


**Formwork Certification**

1. In general, a consulting structural engineer would not normally be involved in certifying formwork. It is a specialist area which now involves a large responsibility under both the Construction Safety Act and Associated Regulations and under the Work Cover Code of Practice.
2. Certification to meet Work Cover requirements is best done by a specialist engineer. Formwork companies may have their own in-house structural engineers who certify that company's formwork or they may contract specialist consulting structural engineers to carry out certification for them.
3. The Regulations call for the certifying formwork engineer to have a minimum of twelve months experience in the design of formwork.
4. The consulting structural engineer for the building itself is required to provide information to the formwork engineer in order to facilitate the determination of back propping requirements.
5. The consultant structural engineer for the building itself should not review any Work Method Statements relating to formwork as this is a specialist area also. The preparation of the Work Method Statement may be carried out by the specialist formwork engineers engaged by the formwork company.
6. Where a specialist consulting structural engineer is employed by the formwork company to design and certify formwork, it is recommended that the fee for such services be charged on an hourly basis, using rates applicable to those charged when acting as an expert witness.
7. The specialist consulting structural engineer usually designs the formwork, checks that it has been constructed in accordance with the design and certifies the formwork. The formwork engineer is not responsible for the co-ordination of formwork erection and safe dismantling of the formwork.
8. A check list for inspecting formwork is attached. This should be used as a guide and should not be considered as the total list of items which should be checked. The checklist used should be attached to the certificate or opinion supplied to the formwork company.
9. When representatives of the consulting structural engineer for the building itself go on site to inspect reinforcing they are not required to inspect the formwork and if asked to so do should decline, stating that it is not their responsibility and that separate certification for the formwork must be obtained in accordance with the Construction Safety Act Regulations.

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10. There is no legal responsibility on the consulting structural engineer for the building itself to ensure that formwork is certified. The question may be asked but the builder is under no compulsion to reply.
11. If while visiting a site for a reinforcing inspection, the representative of the consulting structural engineer for the building itself notices obvious deficiencies in the formwork as constructed, he is duty bound under Work Cover regulations to report it in writing to the responsible person. The best way to do this is on the Engineers Inspection Report for the inspection.
12. It is recommended that the consulting structural engineer for the building itself include on all engineers inspection reports relating to reinforcement inspections a statement similar to the following. "The formwork has not been inspected and should be separately certified by an experienced formwork engineer".
13. It is the responsibility of the formwork foreman to monitor the formwork during the pouring of concrete.

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Opinion of Load Carrying Capacity of Formwork:

This is to state that on(date and time) the formwork and backpropping over.....(no.) floors to(area) was inspected and, in our opinion, at the time of inspection the formwork and backpropping complied with the Australian Formwork Standard AS3610 with respect to strength only and is considered capable of carrying the loads specified in that standard.

This opinion is provided for the benefit only of(client) and is not to be relied upon by others for any purpose without the prior written consent of the undersigned and does not relieve the builder/sub-contractor of his overall responsibility.

Signed:

Dated:

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**Formwork Certification****Formwork Checklist:**

1. Proprietary items load capacities
2. Frame sizes and spacing
3. Propping layout
4. Frame Bracing
5. Timber stress grade and condition
6. Cantilevers limited to 300mm
7. Bearing pressure under sole plates
8. Compaction of fill material supporting formwork
9. Stability of embankments supporting formwork
10. Rate of concrete pour for vertical forms
11. Tie bolt spacing
12. Type of bolts used
13. Size of washers on tie bolts
14. Tightening of bolts
15. Nailing of deck around perimeter
16. Edge forms securely supported
17. Nailing of props (minimum two nails in bearer)
18. Bearer relationship to props
19. Bearers supported by U-heads
20. Alignment (horizontal and vertical)
21. Props and frames plumb
22. Joist size and spacing
23. Bearer size and spacing
24. Adequate seating of timber beams
25. Steel condition
26. Frames fully assembled
27. Jack extensions suitable for loads
28. Frames from different manufacturers mixed
29. Bearers on frame braces - not acceptable
30. Bracing at joints in props
31. Lateral and diagonal bracing of falsework
32. Locking devices on proprietary frames, bracing, props in working condition
33. Additional bracing for wind, horizontal loads, sloping formwork
34. Check of back propping of multistorey building and discuss with designer of floors
35. Concrete strength-- at time of back propping
36. Slab live load capacity
37. Check where adjoining or existing structures are used for support that load capacities and approvals are in order
38. Formwork must not be supported on scaffolding
39. Bracing of formwork not attached to scaffolding adjoining structures of existing structure

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