Timber Frame Inspection Checklist

The full 17-category checklist our builder-inspectors run on every timber frame inspection. Fact-checked against AS 1684 + QBCC S&T Guide. Print + take to site before sheeting.

Job address:		**Date:**	
Builder:		**Wind class:**	
Home size (m2):		**Days since roof up:**	

How to use: Walk the frame BEFORE sheeting or cladding starts. Cross-check against your engineer's frame plan, bracing plan, tie-down schedule + truss layout. 3+ red flags = book an independent inspection before signing the frame-stage progress claim.

1. Bottom Plate + Slab Connection (Tie-Down)

- ■ M12 rods OR proprietary hold-down brackets at every position on engineer's schedule
- ■ M12 rods tensioned per engineer's spec (not just spanner-tight)
- ■ Chemical anchors cured for manufacturer's specified time before load
- ■ Correct washer type + size per connector manufacturer's data sheet
- ■ Proprietary brackets: manufacturer spec sheet on site, matches engineer's schedule
- ■ No missing tie-downs at wall corners or junctions (highest uplift zones)

■ ***Red flag:*** *ANY missing tie-down at engineer's spec position = wind load concentrates on adjacent connections not designed for it.*

2. Stud Grade + Sizes

- ■ Grade stamp visible on every stud (MGP10/MGP12/MGP15/F5/F7)
- ■ Stud dimensions match engineer's plan (typically 90x35 or 90x45 load-bearing)
- ■ No bow greater than 5mm over 2400mm
- ■ No excessive knots at critical locations
- ■ No cracked or split studs at end-nail points
- ■ Kiln-dried (not green)

■ ***Red flag:*** *Non-graded timber = no compliance. Every stud must show grade stamp.*

3. Stud Spacing (per engineer's frame plan)

- ■ Stud centres consistent + match engineer's frame plan (600 or 450 typical, sometimes 300)
- ■ Extra studs at load points (under lintels, corners, jambs)
- ■ Trimmer studs both sides of every opening
- ■ Double studs at all external corners

■ ***Red flag:*** *Studs at wider centres than plan specifies = common shortcut. Cheap to catch, expensive to rectify after linings.*

4. Top Plate + Head Plate

- ■ Double top plate on all load-bearing walls (AS 1684)
- ■ Single top plate acceptable on non-load-bearing only
- ■ Top plates lapped at corners (not butt-joined)
- ■ Straps or nailing plates at all top plate joins
- ■ No cuts or notches at truss bearing points
- ■ Top plate level (QBCC S&T: max 4mm under 2m straight-edge)

■ ***Red flag:*** *Single top plate on load-bearing wall carrying trusses = non-compliant.*

5. Stud-to-Plate Connections (Stud-Lok / Metal Straps)

- Every stud has connector at BOTH top + bottom plates
- Metal straps: correct type, full nail count, nails flush (not overdriven)
- MiTek Stud-Lok: correct model, driven to full depth, one at each end of stud
- Stud-Lok permitted in lieu of straps per AS 1684.2/.3 Table 8.18 + AS 1684.4 Table 8.3
- Manufacturer's spec sheet on site + matches engineer's requirement

Red flag: *Missing connectors OR partially driven Stud-Lok = shear capacity depends on full engagement.*

6. Noggings (Dwangs) - AS 1684

- Noggings max. 1350mm vertical centres in load-bearing walls
- Walls > 2700mm high need DOUBLE row of noggings
- Nogging thickness min. 25mm, min. 25mm less than stud depth
- Extra noggings at cabinet/benchtop/handrail fixing heights
- Staggered between adjacent stud bays (not all at same height)
- Nailed at each end into stud
- Extra noggings at wet area walls where mixers/showers penetrate

Red flag: *Single row of noggings on wall > 2700mm high = missing required second row.*

7. Bracing - Types + Placement (AS 1684.2 Table 8.1)

- Bracing type + quantity matches engineer's bracing plan (bracing units in kN, not m intervals)
- Speed brace / angle brace: 45-60deg from horizontal, length 1800-2700mm (AS 1684.2)
- Ply sheet joints on stud centres (not floating mid-bay)
- Bracing continuous top to bottom (not broken by openings)

