TECHNICAL MANUAL

PART 3

BUILD-ZONE ON SITE

Version 1: 24/07/2017

Part 3 – Build-Zone on Site

3.1 Risk Management

Build-Zone, via BZSS, risk manages new, converted and, refurbished homes and commercial premises under construction, with the aim of reducing the possibility of latent defects being incorporated within the new home.

During the quotation process, each development will be assessed on its merits, taking into account the complexity of the site, its environment, the type of construction being adopted and the capabilities and expertise of the builder or Developer.

During the build process, BZSS instructs a team of Approved Inspectors & Surveyors (Technical Auditors) who target key areas and stages of the build to achieve a programme of risk management.

Once the development has been registered and the premium and Technical Audit fees have been received by Build-Zone, BZSS will appoint a Technical Auditor (and Building Control if this service is selected) to proceed with the audit of the build.

Before commencement of the build, they will liaise with you to discuss the project. At this stage they will need to discuss the development as a whole, your programme of works, the method of construction being used, the site etc. to ensure that they have a full understanding of what you want to achieve. They will also request from you a full copy of the drawings and specification to enable a plan check to be started. Following this initial contact, the Technical Auditor will agree with you the stages at which they need to attend site.

No programme of risk management inspections can eliminate all risks but the stage inspection aides-memoire later in this section should help to:-

- Reduce uncertainties on difficult sites
- Minimise the risk of defects being undetected
- Help reduce claims for you in the Defects Insurance Period and for Build-Zone afterwards, thus ensuring that premiums are kept low
- Increase satisfaction for the building user

The number of inspections is initially set based on the information that was provided to Build-Zone at the quotation stage. The inspection regime follows a series of construction stages identified as areas where inspections can assist in the reduction of latent defects.

If during the course of the build the programme changes, there are delays or some aspects of the work fail the Warranty or Building Control requirements, additional visit(s) will be required and these will be at the cost of the Developer.

Not all stages will necessarily need to be inspected by the Technical Auditor as this will depend on whether they are carrying out Warranty Technical Audits only or the combining Warranty Technical Audits and Building Control function. Where the Technical Auditor is not the Building Control Body, Build-Zone may require the survey reports undertaken by The Building Control Body as part of the general audit of the build.

In normal circumstances, the Technical Auditor will require adequate notice (normally 2 working days) for the required inspections so that there is an opportunity to inspect the build to ensure that key stages are not missed and works covered up. If works are covered up due to the Technical Auditor not being notified in time, Build Zone may require opening up works, investigation work or independent surveys to be undertaken at the cost of the Developer.

Inspections are in the main planned so that all significant structural and weather penetration elements are checked. Even where the Local Authority or a non partnered Approved Inspector inspects, in order for the Warranty to be issued on completion of the build, the appointed Technical Auditor will still need to carry out inspections at the agreed stages.

	CONSTRUCTION STAGE	INSPECTION BY		
		LABC/AI	Warranty TA	COMBINED BC/TA
	Plan Check – Site and Construction Overview	X	X	X
01	Foundations	X	X	X
02	DPC/Oversite		X	X
03	Superstructure at Wall Plate *or*	X	X	X
03A	Timber frame erected and roof structure completed		X	X
04	Roof Structure (wind and weather tight) *or*			
04A	Timber frame erected - external cladding started		X	X
05	Pre Plaster – First fix			X
06	Post Plaster – Second fix			
07	Completion	X	X	X

Build-Zone will always carry out a physical inspection on the first foundation excavated; any further physical foundation inspections will be based upon the Technical Auditor's risk assessment of the site conditions and the amount of foundations pulled on a plot by plot basis.

Further physical inspections will be carried out to all plots during construction. A copy of the site investigation will be required before work commences on site, to include details of Contamination issues.

Please contact the Technical Auditor a minimum of 48 hours (2 full working days) prior to commencing a plot's foundation excavation. The final completion inspection should be arranged 5 days in advance. Should the plot not be ready for a completion visit, please cancel the inspection as soon as possible so as to avoid wasted visits. All aborted visits or where the site is not at the agreed stage will require a further visit at additional cost. Due to the complexity and speed of some developments, especially in the early stages of a project, fees already paid to Build-Zone may be utilised to allow an additional visit to be undertaken so as not to affect the ability of Build-Zone to issue their Warranty.

It is the responsibility of the Developer to arrange all visits at the appropriate time and to liaise with the Technical Auditor as to the progress of the build.

