Home Builders Health and Safety Forum

Generic Scaffold Specification Template

Contents

Purpose

This guide has been prepared by the Home Builders Health and Safety Forum to improve the quality of scaffold structures on home building sites and to enable scaffolding contractors to consistently apply appropriate standards.

The document is intended for use by Health and Safety Forum members companies that have a responsibility for the management, use, monitoring and provision of scaffolding.

Forum members have agreed that they will develop their own management systems so that the principals of this specification can be implemented in their own organisations. It may be the case that some will have individual requirements which go beyond these minimum standards.

1.0 Scope

1.1 This specification identifies the minimum requirements and standards for scaffolding on homebuilding developments. For the purposes of this specification 'the Company' will be the Employer/Principal contractor and the 'Contractor' will be the designated scaffolding contractor.

1.2 Where a scaffold design and stability calculations are required, these must be undertaken by a competent person. An erection, use and dismantling plan must be drawn up i.e. method statement, including design drawings of scaffold requirements.

1.3 Where permitted system scaffold should be erected and dismantled in accordance with the manufacturers or suppliers user guide. This must be available to the scaffolders on site and a copy held in the site office. Any proposed alterations or modifications to the manufacturer's user guide should be designed by a competent person.

2.0 Standards

2.1 All scaffolds must be constructed in accordance with the current relevant BS, EN, Construction (Design and Management) Regulations, Work at Height Regulations, and Industry Technical Guidance notes (i.e. TG20 and SG4), irrespective whether or not detailed in this specification.

2.2 Consideration must be given to the wind loadings on scaffold, in particular BSEN 1991 1-4 Eurocode and the structure designed and constructed accordingly.

2.3 Any anomalies between this specification and current health and safety regulations should be notified in writing by the Contractor to the Company.

2.4 The Contractor should be satisfied that the area is clear of debris and the ground is suitable for the construction of the scaffold. The erection of scaffold signifies that the Contractor is satisfied that the ground is suitable for the erection of the scaffold. Designs should specify leg loads to assist the Company to maintain the correct ground condition.

2.5 Setting out will be the responsibility of the Contractor in agreement with the Company, and on consideration of the site traffic/pedestrian management plans. Particular attention must be given to door openings, so clear access is available, the locations of loading bays/ladders/staircases, and balconies.

2.6 The number of scaffold lifts per plot or housetype will be determined by the company on a site by site basis.

3.0 Materials

3.1 The Contractor must ensure that all materials are satisfactory for use, have not been subject to deterioration, conform to the relevant British Standards (BS) and European Standards (EN).

3.2 For system scaffolds, materials must comply with the National Access & Scaffolding Confederation (NASC) code of practice for the hire, sale and use of system scaffolds.

3.3 All components for system scaffolds must comply with BS 12810:2003 and be able to withstand all loadings as described in the manufacturer's user guide.

3.4 All scaffold tubes must be galvanised and comply with BS EN 39:2001 and to be marked in such a way as to identify the scaffolding company who own them.

3.5 All scaffold boards must be inspected to the standard of BS 2482:2009.

3.6 All scaffold fittings must comply with BS EN 74-1:2005.

4.0 Timber Frame Construction

4.1 All scaffold structures for timber frame construction must be designed accordingly so that the stability of a scaffold is achieved by independent means i.e. other than ties to the building or structure. A competent scaffold designer should be employed by the Contractor who will detail the measures to be put in place to take into account the stability of the scaffold and any wind forces it may be subjected to. Stability can be achieved via a number of measures including self-weight, additional guys, anchors, outriggers or kentledge.

4.2 The Contractor is required to provide a detailed design, including plan and elevations, and will include details of bay size, lift heights, allowable loads, bracing positions, loading bay positions, leg loads and tie locations/detail.

4.3 If during the construction phase the design needs to be altered and the structural stability of the scaffold is likely to be affected, the contractor must ensure the design is reviewed by the scaffold designer and if necessary revised design details issued.

4.4 Scaffold for timber frame construction must be set as close to the structure as practicable and adequate external and internal fall prevention measures must be in place.

4.5 Where the scaffold structure is being built progressively together with the erection of the timber frame building, ties to the ring beam of the timber frame can be used provided the building manufacturer or company has given approval for their use and can accept any loads imposed by the ties.

5.0 Scaffold Base

5.1 All scaffold standards must be placed upon suitable base plates and sole boards, regardless of ground conditions.

5.2 Sole boards must be a minimum of:

- On hard ground – 450mm x 225mm x 35mm
- On soft ground – 760mm x 225mm x 35mm

5.3 Base plates and sole boards must be provided on, level ground and must be able to be inspected at all times.

5.4 Where working platforms/birdcage scaffolds are erected on suspended, and or beam/block floors are permitted, sole boards must be installed.

