temporary works fails: nothing, inconvenience, injury, death, chain-reaction.

DCR drives the design check category (independence of checking). ER combined with CFR drives the implementation risk class, which governs site control. Treating them as one score under-protects high-CFR schemes with a simple design and over-protects complex schemes with benign consequences.

5.2 Implementation risk — BS 5975-1:2024 Table 1

Implementation risk is the combination of execution risk and consequence-of-failure risk, expressed as a class: Very Low, Low, Medium, or High. The company procedure should prescribe the management controls associated with each class — who must authorise, what inspection frequency applies, what level of senior oversight is required, what permit regime applies, and what stop-work triggers exist.

Figure 5.1 — Implementation Risk Matrix
(Execution Risk × Consequence of Failure Risk)



Implementation Risk = ER + CFR. High values require greater controls, more independent checking, and senior TWC authorisation.

Figure 5.1 — Illustrative implementation risk matrix combining Execution Risk and Consequence of Failure Risk.

Example controls for each class, which each company should tailor and document in its procedure:

Implementation risk class	Typical authorisations and controls
Very Low	TWS or competent site engineer authorises permits; routine inspection; self-check of standard solutions.
Low	TWC authorises permits; inspections per ITP; any change needs designer sign-off.
Medium	PC's TWC authorises permits personally; senior site management briefed; change control strict; stop-work authority actively exercised.
High	PC's TWC authorises with DI awareness; full pre-load review meeting; independent third-party involvement; peer review where CFR3; continuous monitoring during critical phases.

5.3 Consequence of Failure Risk (CFR)

CFR arises from what the temporary works is near, and what would be affected by failure. A simple propping scheme inside an empty single-storey warehouse is a different CFR from the same propping inside a partially-occupied hospital or adjacent to a live main line. The classification (CFR0 benign through CFR3 catastrophic with chain reaction) is set in consultation with the client, permanent works designer and any third parties.

- CFR0 — Benign. No significant impact even on failure (for example, a kicker shutter in an isolated area with no one nearby).
- CFR1 — Low. Failure would be inconvenient, entirely within site, personal injury unlikely.
- CFR2 — Major. Failure could produce fatalities, injuries or significant economic loss, but would not trigger a chain reaction of further major incidents.
- CFR3 — Catastrophic or chain-reaction. Failure would be catastrophic in its own right, or would initiate further major or catastrophic incidents (for example, progressive collapse, derailment, or loss of containment on critical infrastructure).

Reputational or programme consequences may justify raising the CFR above what a purely physical consequence would suggest. Clients on prestige or politically sensitive projects commonly adopt this approach.

5.4 Design Complexity Risk (DCR) and check independence

DCR drives design check category. The original BS 5975 table (Cat 0 to Cat 3) maps directly to DCR0 to DCR3. The TWf Clients' Guide extends this with DCR00 (temporary conditions that require no formal design because custom and practice and an industry safe system of work suffices, applicable only where CFR is 0 or 1) and DCR4 (abnormal and highly innovative designs beyond normal codes, or where CFR is 3).

The practical interaction is this: a simple design (DCR1) for a scheme in a high-consequence location (CFR3) needs Cat 3 checking because CFR3 automatically pushes the scheme to DCR4 under the TWf framework. Do not downgrade the check category just because the design looks simple.

5.5 Execution Risk (ER) and peer review

ER addresses the propensity for things to go wrong during erection, use or removal, largely driven by workmanship, materials, supervision, and whether the scheme has robustness and redundancy or depends on critical details.

- ER0 — No practical mode of failure and CFR2 or below even if it did.
- ER1 — Minor structures with high robustness and redundancy, CFR2 or below.
- ER2 — Conventional structures with CFR2 or below.
- ER3 — Schemes that depend on critical details, significant tension, or with little redundancy, or inherent instability; or any scheme with CFR3.

For any ER3 or CFR3 scheme, a peer review is appropriate in addition to the Cat 3 independent check. A peer review is broader than a check — it tests the overall concept, assumptions, interfaces and residual risks with a senior independent perspective.

5.6 Load path, stability and failure modes

Every temporary works design must establish a complete load path from the point of load application to competent ground, verified at every interface. Failure to trace this path end to end, or to verify one or more interfaces along it, is the underlying mechanism behind most temporary works collapses.