To reduce the risk of defects being incorporated in the completed building, the following aides-memoire have been provided, covering all stages listed above. Each list indicates the elements of construction that should have been completed satisfactorily by the nominated stage. The list is indicative only and due to the nature and complexity of differing builds, elements will change.

The sheets allow the Developer to check the works in progress as well as providing an insight into what aspects of construction the Technical Auditor will want to check.

Following an inspection, the Technical Auditor will complete an inspection report for Build-Zone indicating the plots and stages inspected. The Warranty Technical Audit Report is for the benefit of Build-Zone and their Insurers only and cannot be released to the Developer or other Third Party without the express agreement of Build-Zone.

If current acceptable building standards are not being met (either from a Warranty or Building Control perspective), a Remediation Notice will be issued highlighting areas that require attention, these are a further guide to assist in reducing the risk of defects. The Remediation Notices highlight areas of concern, which if not addressed may affect the final issue of the Warranty.

Work that is not acceptable to Build-Zone will require rectification before the Warranty can be issued. Any outstanding issues on completion will be reviewed by Build-Zone who may at their discretion issue the Warranty with endorsements or exclusions.

The aides-memoire are on the following pages.

3.2 Plan Check: Site and Construction Overview

Whilst this is not a warranty key stage, some information may be confirmed in pre-construction discussions or at Stage 1

PLAN CHECK: SITE AND CONSTRUCTION OVERVIEW CHECK LIST
General Housekeeping – BZSS's appointed Technical Auditor will check the basic site details with the site manager to ensure that both the site and the Technical Auditor's records are identical, with regard to plot numbers, site address, and contact details etc. Site wide elements - the Technical Auditor will discuss the type of construction to be adopted together with general observations on the ground conditions, foundation type, and site wide elements.
Technical Auditor will review and discuss with the Developer the principles of the development on the following issues: • Construction type - traditional or non-traditional, (some non-traditional forms of construction are not suitable for insurance purposes under the Build-Zone Warranty and should have already been discussed with Build-Zone) • Exposure conditions of the site and whether they have been considered in the design • Are there any rooms to be constructed below ground (habitable or non-habitable)? Review construction details, tanking, means of escape. • Ground conditions - type of subsoil - water table level - contaminants, gas etc. - shrinkability if clay and trees present or removed - foundation design (standard / engineered) - difficult site conditions e.g. sloping site - land drainage required
• Miscellaneous - Certification required at the end of the project - Discuss site programming - Agree site visit regime
General – The Technical Auditor will review in more detail the construction process / details proposed and establish areas of higher risk, to aid the risk management of the project and establish future programmed visits.
Foundations reviewed in detail to establish the type and design: • strip • raft • piled • other • existing ground obstructions • sulphates in the ground (cement considerations) • differential settlement within the foundations (existing/new), day joint connections where planned
Tanking: • are there any walls to be tanked or require tanking • are there any basement areas and what is proposed to prevent water ingress, attention to detailing of junctions • structural design, wall, floor construction • ventilation, fire resistance and means of escape in case of fire • services passing through and land drainage around perimeter • correct tanking system is specified according to ground conditions and water table

PLAN CHECK: SITE AND CONSTRUCTION OVERVIEW CHECK LIST
Drainage: • mains drainage, foul and surface water • MH size and location, gradients and protection • non-mains drainage • septic tank / treatment plant / cesspool • size and location - vehicular access required • outfalls and porosity tests • soakaways - size, location and ground conditions (porosity tests) • land drainage
Ground floor type: • ground bearing • beam and block or similar type • cast in situ concrete • timber
External wall type: • masonry cavity / solid • timber frame • steel frame • concrete frame / panel • other
External wall insulation: • full fill • partial fill • clear • other
Movement joints: • location • type / design
Internal wall • partition walls • type – loadbearing / non loadbearing • foundations • party walls • masonry • solid • cavity • dry lined or dense plaster • timber framed • metal framed • other Design to comply with Approved Document E or other approved guidance depending on Country - consideration to details, joints and junctions.

PLAN CHECK: SITE AND CONSTRUCTION OVERVIEW CHECK LIST
Upper floors: • floor type - timber, concrete, other - spans - fire resistance - insulation **Party floor:** • floor type - timber, concrete • sound performance - density or isolation Design to comply with Approved Document E or other approved guidance depending on country - consideration to details, joints and junctions.

