JUPITER PRIME
Consulting • Training • Advisory
جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Temporary Works Design: Formwork, Falsework and Safety Course

25 – 29 October 2027
Singapore

Temporary Works Design: Formwork, Falsework and Safety Course

Ref: 662_24694 **Date:** 25 – 29 October 2027 **Location:** Singapore **Fees:** 9300 GBP

Temporary Works Design: Formwork, Falsework and Safety Course is a 1-week training course for structural engineers, temporary works coordinators, and site engineering leads, who leave with an operational Temporary Works Design and Safety Dossier. Rising structural complexity and demanding pour cycles require rigorous engineering verification to prevent catastrophic collapse and ensure worker safety. Jupiter Prime Training runs this course on Temporary Works Design: Formwork, Falsework and Safety.

Why Temporary Works Design: Formwork, Falsework and Safety Matters Now

Three principal forces shape temporary structures today: heightened safety oversight regarding falsework stability, rapid casting programmes that compress stripping schedules, and the digital transition toward automated multi-system layout modelling. Organisations that calculate concrete pressures accurately and govern falsework alterations systematically protect site personnel, control structural deflections, and prevent commercial disputes; those that omit rigorous design checks face sudden shore collapses, costly project delays, and severe liability. The course grounds temporary structural decisions in the procedural governance of BS 5975:2019, the permissible pressure and stripping baselines of ACI 347R-14 and ACI SP-4, and the limit-state requirements of BS EN 12812:2008 and PAS 8812.

Who Gains Most from Temporary Works Design: Formwork, Falsework and Safety

- Structural and civil engineers who calculate lateral formwork pressures and verify falsework load paths
- Temporary works coordinators who compile design briefs and maintain the site temporary works register
- Construction managers and site agents who oversee casting operations and evaluate permit-to-pour submissions
- Safety leads and inspection engineers who audit working platforms, edge protection, and access scaffolding
- Formwork draughtspersons who produce detailed layout schemes, tie configurations, and assembly drawings

Site management teams that send the temporary works coordinator alongside the lead structural engineer gain most, as they can establish aligned design check protocols and robust field sign-off workflows together.

Temporary Works Design: Formwork, Falsework and Safety Capabilities

Participants master the structural analysis, procedural control, and field inspection required to deliver safe, stable, and code-compliant temporary installations on complex construction sites.

- Calculate lateral fresh concrete pressures for diverse pour rates and admixtures — structural design engineers
- Assess falsework capacity and multi-tier shore stability against permissible load limits — temporary works coordinators
- Design modular vertical and horizontal formwork assemblies that control deflections — construction draughtspersons
- Weigh concrete maturity data and field curing conditions to issue stripping clearances — resident site agents
- Specify fall prevention systems and perimeter protection for elevated platforms — site safety managers
- Build documented procedural registers and independent design check categories — temporary works appointed persons

Key Temporary Works Design: Formwork, Falsework and Safety Terms

- Falsework — any temporary structural framework used to support a permanent structure, materials, plant, or personnel during construction until self-supporting.
- Lateral concrete pressure — the horizontal thrust exerted by freshly placed, unhardened concrete against vertical form faces during placement and internal vibration.
- Design Check Category — a risk-based classification defined under BS 5975:2019 establishing the degree of independence required for temporary works verification.
- Permit to Load — a formal signed clearance certifying that a temporary works structure is fully erected and inspected before receiving construction loads.
- Permit to Strike — a verified sign-off confirming that permanent concrete has attained adequate compressive strength before forms and shores are removed.
- Reshoring — placing temporary props securely beneath stripped structural concrete slabs to support superimposed construction loads from upper levels.