Red flag: *External wall with no bracing when plan shows required bracing units = check every external wall against bracing plan.*

8. Bracing - Nail Patterns (AS 1684.2 Table 8.18)

- Ply sheet outer edges: nails at max 150mm centres
- Ply sheet central studs: nails at max 300mm centres
- Nails driven flush - NOT overdriven (head through ply surface)
- Nails NOT underdriven (heads standing proud)
- Nail size + type per engineer's spec (varies by ply thickness + wind class)
- No nails 'into thin air' (into stud that doesn't exist)
- Speed brace: nails through every hole, fully seated

Red flag: *Overdriven/underdriven/missing nails on any panel = significant capacity loss for that panel.*

9. Openings - Lintels + Jamb Studs

- Lintel above every opening - size per engineer's schedule
- Lintel bearing on trimmer studs both ends (min. 50mm typical)
- Jamb stud each side sized per engineer's spec
- Trimmer studs full height bottom plate to lintel underside
- Double jamb studs at wider openings + load-bearing walls
- Lintel not notched or cut on site
- Framing anchor between lintel + trimmer stud

Red flag: *Opening > 900mm needs engineered lintel. No lintel visible = flag immediately.*

10. Roof Trusses - Placement + Spacing

- Trusses at correct centres per truss designer's layout (commonly 600 or 900mm)
- Each truss identifiable by number, matches layout drawing
- Girder trusses at specified load-transfer positions
- Truss bearing on top plate as per truss designer's spec
- Trusses straight + plumb - no leaning or twisting
- No damage to truss members (broken chord, split web, hammer marks)
- Truss layout drawing on site

Red flag: *Trusses at wider centres than layout, OR site-cut truss without designer sign-off = designer sign-off required.*

11. Roof Truss Tie-Downs

- ■ Every truss has tie-down connector to top plate (cyclone tie / triple grip / bracket)
- ■ Connector type matches engineer's tie-down schedule for wind class
- ■ EVERY nail hole per connector manufacturer's data sheet filled
- ■ Nails driven fully - not overdriven
- ■ Both flanges nailed (not just one side)
- ■ No gap between connector + timber

■ ***Red flag:*** *ANY truss without tie-down at either bearing = roof uplift concentrates there first in wind.*

12. Wet Area Frame Preparation

- ■ Extra noggings behind mixers, shower rails, taps, towel rails
- ■ Frame straight + plumb in wet areas (waterproofing needs flat substrate)
- ■ Additional trimmers around bath + shower recesses
- ■ Correct height set-out for mixers, towel rails (900-1200mm)
- ■ Shower niche/shelf frame built to size + squared

■ ***Red flag:*** *Bowed studs in wet area = waterproofing membrane will crack on hard bow points.*

13. Frame Level + Plumb (QBCC S&T Guide)

- ■ Wall out-of-plumb: max 4mm within any 2m height (AND compromises structure/water/safety)
- ■ Wall out-of-straight (bow): max 4mm in any 2m length within 12 months
- ■ Pre-plasterboard substrate: 1.8m straight-edge test - max 4mm over 90% of area
- ■ Pre-plasterboard substrate: max 5mm over remaining 10% of area
- ■ Every external wall spot-checked with spirit level or 2m straight-edge
- ■ Corners plumb (plumb bob or laser)
- ■ Top plate level checked with dumpy or laser

■ ***Red flag:*** *Any of the three tests failed = QBCC defect. Pre-plasterboard 1.8m test is the strictest and most commonly failed.*

14. Frame Straightness (Stud Bow)

- ■ Frame overall passes QBCC 4mm/2m bow test
- ■ Frame overall passes 1.8m straight-edge pre-plasterboard test
- ■ Individual studs bowing more than surrounding studs = likely to fail finished-frame test
- ■ Bowed studs identified + rejected before linings go on
- ■ Twisted studs at corners/jambs replaced
- ■ If 'sprung' straight with temp bracing: frame passes QBCC test before bracing removed