3.3 Foundations – Warranty Key Stage

Failure to review this stage by BZSS's appointed Technical Auditor will have implications for Build-Zone in issuing the Warranty

FOUNDATION TO GROUND FLOOR – STAGE (01) CHECK LIST
General - items checked will cover the quality of build and structural stability of the structure which is set on the new foundation General Housekeeping – the Technical Auditor will check the basic site details with the site manager and collect remaining information to enable the Plan Check to be completed if not already done so. Technical Auditor to review construction process / details proposed and establish areas of higher risk, to aid the risk management of the project and establish future programmed visits
Foundations in place and constructed to comply with the Building Regulations and/or the relevant British Standards, checks made: • strip and mass fill • raft • piled • other • existing ground obstructions • presence of sulphates in the ground • differential settlement within the foundations (existing/new), day joint connections
Basements: • ensure that all tanking is correctly installed and linked to the DPC and DPM of the above ground structure • review construction of basement including placement of reinforcement
Drainage: **Underground drainage system positioned and constructed to comply with the Building Regulations and/or the relevant British Standards, checks made:** • mains drainage, foul and surface water • MH size and location, gradients and protection • non-mains drainage • septic tank / treatment plant / cesspool • outfalls and porosity tests • soakaways - size, location and ground conditions (porosity tests) • land drainage • water/air pressure testing of laid system It is noted that the drainage system may not be ready to inspect at this stage. It is the Developer's responsibility to arrange for all of the drainage system to be tested and certificates provided to the Technical Auditor.
Floors - all floor substructures in place and constructed to comply with the Building Regulations and/or the relevant British Standards, checks made for: • Timber - size, centres, spans and grading of joists- fixings and bearings - multiple and trimming members- adequate ventilation - restraint straps and noggins • concrete - size and bearing of units - damaged units - no cavity obstructions - trimming of openings • adequate support to internal partitions • service entries filled • all DPCs linked to suitable DPMs

3.4 DPC/Oversite – Warranty Key Stage

Failure to review this stage by BZSS's appointed Technical Auditor will have implications for Build-Zone in issuing the Warranty

DPC/OVERSITE STAGE – (02) CHECK LIST
General - items checked will cover the quality of build and structural stability / future weather integrity of the structure from foundation to ground floor level.
Basements: Ensure that tanking is correctly installed and linked in to the DPC and DPM of the above ground structure**.**
Load bearing walls from foundation to DPC: • bricks and blocks below DPC • selection of bricks • resistance to ingress of moisture
Floors - all floor substructures in place and constructed to comply with the Building Regulations and / or the relevant British Standards, checks made for: • timber - size, centres, spans and grading of joists - damaged units - fixings and bearings - multiple and trimming members - restraint straps and noggins - all DPCs linked to suitable DPMs • concrete - size and bearing of PC units - no cavity obstructions - trimming of openings/service penetrations • Sub floor ventilation installed - adequate support to internal partitions - service entries filled - all DPCs linked to suitable DPMs
Walls - all walls to be plumb and structurally stable, checks made for: • masonry - DPCs lapped and bedded on a smooth joint - DPCs in place around all openings - wall ties correctly specified and placed - joints filled and consistent in width and height - cavities free of debris

3.5 Superstructure at Wallplate *or* Timber Frame Erected and Roof Structure Completed – Warranty Key Stage

Failure to review this stage by BZSS's appointed Technical Auditor will have implications for Build-Zone in issuing the Warranty

SUPERSTRUCTURE AT WALL PLATE – STAGE (03) CHECK LIST
General - items checked will cover the quality of build and structural stability / future weather integrity of the structure from DPC to upper floor level.
Floors - all floor substructures in place and constructed to comply with the Building Regulations and / or the relevant British Standards, checks made for: • timber - size, centres, spans and grading of joists - damaged units - fixings and bearings - multiple and trimming members - restraint straps and noggins - all DPCs linked to suitable DPMs • concrete - size and bearing of units - no cavity obstructions - trimming of openings • party floors - joints filled - correct density - junctions detailed • adequate support to internal partitions • service entries filled • all DPCs linked to suitable DPMs
Walls - all walls to be plumb and structurally stable, checks made for: • masonry - restraint straps and noggins in place - DPCs suitably lapped and bedded on a smooth joint - DPCs in place to all openings - insulation correctly situated, secured and clean - wall ties correctly specified and placed - joints filled and consistent in width and height - lintel bearings correct and beam supports checked - cavities clear and free of debris - cavity trays and associated weep holes installed • timber / steel frame system - sole plate preparation and fixing adequate - plumb - correct specification used in make up - cavity barriers correctly located - damage, notching and drilling of members - wall ties and lintels suitable for purpose - breather membrane intact - lintels and bearings adequate • internal walls - built off adequate support - masonry joints filled - bonding adequate