6.0 Ladder access to Working Platforms

6.1 Where proprietary/scaffold staircases are not erected, the maximum height to a working/intermediate platform via a ladder should not exceed **4m** (max 5m length) and comply with BSEN 131.

6.2 Where ladders are provided for access these should be parallel to the façade and must benefit from a self-closing gate or other protective means at the entry point to the working platform.

6.3 If internal ladders are provided, the access points through the working platform should be designed as such to prevent unprotected openings. Where openings are unavoidable these should be protected with a hatch or other appropriate means of preventing falls through the access point (clearly marked). Where a ladder protrudes through a working platform, the remaining width of the platform must be at least 450mm (two boards) x 600mm long maximum.

6.4 All ladders should be positioned, where possible, on the opposite elevation to the loading bay to assist in the safe management of vehicle and pedestrians.

6.5 Ladders must be adequately secured, to prevent sideways and outwards movement, at the correct angle of 75° and extend 1.05m above any landing point.

6.6 All ladders to scaffolding are to be supplied by the Contractor. The Contractor will also take responsibility for the maintenance of these ladders, with due considerations for normal wear and tear.

7.0 Scaffold Ties and Bracing

7.1 Scaffolds for home building with elevations less than **10.5m** in length and no more than **6m** in height (working platform) can be erected as a progressive access scaffold as detailed in Appendix A. It is recognised that a table lift may be erected which may be above 6m to complete gable ends etc.

However, this may not be appropriate on exposed sites subject to the effects of wind and the scaffold must be tied or rakered if partial dismantling of any elevation is likely to take place.

Scaffolds must benefit from façade bracing on the outside standards to the full height at intervals no greater than six bays, and ledger bracing fitted to alternate pairs of standards at all lifts unless a transom device approved by the company is fitted which by design removes the requirement to provide bracing.

7.2 If the criteria in 7.1 cannot be met then the scaffold must be secured to the supporting structure and/or rakers installed and the method confirmed as part of the plan for the work i.e. method statement. Any ties must commence within 3m of the base of the scaffold and at least 50% of ties must be fixed to ledger braced standards.

7.3 Any tube and fitting scaffolds which are between 6m and 15m must be constructed in accordance with the design criteria detailed in TG20. All scaffolds above 15m must benefit from strength/stability calculations and specific design.

7.4 Suitable tying patterns are defined with the latest edition of TG20, the relevant system scaffold user handbook and/or the design drawing. Ties may only ever be removed/replaced/repositioned by the contractor with any such movement recorded and incorporated within hand over certificates and design drawings as appropriate. The contractor must ensure that the removal/repositioning of ties does not affect the structural stability of the scaffold, this may necessitate revised design calculations.

7.5 Ties must be evenly distributed over the scaffold (horizontally and vertically), connected to both the inside and outside standards and, as a minimum, must be fitted;

i on alternate standards.
ii at alternate levels with a maximum vertical level of 4m.
iii at the top platform level for sheeted and debris netted scaffolds.

7.6 All concrete/masonry anchors that are used for the installation of scaffold ties must be tested in accordance with a proof load of 1.25 times the required tensile load of 6.1kN. There should be a minimum of 3 anchors tested per scaffold or 5% of total number of ties whichever is the greater. Confirmation of the tests must be arranged by the Contractor and provided to the Company.

7.7 A standard tensile load of 6.1kN x 1.25 must be used as a minimum for anchor ties, unless a greater proof load as otherwise stated by design and wind loadings as stipulated in TG20 or as detailed in relevant system scaffold manual is required.

- Light duty ties are ties with a safe load in tension of 3.5kN
- Standard ties are ties with a safe load in tension of 6.1kN
- Heavy duty ties are ties with a safe load in tension of 12.2kN

8.0 Working Platforms

8.1 All scaffolds must be set out so that working platforms are close boarded and where reasonably practicable there are **no gaps in excess of 25mm**. (It is accepted for example that on a 4:2 configuration, the gap between the main working platform and the inside boards can be 50mm providing an assessment of risk is undertaken and where required the scaffolder provides additional protection such as, scaff gap or debris netting, to prevent materials falling on persons who may pass underneath).

8.2 All working platforms or access points must benefit from appropriate edge protection, which includes:

- Top guardrail must not be fixed at a height less than 950mm and secured to every standard with load bearing couplers.
- A mid/intermediate rail so that the gap between it and other means of protection does not exceed 470mm and secured to every standard with load bearing couplers.
- Toe boards shall be suitable and sufficient to prevent the fall of any person, any material or object. In all cases toe boards must be a minimum of 150mm in height from the working platform, secured to all standards with a minimum of two fixings to each toe board to prevent any movement.