■ ***Red flag:*** *Stud bow that pushes finished frame past 4mm/2m OR fails 1.8m plasterboard substrate test = defect.*

15. Bracing at Openings (Hinge Points)

- ■ Diagonal / K-bracing at large openings per engineer's spec
- ■ Portal frames at garage door openings (steel or LVL)
- ■ Additional tie-downs at portal frame legs
- ■ No skimping on tie-downs at large opening sides

■ ***Red flag:*** *Garage door opening with no portal frame + no additional bracing = #1 source of catastrophic wind damage in QLD homes.*

16. Temporary Bracing (During Construction)

- ■ Temporary diagonal bracing on all external wall corners
- ■ Temporary bracing between roof trusses (diagonal battens)
- ■ Bracing left in place until permanent bracing installed
- ■ Site not left open + unbraced overnight/weekend

■ ***Red flag:*** *Roof trusses installed with no temp truss bracing = whole roof can domino in one gust.*

17. Documentation On Site

- Engineer's structural drawings (current revision, all sheets)
- Truss layout drawing from truss manufacturer
- Manufacturer spec sheets for proprietary connectors (Stud-Lok, brackets)
- Wind classification certificate
- Timber grade + treatment certificates
- Termite management sign-off (post-pour)
- Full working drawings (arch + electrical + plumbing)

Red flag: *Truss layout drawing missing = no way to verify every truss is where it should be with the right tie-down.*

30 Red Flags - If You See ANY, Don't Sign the Progress Claim

Any 3+ = book an independent inspection immediately. Any 10+ = withhold frame-stage payment until fixed.

- 1. Missing tie-down bolt/bracket at engineer's specified position
- 2. M12 rods finger-tight (not tensioned to spec)
- 3. Chemical-set rods loaded before manufacturer's cure time
- 4. Non-graded timber (no MGP or F-grade stamp visible)
- 5. Stud spacing wider than engineer's plan
- 6. Single top plate on load-bearing wall
- 7. Top plate butt-joined at corner (not lapped)
- 8. Missing stud-to-plate connectors (no strap AND no Stud-Lok)
- 9. Stud-Lok screws only partially driven
- 10. Overdriven bracing nails (head through ply surface)
- 11. Underdriven bracing nails (heads catchable with fingernail)
- 12. Bracing nails missed at required positions
- 13. External wall with no bracing when bracing units specified
- 14. Ply bracing sheet joints floating in a bay (not on stud)
- 15. No lintel above opening > 900mm wide
- 16. Undersized lintel for span
- 17. Trusses at wider centres than layout specifies
- 18. Site-cut truss without designer sign-off
- 19. Truss missing tie-down at either bearing
- 20. Any connector with fewer nails than manufacturer data sheet
- 21. Nogging spacing > 1350mm vertical
- 22. Single row of noggings on wall > 2700mm high (need double row)
- 23. Wall out-of-plumb > 4mm/2m height AND compromises structure/water/safety
- 24. Frame bow > 4mm in any 2m length (QBCC)
- 25. Pre-plasterboard substrate failing 1.8m straight-edge test
- 26. Twisted stud at corner or jamb
- 27. Garage door opening with no portal frame or engineered bracing
- 28. No temporary bracing on external corners
- 29. Roof trusses with no temporary truss bracing between them
- 30. Engineer's frame plan / bracing plan / tie-down / truss layout not on site

Book Your Frame Stage Inspection

Standard home (up to 220m²): $550 inc GST - same-day report
Larger homes: custom quote - call 07 3180 8041
When: as soon as frame + trusses up + braced, BEFORE sheeting
Available: Mon-Fri across South East Queensland

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Based on AS 1684 (Residential Timber-Framed Construction), AS 4055 (Wind Loads), AS 4440 (Nail-Plated Timber Roof Trusses) + QBCC Standards & Tolerances Guide. Your engineer's structural drawings + truss layout are the primary references. This guide is not a substitute for a licensed inspection.