TIMBER FRAME ERECT / SIP PANEL AND ROOF STRUCTURE COMPLETE – STAGE (03A) CHECK LIST
• timber / steel frame system - sole plate preparation and fixing adequate - plumb - correct specification used in make up - cavity barriers correctly located - damage, notching and drilling of members - wall ties and lintels suitable for purpose - cavity trays and associated weep holes installed - breather membrane intact
Walls - all walls to be plumb and structurally stable, checks made for: • internal walls - sole plate preparation and fixing adequate - built off adequate support - masonry joints filled where required - bonding adequate - lintels and bearings • walls, general - movement control – installation of appropriate movement joints - appearance - cladding - thermal insulation and cold bridging - mortar correct specification - services sleeved where necessary - compatible materials used - weepholes, stop ends and cavity trays correctly installed - cavity width acceptable - insulation and cavity type suitable for exposure • party walls - density / isolation adequate and maintained - joints filled - junctions detailed - party wall sock to external cavity - no mix and match of materials - penetrations - wall ties to correct specification

3.6 Roof Structure *or* Timber Frame Erected & External Cladding Started – Warranty Key Stage (Timber Frame Projects Only)

ROOF STRUCTURE – STAGE (04) CHECK LIST
General - always refer to the "superstructure to wall plate" stage 03 check list in addition to this list. Items checked will cover the quality of build and structural stability / future weather tightness of the structure from upper floor level to, but excluding, roof construction. Floors - all floors (including party floors) in place and constructed to comply with the Building Regulations and/or the relevant British Standard.
Chimneys and parapets - ensure that: • all cavity trays and flashings are correctly situated (two number proprietary lead trays dressed up around flue) • check liners correctly placed and joints sealed • the chimney is correctly sized for stability and located the correct height above pitch line • the masonry and the flaunching are correctly pointed • copings correctly restrained / securely fixed • cavity trays (stepped) correctly located and lapped into soakers and flashings • mortar mixes are suitable for their location
Walls - all walls to be plumb and structurally stable, checks made for: • masonry - restraint straps and noggins in place to connect walls to roof structure - DPCs in place to all openings - insulation correctly situated, secured and clean - wall ties correctly specified and placed - joints filled and consistent in width and height - lintel bearings correct and beam supports checked - cavity trays and associated weepholes / stop ends in place, all cavities free of debris
Party walls: • density / isolation adequate and maintained • joints filled • junctions detailed • party wall sock to external cavity • no mix and match of materials • penetrations • wall ties to correct specification
Roofs - all roofs to be constructed and structurally stable, checks made for: • centres and sizes of joist, binders, purlins, struts and/or trusses • fixings of timbers / members • trimming to openings • proximity of timbers to chimneys / flues • damage and/or notching / drilling • restraint straps and noggins in place • bracing - size, location and fixing • valley, hip and dormer roof materials and fixings being suitable for the position and use • penetrations and weathering • party and gable wall cut to profile • external wall insulation in place to prevent cold bridging and cavity closed at eaves level • ensure that the batten sizes, spacing and fixings are compatible with the covering and each other cavity barriers provided where appropriate

TIMBER FRAME ERECTED EXTERNAL CLADDING PROGRESSED - STAGE (04A) CHECK LIST
Failure to review this stage by BZSS's appointed Technical Auditor will have implications for Build-Zone in issuing the Warranty
General - items checked will cover the quality of build and structural stability / future weather integrity of the structure from DPC to roof level
Walls - all walls to be plumb and structurally stable, checks made for: • masonry - DPCs suitably lapped and bedded on a smooth joint - DPCs in place to all openings - insulation correctly situated, secured and clean - wall ties correctly specified and placed - joints filled and consistent in width and height - lintel bearings correct and beam supports checked - cavities clear and free of debris - cavity trays and associated weep holes installed
• Render & other Cladding - built off adequate support - bonding adequate - render and board system approval required - should be durable to resist the weather and impact - should not bridge the DPC and should be located a min. 150mm above finished external ground level - adequate allowance made for the timber kit deflection with increased loadings - corbelling, plinths "architectural details" should not be excessive, thus enabling water to collect - movement joints should be suitably located and filled - weepholes should be evident at all locations of cavity projections and at DPC level within timber frame construction - ensure that surfaces are reasonably plumb and level - lead flashings should be correctly located and fixed where applicable - clear and clean cavity