8.3 The standard configuration for a homebuilding scaffold is a class 3 General purpose scaffold and the required configuration will be confirmed by the Company prior to commencement of work or will be in accordance with system scaffold manual.

Load Class	Uniformly distributed load on platform kN/m^2	Max number of platforms in use (udl kN/m^2)	Max bay length (mm)	Max spacing boards transoms (mm)	Max number of boards
3	2.00 (inside boards 0.75)	One full (2.00) and one half (1.00)	2100	1200	4+1 4+2 5+1 5+2

8.4 Working platforms must be set as close as practicable to the structure and should aim to be less than 225 mm away from the building.

8.5 Internal guardrails on tube and fitting scaffold:

- where internal service gaps in excess of 225 mm are present between the working platform and structure (including at door and window openings) then double guardrails must be installed on the inside standards and any work within the handrail be controlled by appropriate safe systems of work, supervision and training (depending on the service gap). The service gap must be managed at all times

8.6 Internal guardrails on system scaffold:

- Where possible all hand rails should remain in place and rough casting etc. should be conducted from behind the guardrails.

- Guardrails can be removed by a scaffolder for rough casting operations etc. where gaps are up to but not exceeding 225mm.

- Where neither of the above methods are possible then reducing the hop up by 1 board is acceptable, provided that there is another set of hop ups on the lug directly below, closing the potential fall from height. Hop-up's in these circumstances can be removed/replaced by competent persons.

8.7 Scaffold boards which are secured (or handrails or toeboards) must be installed by the Contractor and secured at window/door openings where there is a gap which exceeds 225mm and there is a risk of fall.

8.8 Brick guards must be provided by the Contractor on all working lifts which are secured to the handrails and lateral movement prevented. They must be capable of supporting the weight of any materials liable to fall against them. This can be achieved by a proprietary handrail system if this is deemed appropriate.

8.9 The maximum distance from the eaves to a working platform provided for access and fall protection for roofers is **450mm**. This may be altered by the Company especially on steep pitched roofs, and this height may be reduced or additional guardrails required.

8.10 The external working platform should be set as close as reasonably practicable to the height operatives will be working i.e. top of floor joists etc. However, where reasonable practicable there should not be a fall in excess of **1000mm** to the working platform. In some cases additional handrails may be required around the perimeter of the work location if the fall is deemed excessive and this will be at the instruction of the Company. A hop/step must be provided by the Contractor to enable access to the work location.

8.11 Any internal fall prevention/protection measures adopted should where possible be provided prior to the erection of the external scaffold lifts.

8.12 The top of internal standards should be flush with any working platform, where this is not possible they should protrude a minimum of 1m and be capped by the Contractor. Standards must not be left protruding through birdcage scaffolds. The platforms must be free of tripping hazards.

8.13 All handover certificates to detail working loads on all working platforms.

9.0 Scaffold Boards

9.1 Boards for use in system scaffolds should conform with manufacturer's instructions.

9.2 Boards for tube and fitting scaffolds must be 38mm x 225mm and end bands must be fixed using nails or staples along the side or edge of the board and teeth, staples or nails may be used to secure the ends.

9.3 Knots or knot clusters on the face of any board shall not exceed 1/3rd the board width at any cross section. Knots on both edges of the boards shall not exceed 28mm and there shall be at least 150mm of clear timber along the board length between knots.

9.4 Any board that has a split that is more than 12mm deep and 225mm in length must not be used. Splits of less than 225mm may be repaired using nail plates. Note: Splits running across the face of a board are not permitted.

9.5 Short boards (less than 2.14 metres long) are to be secured to prevent displacement.

9.6 Other than at returns of scaffolds, lapped boards are to be avoided as far as reasonably practicable.

9.7 The scaffold boards on the internal edge of the working platform must be secured to prevent becoming dislodged at a minimum of two points along the length of the board.

10.0 Loading Bays

10.1 All loading bays should be constructed to a design either as detailed in TG 20 or as in the appendices to this template. This includes garages where the main loading bay cannot be utilised.

10.2 The design for a standard home building tube and fitting scaffold is for a maximum load of 2no 1.5 tonne pallets of material acting on one lift at any one time, and a maximum load on the adjacent working platform of 2.0kn/m² acting on one lift at any one time.

10.3 For system scaffold, loading bays must be constructed to the design detailed in manufacturer's instructions. If the manual does not have a loading bay design then one is to be designed by a competent person.

