Loss Prevention Standards – Asset Class(es)

Temporary Works - Introduction

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Temporary works are used to describe a wide range of activities and structural procedures/elements used on construction sites to facilitate the main works.

This Loss Prevention Standard provides an outline of the main Temporary Works, examining the regulatory requirements, key roles and the checks that should be undertaken to help reduce and manage risk exposures.

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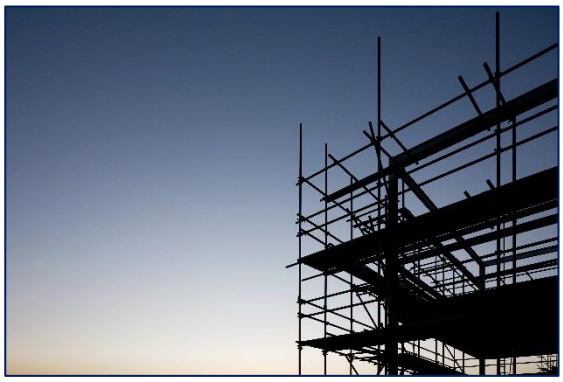
Introduction



Temporary works are present to some degree on almost all construction projects and range from basic shoring/propping works to the erection of large and complex earth retaining structures.

Hazards presented or exacerbated by temporary works include:

- **Collapse.** As illustrated by a trench collapse incident in London in April 2024.
- **High winds.** As per a scaffolding collapse incident at a shopping centre in Kent in December 2023.
- **Flooding.** Temporary drainage can lead to a flooding fluvial incidents.
- **Fire.** Temporary works introduces additional hazards such as battery charging, flammables liquids/fuels etc.
- **Safety risks.** Workers are exposed to injury from collapsing or failing works.

Definition

Temporary works are defined in BS5975 Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework as those parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works. Examples of temporary works include, but are not limited to:

- **Earthworks.** Trenches, excavations, temporary slopes, and stockpiles.
- **Structures.** Formwork, falsework, propping, shoring, scaffolding, temporary bridges, temporary supports, site hoarding etc.
- **Equipment.** Tower cranes, hoists, bases, supports, anchors, and ties etc.
- **Groundworks.** To provide suitable locations for plant erection, haul roads, in-situ working platforms etc.
- **Temporary buildings.** Welfare and office units.

Management of Temporary Works

As with all construction works, careful risk management and compliance with regulatory requirements can help to reduce the potential for loss or damage and **BS 5975** and HSE SIM Guidance The Management of Temporary Works in the Construction Industry provide recommended guidance on the management controls, design, specifications, construction, dismantling of temporary work.

A **Temporary Works Procedure** is the recommended means of recording and managing the associated risks and should include:

- **Temporary Works Co-ordinator (TWC).** Responsible for reviewing the scheme and the requirements for temporary works, ensuring temporary works procedures are implemented on site, and ensuring temporary works design are suitable and achievable for the works.
- **Temporary Works Supervisor (TWS).** Responsible for overseeing and ensuring the safety and stability of temporary structures used, permits to load/dismantle etc., within construction projects. Typically employed on larger sites to assist the TWC.
- **Design Brief.** Provides information/data on the individual temporary works required for use by the designers.
- **Temporary Works Design.** Undertaken by specialist Consultants, suppliers of equipment etc., and include Risk Assessment, calculations, specifications, drawings etc.

- **Temporary Works Register.** Includes key information e.g. designer, design checker, permit to load/dismantle, design related dates, category of design, description of works, brief number, key installation dates.
- **Design Checks.** Carried out by specialist Consultants, suppliers of equipment etc., prior to the temporary works commencing to include issue of a design or design check certificate.
- **Inspection and Monitoring.** Includes a pre-erection inspection of the materials and components as well as regular inspections of the erected temporary works.

For smaller contractors that do not directly employ experienced persons, appropriate external expertise should be engaged to ensure temporary works are effectively designed, implemented, and managed.

The TWC, or other person assuming duties and the CDM Co-ordinator should liaise and co-operate to ensure both the permanent works and temporary works are compatible and are not adding stresses or instability to the structure under construction.

Temporary Works Design

The design of temporary works should be categorised to indicate the complexity of the temporary works as below:

- ✓ Simple/low risk: e.g. standard scaffolding, hoarding up to 1.2m high, formwork/falsework up to 1.2m high, simple propping schemes with 1 or 2 props, etc.
- ✓ More complex/Medium risk – e.g. simple design scaffolding, hoarding up to 3m high, formwork/ falsework up to 3m high, excavations up to 3m deep, more complex propping schemes at a single level, etc.
- ✓ Complex/High risk – e.g. complex scaffolding, hoarding/formwork/ falsework over 3m high, excavations over 3m deep, complex propping schemes at multiple levels, crane bases, façade retention etc.

The above are examples only and all temporary works require careful design consideration to help prevent potential failure. The choice of category is discussed in **BS5975** and **HSE SIM Guidance: The Management of Temporary Works in the Construction Industry**.

Design Checks

The temporary works designs should always be checked for accuracy, strength and structural adequacy and alignment with the design brief prior to the temporary works commencing.

Recommendations for four categories of design check are given in **BS5975** and **HSE SIM Guidance The Management of Temporary Works in the Construction Industry**:

- ✓ 0 - Standard Solutions only and not original design calculations, specifications etc.
- ✓ 1 - Simple designs only using suppliers information, compliance with recognised standards or other guidance.
- ✓ 2 - More complex designs requiring in-depth analysis, a degree of interpretation and design work.
- ✓ 3 – Complex or innovative designs for unusual works involving departure from normal methods.

The design check for category 2 should be carried out by an independent competent person not involved in the design, and not consulted by the designer, with appropriate knowledge depending on the category and complexity of the works. Design checks for category 3 should be checked by an organisation independent of the designer, and designs checks for categories 0 and 1 can be carried out by another member of the design team. In some instances, category 0 checks can be carried out by site personnel provided they have suitable qualifications and experience.

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Sources and Useful Links

- BS5975 Code of Practice for Temporary Works Procedures and the Permissible Stress Design of Falsework
- The Construction (Design and Management) Regulations 2015
- The management of temporary works in the construction industry SIM 02/2010/04

Note: Whilst UK standards and legislation are referenced in this document, other international standards and legislation should be referenced where applicable.

Additional Information

Relevant Loss Prevention Standards include:

- **Managing Contractors**
- **Temporary Buildings and Structures**
- **Cranes**

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