3.7 Pre Plaster – First Fix

PRE PLASTER – STAGE (05) CHECK LIST
General - all structural items should be in place and completed, namely floors, walls, roof structure, staircases etc. In addition all services, 'first fix', should be undertaken or almost complete.
Floors - all floors in place and constructed to comply with the Building Regulations and/or the relevant European Standards, checks made for: • holes within floors - fire stopping • notching / drilling of joists • damaged floor units • fixing of boards / floating floors preparation • vapour barriers • party floors • joints filled • correct density • floating layer • junctions detailed • adequate support to internal partitions • plasterboard / plain edge board supports • correct centres and sizes of joists • check for sound insulation
Walls - all walls to be plumb and structurally stable, checks made for: • DPCs in place at all openings and linked to DPM at floor • restraint straps and noggins in place • chasing to walls for sockets and fittings • party walls - joints filled - junctions detailed - no mix and match of materials - bearings to joists, lintels and beams
Roofs (internally) - all roofs to be weathertight and structurally stable, checks made for: • centres and sizes of joists, binders, purlins, struts and or trusses • fixings of timbers / members • trimming to openings • proximity of timbers to chimneys / flues • damage and/or notching / drilling • restraint straps and noggins in place • bracing - size, location and fixing • valley, hip and dormer roof materials and fixings being suitable for the position and use • penetrations and weathering • party and gable wall cut to profile and fire stopped (where applicable) • flue and vent connections • felt condition and laps • insulation (if fitted at time) - continuity with external wall insulation cross ventilation / warm roof detail

PRE PLASTER – STAGE (05) CHECK LIST

Services - generally all services and service paths should be fitted in accordance with the appropriate British Standard and/or governing bodies' guidance.

Electrical - ensure that all works have been installed in accordance with good practice and the IEE Regulations. Checks made for:

- location of cable runs within floor and wall constructions - vertical and horizontal from sockets / switches
- need for earthed protection
- socket and switch heights

Gas / solid fuel - ensure that all works have been installed by a Gas Safe or other approved registered fitter. Checks made for:

- location and protection
- serviceability / access
- ventilation

Plumbing - ensure all pipes are correctly clipped / fixed and protected.
Check made for:

- location and sizing of pipes
- protection passing through walls / floors
- damage
- backfalls
- connections

Miscellaneous:

- staircases - ensure that the staircase has a minimum suitable width, the correct headroom, pitch, riser and going, together with a correctly located and fixed handrail and balustrading
- first fix carpentry in place, plumb and square
- fireplaces, hearths and chimneys properly constructed
- windows - frames appropriately fixed and glazing installed correctly

Conservatories - ensure that they are constructed to the same standard as the remainder of the home and form a weather tight and stable addition to the house. In addition, ensure that cavity trays are installed as per any other abutment.

Integral garage - ensure that it is finished internally inclusive of DPM and Cavity Walls to a reasonable level of decoration appropriate for its intended use, it is weathertight and where abutting the house incorporates a suitable cavity tray and flashing. Ensure fire stopping is complete.

Basements - ensure that all tanking is correctly installed and linked into the cavity tray, DPC and DPM of the above ground structure

Structure - ensure that brickwork / rendering and roof covering is of a consistent nature in quality of finish and workmanship.
All window and door frames must be reasonably sealed where abutting the external envelope to prevent weather penetration.

External walls:

- rendering
  - should be durable to resist the weather and impact
  - should not bridge the DPC
  - render and board system approval required
- masonry
  - should be matched in colour and texture providing reasonable aesthetics
  - joints should be filled / pointed and consistent
  - adequate allowance made for the timber kit deflection with increased loadings
  - mortar should be durable and consistent in colouring
  - corbelling and/or plinths should not be excessive, thus enabling water to collect
- general
  - movement joints should be suitably located and filled
  - weepholes should be evident at all locations of cavity projections and at DPC level within timber frame construction
  - ensure that surfaces are reasonably plumb and level
  - lead flashings should be correctly located and fixed
  - DPC should not be bridged and should be located a min. 150mm above finished external ground level
  - clear and clean cavity

Thresholds – Thresholds should be suitably constructed to prevent damp ingress and at least one threshold should allow adequate entry to the dwelling using a wheelchair.