10.4 All loading bays must be fitted with brickguards and loading bay gates that protect operatives from the exposed edge when in an open position and prevent falls of operatives and/or materials when in a closed position. Maximum loading signs should be fixed to the gates.

10.5 All loading capabilities to be detailed in handover certificate.

11.0 Truss Racks

11.1 A suitable truss rack should be provided by the Contractor when instructed by the Company. If a freestanding rack is provided it should meet the detail in Appendix D of this specification or alternatively a design approved by the Company.

12.0 Waste Chutes & Material Hoists

12.1 Where requested by the company, the contractor will provide suitable waste chutes with a proprietary hopper which is secured to the scaffold by an appropriate and approved bracket.

12.2 All material hoists to be installed in accordance with the suppliers guidelines and by competent persons.

12.3 Scaffold design competent person to be consultant before moving machinery is to be connected to the scaffold and written clearance given. This can achieved at the clients brief.

13.0 Bridging for Access to the Structure.

13.1 Where requested by the company, the contractor will erect the scaffold so that access can be maintained to the structure via for example a door opening.

14.0 Erection/Dismantling Procedures

14.1 Prior to commencement of operations a detailed safe system of work for the erection, alteration and dismantling of all scaffold (including loading bays) must be submitted by the Contractor in sufficient time for it to be reviewed by the Company. This must include details of arrangements for emergencies i.e. rescue of someone who falls whilst attached to a harness etc.

14.2 Where the erection of system scaffolds is being undertaken, the specific manufacturer's erection guide must be available on site, with a copy provided to the Company.

14.3 Scaffolds should be erected/dismantled using collective fall prevention systems such as advanced guardrails or step-up devices where reasonably practicable. The type of technique to be used is to be detailed in the method statement for the erection of scaffold.

14.4 All scaffolding erection/dismantling/alteration works to be carried out in accordance with the latest version of SG4

14.5 Harnesses should be visually inspected daily by the user and a weekly inspection must be undertaken and recorded, these records must be available for inspection on each site. Harnesses should be thoroughly examined by a competent person every three months with evidence presented to each development on which the Contractor is engaged.

15.0 Temporary Covering Materials

15.1 Where materials are fixed i.e. debris netting, monoflex, advertising signage to the structure, the scaffold must be designed by a competent engineer who will evaluate potential wind loading and the requirement for ties. The materials i.e. debris netting, monoflex, advertising signage must be secured to the outside of the standards by the use of a system which is designed to snap on 50kn of force.

15.2 Where required by the company flexible materials used to clad scaffolding may need to conform with the requirements of Loss Prevention standard LPS1215 such as on timber frame construction

16.0 Incomplete Scaffolds

16.1 The Contractor **must** provide a system of identifying incomplete working platforms. Where working platforms are deemed incomplete by appropriate signage, access to the working platform must also be prohibited by the Contractor by removing the access point, or providing a physical barrier e.g. ladder lock.

16.2 The Contractor must ensure that access to locations; being erected, modified or dismantled are controlled and this is to include protection to those at the base of the structure.

17.0 Training and Supervision

17.1 All Scaffolders both labour only and supply and erect must have been trained and accredited to the Construction Industry Scaffolders Record Scheme (CISRS) for the particular scaffold being erected i.e. either tube & fitting or system scaffold. The following levels of accreditation are permitted;

- CISRS Labourers Card only for those assisting trained scaffolders i.e. drivers or loading out from ground level. (Labourers are only allowed to work at ground level, or on a fully completed working platform).

- CISRS Trainee Scaffolder – Only applicable to those working with a qualified scaffolder, and is going through a process to complete part 1, training for tube & fitting. Card is only valid for 18mths from date of issue.

- CISRS Scaffolder – Must hold the required card for the type of scaffold being erected i.e. system or tube & fitting or working towards accreditation via the approved route.

- The erection of all design scaffolds outside the scope of this specification must be supervised on-site by a scaffolder with a CISRS advanced scaffold card.

- For system scaffold each operative must provide evidence that they have undergone a minimum two day training course appropriate to the system scaffold being erected on site.

17.2 Any Contractor engaged in the erection and dismantling of proprietary working platform systems, must have received formal training as defined by the manufacturers/suppliers, this must include a practical demonstration/assessment.

18.0 Handover of completed Structures/inspections

18.1 A handover certificate must be provided by the Contractor every time a scaffold is erected, altered or modified. The structure is not deemed satisfactory until a competent person (this must be someone independent of who has undertaken the erection) has carried out an inspection and completed the statutory register.

18.2 Handover certificates must refer to relevant plots or drawings, permitted working platform loadings and any specific restrictions on use.

18.3 The Contractor must be in a position to provide an inspection service for scaffolds if required by the Company.