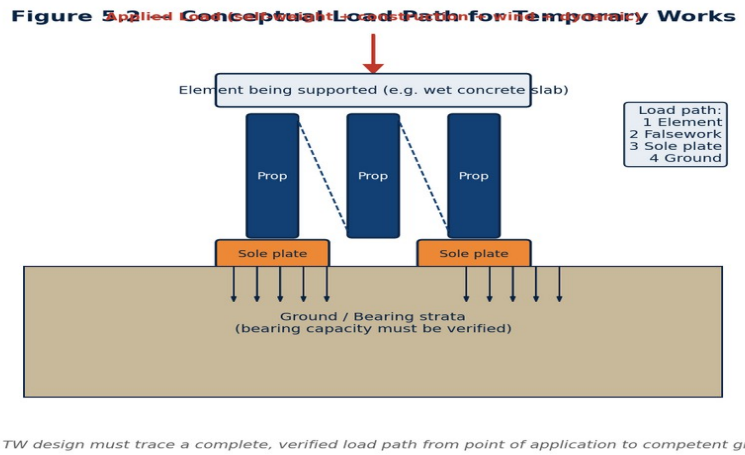


Figure 5.2 — Conceptual load path through a typical falsework arrangement.

Common failure modes to test against:

- Ground bearing failure — particularly where sole plates, pads or grillages sit on made ground, saturated ground, or ground of unknown provenance. Always require bearing pressure calculations and site verification.
- Overturning and sliding — particularly where wind, surcharge or eccentric loads are significant. Stability calculations must include realistic lateral load combinations.
- Buckling of compression members — props, shores, standards. Check effective length carefully and be explicit about lateral restraint assumptions.
- Connection failure — base plates, head plates, splices, ties. The weakest link often sits in a connection detail, not the main member.

- Dynamic and construction loads — pouring concrete is not a static load; plant traffic on working platforms is not uniform; loading sequences matter.
- Temperature, time and environmental effects — concrete maturity, thermal shrinkage, rain loading on sheeted scaffolds, wind uplift on hoardings.
- Unintended load paths — props that pick up load they were never designed for because a nearby element has deflected; back-propping sequences that concentrate on a single floor below.
- Change, substitution and wear — materials not as specified, plant larger or closer than assumed, damaged elements reused without check.

5.7 Environmental risk — new in 2024

BS 5975-1:2024 introduces explicit guidance on environmental risks associated with temporary works. This is a material change reflecting regulatory and client expectations that have tightened since 2019. Environmental risks to assess include:

- Flooding — risk to excavations, temporary works exposed during prolonged rainfall, dewatering discharges, and downstream consequences.
- Soil erosion and contamination — particularly during temporary works interventions in active earthworks, and reinstatement after dismantling.
- Water quality and discharges — dewatering and washings to watercourses, silt management.
- Noise, vibration and dust — especially near sensitive neighbours, ecological receptors and schools.
- Energy and carbon — the carbon intensity of temporary works materials (steel propping versus timber falsework, for example) and of running plant for temporary works operations.
- Biodiversity and habitat — temporary works footprints that affect protected species or habitats; seasonal constraints such as bird nesting.
- Waste minimisation — reusable equipment, designing for dismantling, avoiding cast-in temporary elements where not needed.

Environmental risks sit alongside safety, stability, buildability and programme in the TWC's decision making. They may affect CFR (for example, a chemical discharge from a failed dewatering system adjacent to a protected watercourse could be a CFR3). They will increasingly appear in client specifications and planning conditions.

5.8 Worked example — site risk classification

The following illustrative classification is for teaching purposes. All inputs are hypothetical and flagged as such; the example is not a design and must not be used on a real project without proper site data.

Illustrative example inputs (hypothetical)

A multi-storey urban redevelopment. Temporary works include: (a) a simple timber kicker shutter at ground level; (b) conventional proprietary falsework for a 3 m soffit slab pour in an internal zone; (c) a CFA-piled king-post retaining wall with waling and props supporting a 9 m excavation adjacent to a live Network Rail boundary; (d) façade retention to a Grade II listed elevation during demolition of the rear structure.