PRE PLASTER – STAGE (05) CHECK LIST
Windows and doors: • ensure that all windows and doors are - suitably decorated to a reasonable visual standard and to provide weather protection to the home - designed in such a way as to shed water from the external envelope - provided with a suitable deterrent against a forced entry • ensure that brickwork and stone cills and heads shed water and are not damaged / cracked
Roofs (externally): • ensure that the batten sizes, spacing and fixings are compatible with the covering and each other • all finishes (tiles, slates, lead or felt) should be free from damage, laid to falls where appropriate and finished to a reasonable visual standard • all coverings should be nailed, fixed, clipped to the correct specification in accordance with the relevant British/European Standards or the manufacturers' details • coverings and gauge are suitable for the pitch • all cloaks, flashings and trays are correctly specified and positioned • all joints are correctly pointed
Chimneys and parapets - ensure that: • all cavity trays and flashings are correctly situated and installed • the chimney is correctly sized for stability and located the correct height above pitch line • the cowling is correctly fitted (where applicable) • the masonry and the flaunching are correctly pointed

3.8 Post Plaster – Second Fix

POST PLASTER – SECOND FIX STAGE (06) CHECK LIST
Ground works and boundary walls - generally all external works should be complete, boundary walls built, drainage connected, paths and drives complete / serviceable and the plot free from any builders' debris. A check of the surrounding area and property curtilage will be made to highlight any possible exclusions from cover.
Drainage: • for non-mains drainage system, consider access for maintenance and emptying • ensure land drainage is present where necessary e.g. water logging likely within 4m of the dwelling • where applicable - boundary, retaining or garden walls to be complete and structurally stable including any appropriate land drainage • where applicable - paths, drives and patios are to be laid to reasonable, self- draining falls and suitable to take their intended loading, e.g. the weight of a tanker if storage or septic tanks are located too far from the highway. No path, patio or drive should be within 150mm of the DPC to the external wall of the house or garage except for access to level threshold (where suitable drainage precautions should be taken eg drainage channel)
Superstructure - ensure that all finishes are to a reasonable reasonable visual standard, the brickwork / rendering and roof coverings are of a consistent nature in quality of finish and workmanship. All window and door frames must be reasonably sealed where abutting the external envelope to prevent weather penetration.
External walls: • rendering - should be durable to resist the weather and impact - should not bridge the DPC • masonry - should be matched in colour and texture providing reasonable aesthetics - joints should be filled / pointed and consistent - mortar should be durable and consistent in colouring - corbelling and/or plinths should not be excessive, thus enabling water to collect • general - movement joints should be suitably located and filled - weepholes should be evident at all locations of cavity projections and at DPC level within timber frame construction - DPC should not be bridged and should be located a min. 150mm above finished external ground level - ensure that surfaces are reasonably plumb and level • lead flashings should be correctly located and fixed
Generally - check that there is no damage to pre-decorated surfaces. Ensure that all doors, windows, walls, floors and ceiling are reasonably flat, plumb, and fitted within reasonable tolerances.
Ensure that all dry lining is correctly placed, with continuous dabs to all room perimeters and all openings / fittings.
Check double boarding of walls and ceilings to critical areas, such as integral garages and separating walls / floors, for fire resistance.
Ensure all timber work is suitably prepared, smooth and ready to receive final decoration.
Ensure walls, floors and ceilings are level, plumb and within acceptable tolerances.
Check all fixings for adequacy, all nail and screw heads flush and covered.
Ensure that floor boarding is correctly fixed, with edge gap tolerance and that floors do not deflect.
Ensure that all wall and floor tiling is of the required specification and laid flat or to an appropriate fall. Check for cracked or missing tiles.
Where fitted, ensure that all doors and windows are the correct specification for location, free to open, fitted to acceptable tolerances and, where applicable, provide a suitable free area for means of escape in case of a fire. Check glazing for damage/scratches and ensure appropriate materials have been used for bedding and surround to double glazed units. Check all glazed areas in critical locations for safety glass and compliance with BS EN 12600:2002.
Second fix electrics - ensure that all fittings comply with IEE Regulations and are of a suitable quality.
Ensure, where fitted, that all other appliances and fuel types are fitted, located and protected to meet current legislation and manufacturers' recommendations.

POST PLASTER – SECOND FIX STAGE (06) CHECK LIST

Ventilation:

check mechanical and passive ventilators are located and sized correctly
check background and rapid ventilation to external
check windows and patio doors

MISCELLANEOUS

Disabled facilities:

- ensure that suitable facilities and access have been provided for disabled persons using / visiting the house

Staircases:

- ensure that the staircase has a minimum suitable width, the correct headroom, pitch, rise and going, together with a correctly located and fixed handrail and balustrading

Conservatories:

- ensure that they were constructed to the same standard as the remainder of the home and form a weathertight and stable addition to the house. In addition, ensure cavity trays / flashings are installed as any other abutment.