Temporary Works Design: Formwork, Falsework and Safety Day by Day

Day 1: Engineering Fundamentals and Regulatory Governance

- BS 5975:2019 Procedural Controls — Establishing Statutory Roles and Duty Boundaries
- Design Brief Formulation — Capturing Permanent Works Interfaces and Operational Loads
- Design Check Categories — Assigning Risk Levels from Zero to Three
- Temporary Works Register Management — Tracking Clearances and Safety Certification Status
- Infrastructure Case Analysis — Commercial Basement Shoring and High-Rise Core Forms

Day 2: Vertical Formwork Pressure and Wall System Design

- ACI 347R-14 Pressure Formulations — Calculating Horizontal Concrete Thrust Under Vibration
- Impact of Modern Admixtures — Evaluating Retarders, Accelerators, and Self-Consolidating Blends
- Panel and Tie System Selection — Sizing She-Bolts, Walers, and Strongbacks
- Digital Layout and Takeoff Modelling — Generating Accurate Quantities Using Specialist Software
- Tolerances and Deflection Limits — Preventing Permanent Surface Imperfections and Blowouts

Day 3: Falsework Structural Stability and Shoring Analysis

- BS EN 12812:2008 Limit-State Principles — Applying Partial Safety Factors to Falsework
- Prop Buckling and Effective Lengths — Assessing Slenderness Ratios in Modular Towers
- Lateral Stability and Bracing — Resisting Environmental Wind Forces and Asymmetric Concrete Placement
- Multi-Storey Reshoring Schedules — Distributing Dead and Imposed Loads Across Multiple Slabs
- Heavy Civil Falsework Verification — Supporting Bridge Decks and Thick Transfer Plinths

Day 4: Worksite Safety, Fall Protection, and Field Inspection

- Elevated Working Platforms — Installing Toprails, Midrails, and Toeboards to Stringent Criteria
- Fall Arrest Anchorage Requirements — Evaluating Five Thousand Pound Capacity Tie-Off Points
- Crane Handling and Wind Limits — Rigging Large Gang Form Panels Safely
- Inspection Protocols — Identifying Component Damage, Incomplete Pinning, and Eccentric Loading
- Sign-Off Governance — Implementing Strict Permit to Load and Strike Procedures

Day 5: Practising Design Verification and Procedural Handover

- Reviewing Engineering Submittals — Cross-Checking Calculation Packages Against Site Conditions
- Simulated Pre-Pour Audit — Identifying Non-Compliant Shoring and Inadequate Bracing
- Concrete Maturity Evaluation — Determining Minimum In-Situ Strength for Shore Removal
- Stripping Hazard Assessment — Preventing Premature Deflection and Early-Age Structural Cracking
- Temporary Works Design and Safety Dossier — Consolidating Calculations, Check Sheets, and Permits

Applying Temporary Works Design: Formwork, Falsework and Safety After the Course

- Audit the active site temporary works register to confirm that every erected assembly possesses an approved Design Brief, Check Certificate, and formal Permit to Load.
- Calibrate formwork striking schedules by establishing field concrete maturity logging to replace arbitrary calendar-day stripping assumptions across all active pours.

Temporary Works Design: Formwork, Falsework and Safety Questions FAQ

What is temporary works design: formwork, falsework and safety, and why does it matter now?

It is the discipline of engineering and managing temporary load-bearing systems used during construction. It matters now because fast-track schedules, dense reinforcement, and complex structural architectures demand verified calculations and procedural checks to eliminate collapse hazards and safeguard personnel.

Which roles gain most from temporary works design: formwork, falsework and safety training?

Structural designers, temporary works coordinators, project engineers, and safety professionals gain most. Site leaders and package managers also benefit, as reliable temporary works governance requires coordinated technical evaluation across design, commercial planning, and site supervision.

How does this course differ from general construction health and safety training?

General safety training addresses broad site hazards and regulatory behaviour. This course concentrates directly on the structural mechanics, pressure calculations, falsework stability, and engineering sign-off frameworks required to design, erect, verify, and dismantle temporary structural systems safely.

What do you bring back from temporary works design: formwork, falsework and safety training?

You bring back a complete operational manual containing design brief templates, pressure calculation spreadsheets, risk-categorised check sheets, and verified permits to load and strike that integrate immediately into field quality and safety procedures.

Temporary Works Design: Formwork, Falsework and Safety: The Way Forward

The Temporary Works Design and Safety Dossier immediately guides the calculation review and risk-category assignment for the next structural pour. Project engineers, temporary works coordinators, and safety supervisors use its inspection templates to govern field handovers. After completing the first high-load casting cycle, revisit the falsework deflection records to refine shore spacing and post-pour inspection criteria across future packages.