Item	DCR	ER	CFR	Implementation risk	Design check category	Notes
(a) Kicker shutter	DCR00	ER0	CFR0	Very Low	No design required (custom & practice)	Covered by safe system of work and method statement
(b) Proprietary falsework	DCR0 / Cat 0 scope	ER2	CFR2	Medium	Cat 0 (standard solution) + site check	Verify supplier limits; check ground bearing; permit regime applies
(c) King-post retaining wall	DCR3 / Cat 3	ER3	CFR3	High	Cat 3 + peer review	Third-party acceptance (Network Rail); full monitoring; independent Checker; DI awareness
(d) Façade retention	DCR3 / Cat 3	ER3	CFR3	High	Cat 3 + peer review	Interface with demolition; party wall and heritage; TW lead designer appointed

The illustration makes several teaching points. Item (a) is properly managed without a formal design because it is genuinely trivial and has no significant consequence; forcing it through a full design regime is a waste of resource. Item (b) is a simple standard solution but must be treated as Medium implementation risk because the internal location implies people nearby and economic consequence if the slab pour were lost. Items (c) and (d) both escalate to High implementation risk because of the CFR3 consequences — proximity to a live railway and to a listed façade respectively — notwithstanding that the designs, while complex, are not particularly novel.

5.9 Key takeaways and actions

- Separate your three risks: DCR drives check category; ER and CFR combine to drive implementation risk class.
- CFR3 pulls everything upwards — if the consequence is catastrophic, the check should be Cat 3 and a peer review should be considered regardless of how simple the design looks.
- Trace every load path end to end and verify every interface.
- Add the new environmental section to your company procedure and your design brief template.
- Use a structured worksheet like Appendix A.5 for every scheme — do not rely on memory.

Checklist 5.1 — Risk readiness

1. DCR, ER and CFR set for every item. 2. Implementation risk class documented in the register. 3. Design check category independently confirmed. 4. Peer review arranged for CFR3 / ER3 items. 5. Load

path traced and interfaces verified. 6. Environmental risk section completed in each design brief.

Appendix A — Sample Templates (Volume 1)

These templates are starting points. Tailor them to your organisation, your project and the specific item. Do not treat any template as a substitute for engineering judgement. Electronic versions suitable for editing in Word and Excel are available to TWC clients on request.

A.1 Temporary Works Register — starter template

Ref	Location	Description / type	DCR / Cat	ER / CFR / Risk class	Designer / Checker	Brief date	Design date	Check date	Permit to Load	Permit to Unload	Status
TW-001	Grid A1-A3, L00	Kicker shutter	DCR00	ER0 / CFR0 / VL	Site / Site						Managed by MS
TW-002	L02 slab	Proprietary falsework	Cat 0	ER2 / CFR2 / M	Supplier X / Site engineer						
TW-003	North boundary	King-post wall + props	Cat 3	ER3 / CFR3 / H	Consultant Y / Consultant Z						
TW-004	Facade elevation E	Retention scheme	Cat 3	ER3 / CFR3 / H	Specialist A / Specialist B						

A.2 Design Brief — structure and prompts

A design brief should as a minimum address each of the following headings. Use this list as a prompt when preparing a brief for a new scheme.

1. Project and scheme identification — project name, TW reference number, location, TWC issuing the brief, designer receiving it.
2. Purpose and scope — what the temporary works are for, operational and safety objectives, what is explicitly outside scope.
3. Site conditions — geometry, survey references and dates, ground conditions (GI report reference and issue date), services plans, adjacent structures and owners, known constraints.
4. Loads and actions — self-weight, construction loads, wind (design basis), surcharge, plant, dynamic effects, imposed load combinations.
5. Construction sequence and phasing — pours, lifts, partial loading, hold points, curing or bond-strength gates.
6. Interfaces — with the permanent works, with other temporary works, with third-party assets.

7. Third-party constraints — railway, highway, utility, heritage, environmental, planning conditions.
8. Implementation risk class and design check category — initial proposal by TWC, confirmed after consultation.
9. Design codes — BS 5975-2:2024, Eurocodes, client technical standards as applicable, and which approach (permissible stress or limit state).
10. Tolerances, deflection limits, durability, maintenance and inspection access.
11. Residual risk information required in the output and specific warnings (HV clearances, rail clearances, wind cut-off speeds, environmental limits).
12. Deliverables — drawings, calculations, specification, method statement, lift plan if applicable, handover record.
13. Programme — brief issued, design due, check due, permit to construct required, permit to load required, dismantle.