Windows and doors:

- ensure that all windows and doors are
  - suitably decorated to a reasonable visual standard and to provide weather protection to the home
  - designed in such a way as to shed water from the external envelope
  - provided with a suitable deterrent against a forced entry
- ensure that brickwork and stone cills and heads shed water and are not damaged / cracked

Roofs:

- all finishes (tiles, slates, lead or felt) should be free from damage, laid to falls where appropriate, and finished to a reasonable visual standard
- all rainwater goods should be in place, laid to appropriate falls and connected to the drainage system
- all fascias and soffits should be decorated to a reasonable visual finish to protect them from the elements

Chimneys and parapets - ensure that:

- all cavity trays and flashings are correctly situated
- the chimney is correctly sized for stability and located the correct height above pitch line
- the cowling is correctly fitted (where applicable)
- the masonry and the flaunching are correctly pointed

3.9 Completion – Warranty Key Stage

Failure to review this stage by BZSS's appointed Technical Auditor will have implications for Build-Zone in issuing the Warranty

COMPLETION – STAGE (07) CHECK LIST
Finishes - generally check that there is no damage, drips, chips or faults in the appearance of any decorated surface. Ensure that all aspects of the finished home are of a reasonable quality standard of visual finish.
Ensure all timber work is suitably prepared, smooth and decorated to a reasonable standard of finish.
Ensure walls, floors and ceilings are level, plumb and within acceptable tolerances. In addition surfaces should be decorated to a reasonable standard of finish.
Ensure that all wall and floor tiling is of the required specification and laid flat or to an appropriate fall. Check for cracked or missing tiles.
Kitchen and bathroom fittings and fixtures should be suitable for purpose.
Worktops and fittings should be level, undamaged, well aligned and, where appropriate, installed to avoid water damage to other parts of the home.
Ensure that all doors and windows are the correct specification for location, free to open, fitted to acceptable tolerances and, where applicable, provide a suitable free area for means of escape in case of a fire. Check glazing for damage / scratches and ensure appropriate materials have been used for bedding and surround to double glazed units. Check all glazed areas in critical locations for safety glass compliance with BS EN 12600:2002.
Services - ensure that all services, boilers, fires etc. are installed in accordance with the manufacturer's instructions and comply with the legislation associated with that appliance. Please note that all operating manuals should be retained and handed over to the purchaser as part of their Home Information Pack. Always ensure that suitable access for maintenance is provided.
Electrical - ensure all works comply with the requirements of Part P of the Building Regulations, that the installation meets BS 7671:2008 and the relevant safety certificate is available. All bonding (primary and secondary) should be in place.
Gas - ensure that all works have been installed and commissioned by a Gas Safe registered fitter.
Other fuels - ensure that appliances are installed as per manufacturer's instructions by a fully insured competent person and suitably commissioned prior to handover.
Hot and cold water - ensure all controls (inclusive of valves) are accessible, pipes are correctly clipped / fixed and, where applicable, insulated. Check the flow rates from all outlets and ensure correct operating pressures.
Space heating - ensure that: • all heating systems have been fully commissioned • all controls are present and functional • adequate combustion ventilation has been provided where applicable • fireplaces and hearths are correctly dimensioned / installed • robust notice plates providing information essential to the correct use of hearths, fireplace flues and chimneys are displayed • radiators are correctly sized and fully operative
Plumbing – ensure that all pipes, traps and fittings and overflows are securely fixed, free draining and are of the correct size. Ensure that all overflows and pipes discharge appropriately.
Ventilation - check mechanical and passive ventilators are located and sized correctly. Check background and rapid ventilation to external windows and patio doors.
Roof space - the roof space should be accessible, with all insulation in place and, where fitted (in a cold roof) the loft hatch must be insulated and secured with a catch. Access must be provided to and around the water storage tanks within the loft space.