A.3 Permit to Load — sample

Field	Entry
Project	
TW Register reference	
Description and location	
Design reference (drawings and calcs)	
Design check certificate reference and date	
ITP complete and non-conformities closed	YES / NO
Permanent works hold points satisfied (e.g. cube strength)	
Method statement and RAMS briefed	Date / briefing attendees
Residual risks and limits on use communicated	YES / NO
Permit issued by (name, role, signature, date)	
Permit received by (site foreman, signature, date)	
Permit valid until / conditions	

A.4 TWC and TWS Appointment Letter — sample wording

[Company letterhead]

[Date]

[Name of appointee]

[Address]

Subject: Appointment as Temporary Works Coordinator for [Project Name]

Dear [name],

Under the company's Temporary Works Procedure [reference], and further to your competence assessment dated [date], I am pleased to confirm your appointment as the principal contractor's Temporary Works Coordinator (PC's TWC) for [project name], with effect from [date].

In this role you are responsible to me, as Designated Individual, for the implementation on site of the company's temporary works procedure, and for the coordination of all temporary works on the site in accordance with BS 5975-1:2024.

Your authority specifically includes:

- Full authority to stop any temporary works activity where, in your professional judgement, the safety of those works or of any person would be at risk.
- Authority to issue Permits to Load, Unload and Dismantle in accordance with the company procedure.
- Authority to require the PC's site management and any subcontractor to comply with the procedure.

You have my unconditional support in the exercise of this authority. Production pressure, commercial pressure or programme pressure are not reasons to compromise the integrity of the temporary works.

You will be supported by [names of TWSs] as Temporary Works Supervisors, to whom specific activities may be delegated under your direction.

Your continuing professional development is expected to include [list], with a formal annual review.

Please countersign and return a copy of this letter.

Yours sincerely,

[DI name and title]

Acknowledged and accepted: _____ Date: _____

A.5 Implementation Risk scoring worksheet

Use this worksheet for every scheme. Attach it to the TW register entry.

Field	Entry / Guidance
Scheme reference and description	
Consequence of Failure Risk (CFR0 to CFR3)	Consider location, occupancy, third parties, environment, reputation
Design Complexity Risk (DCR00 to DCR4)	Consider novelty, interfaces, departure from standards
Execution Risk (ER0 to ER3)	Consider workmanship, materials, robustness, redundancy, critical details
Implementation risk class (Very Low / Low / Medium / High)	Combine ER and CFR; escalate to High for CFR3 or ER3

Field	Entry / Guidance
Design check category (Cat 0 to Cat 3)	Driven by DCR; for CFR3 consider peer review even for simpler designs
Third-party approvals required	List and status
Environmental considerations	Flooding, discharge, noise, carbon, biodiversity
Monitoring during use	Frequency, responsible person, instrumentation if any
Stop-work triggers	Wind speed, movement thresholds, water level, as applicable
Prepared by / date	
Reviewed by PC's TWC / date	

End of Volume 1

This concludes Volume 1 — Foundation. Volume 2 covers design principles drawing from BS 5975-2:2024, the comparison with Eurocode approaches, and worked design examples for falsework, formwork, scaffolding, excavation support, hoardings, crane bases and access platforms. Volume 3 provides the flagship ten-step procedure-writing guide, case studies, future-trend discussion including BIM and digital twins, and the full library of appendices, glossary, references and index.

If this volume has been useful to you, please note the following about how to get it out of the document and into practice.

- Run a two-hour internal workshop with your DI, TWC and two TWSs, using the Chapter 4 procedural cycle and Chapter 5 risk framework as the syllabus.
- Audit your current TW procedure against Chapter 1.4 within thirty days.
- Update every appointment letter on current projects against Appendix A.4.
- Insert the environmental risk section (Chapter 5.7) into your design brief template immediately.

Temporary Works Consulting is available to support your company in implementing or upgrading a BS 5975:2024-compliant procedure, training your TWCs and TWSs, and delivering independent CAT I, II and III design checks, particularly in high-voltage and other high-risk environments. Contact details are held separately.

— End of Volume 1 —