COMPLETION – STAGE (07) CHECK LIST

Roof void – ensure that:

- all flues terminate to the outside air via a proprietary terminal outlet
- all tanks and pipes are adequately supported and insulated
- all SVP and ventilation outlets discharge adequately
- restraint straps are correctly positioned and supported / blocked
- bracing (where applicable) to the structure is adequately sized, fixed and positioned
- insulation is adequate and correctly positioned (continuous)
- underfelt is continuous and not damaged
- 'warm roof' - the roof void is completely sealed
- 'cold roof' - adequate cross ventilation is maintained and unobstructed
- check size, centres and damage to structural members forming the roof structure

Miscellaneous:

- Provide evidence of Insurance Backed Guarantees where applicable.
- The whole house should be clean, free from builders' materials / rubble and be complete prior to handover / conveyance.
- Staircases - ensure that the staircase has a minimum suitable width, the correct headroom, pitch, riser and going, together with a correctly located and fixed handrail and balustrading.
- Flooring - all flooring to be laid reasonably level and smooth to accept the intended finish. All boarding to be fixed securely to avoid squeaking, with floating floors adequately supported at door openings.
- Conservatories - ensure that they were constructed to the same standard as the remainder of the home and form a weathertight and stable addition to the house.
- Integral garage - ensure that it is finished internally to a reasonable level of decoration, appropriate for its intended use, it is weathertight and where abutting the house, incorporates a suitable cavity tray and flashing. Ensure firestopping is complete.

Sound insulation – ensure that:

- all relevant test compliance certificates are available
- pre completion testing reports are available from a UKAS or ANC member

The following guarantees should be provided where applicable:

- basement tanking: materials and workmanship insurance backed 10-year warranty/guarantee
- timber treatment: materials and workmanship insurance backed 10-year guarantee
- chemical injection damp-proofing: materials and workmanship insurance backed 10-year guarantee
- remedial wall tie replacement: materials and workmanship insurance-backed 10-year warranty
- Flat roof: materials and workmanship insurance backed 10 year warranty

Ground works and drainage - generally all external decorations should be complete, boundary walls built, drainage connected and tested, paths and drives complete / serviceable and the plot free from any builders' debris.

Drainage - all foul and surface water drainage should be connected, tested and fully operational. Where non-mains drainage is incorporated, it should be sited so as to allow suitable maintenance and emptying (as should any form of storage tank, e.g. oil for filling). Ensure land drainage is present where necessary, i.e. water logging likely within 4m of the dwelling. Display robust notice plates indicating maintenance and operating requirements for non-mains drainage and oil fuel storage systems.

Boundary, retaining or garden walls - to be complete and structurally stable.

Paths, drives and patios - to be laid to reasonable, self-draining falls and suitable to take their intended loading, e.g. the weight of a tanker if storage or septic tanks are located too far from the highway. No path, patio or drive should be within 150mm of the DPC to the external wall of the house or garage.

Level thresholds - should be suitably constructed to prevent damp ingress and allow adequate entry to the dwelling via a wheelchair.

Planting - ensure that any planting scheme introduced has been designed to suit the foundations already constructed.

Superstructure - Ensure that all finishes are to a reasonable visual standard, the brickwork / rendering and roof covering is of a consistent nature in quality of finish and workmanship. All windows and door frames must be reasonably sealed where abutting the external envelope to prevent weather penetration. All rainwater goods must be in place and connected to the drainage system and all timber products suitably treated / decorated to give a reasonable finish and protection against the elements.

COMPLETION – STAGE (07) CHECK LIST

External Walls:

- rendering
  - should be durable and decorated to resist the weather and impact
  - should not bridge the DPC
- masonry
  - should be matched in colour and texture providing reasonable aesthetics
  - joints should be filled / pointed and consistent
  - mortar should be durable and consistent in colouring
  - corbelling and / or plinths should not be excessive, thus enabling water to collect
- general
  - movement joints should be suitably located and filled
  - weepholes should be evident at all locations of cavity projections and at DPC level within timber frame construction
  - ensure that surfaces are reasonably plumb and level
  - lead flashings should be correctly located and fixed
  - DPC should not be bridged and should be located a min. 150mm above finished external ground level

Windows and doors:

- ensure that all windows and doors are
  - suitably decorated to a reasonable visual standard and to provide weather protection to the home
  - designed in such a way as to shed water from the external envelope
  - provided with a suitable deterrent against a forced entry

ensure that brickwork and stone cills and heads shed water and are not damaged / cracked

Roofs:

- all finishes (tiles, slates, lead or felt) should be free from damage, laid to falls where appropriate, and finished to a reasonable visual standard
- all rainwater goods should be in place, laid to appropriate falls and connected to the drainage system
- all fascias and soffits should be decorated to a reasonable visual finish and to protect them from the elements

Chimneys and parapets - ensure that:

- all cavity trays and flashings are correctly situated
- the chimney is correctly sized for stability and located the correct height above pitch line
- the cowling is correctly fitted (where applicable)the masonry and the flaunching are correctly pointed