

TEMPORARY STRUCTURES – A guide to Alternative Methods (Performance Solutions)

What is it?

An alternative method (also referred to as a Performance Solution) is a means of meeting compliance with the ABCB Temporary Structures Standard 2015. It is an option for compliance that can be used when a structure does not comply with the normative provisions in the Standard. It can also be used in conjunction with the normative provision to meet the requirements of the Standard – Fig 1.

How do I develop one?

Formulating an alternative method which complies with the Standard involves the application of engineering practice from first principles or undertaking a risk based assessment as an alternative to the normative provisions prescribed within the Standard.

Can you show me an example?

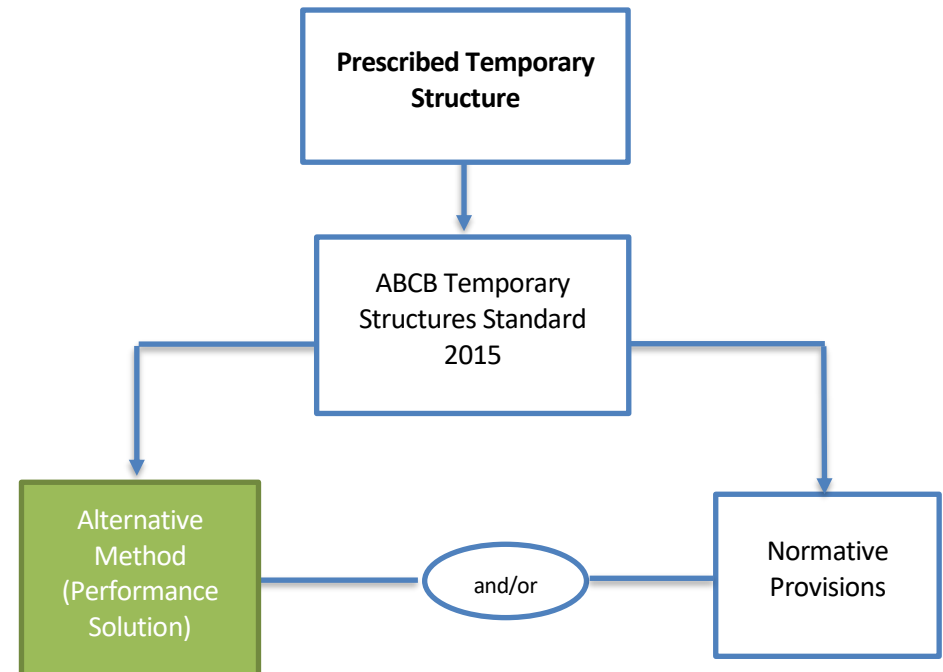
For the Part 3 structural provisions of the Standard, an alternative method option would generally involve designing the structural system for a temporary structure in accordance with engineering practice from first principles.

The alternative method may propose reduction factors other than those prescribed in the Standard or in one of the international documents referenced in clause 3.3.

These alternate factors may take account of an enhanced on-site monitoring strategy to accompany the use of the structure, the previously established use and performance of the structure, subject to verification of these factors by a qualified structural engineer with relevant experience. The alternate method pathway, if chosen, would need to be to the satisfaction of the appropriate authority and be fully documented.

This document provides information to assist in understanding how an alternative method can be used to meet the requirements in ABCB Temporary Structures Standard 2015, for a prescribed temporary structure. The alternative method may be developed using the four-step process summarized on the following page.

Fig 1. Compliance framework for a Prescribed Temporary Structure



TEMPORARY STRUCTURES – A guide to Alternative Methods (Performance Solutions)

STEP 1 - Prepare a performance-based design brief (PBDB)

The PBDB generally includes a summary of the proposal, details of how the alternative method will work, details of the building (structure) and any other details relevant to the assessment of the proposal against the relevant requirements from the Standard and performance requirements.

STEP 2 - Carry out analysis, modeling or testing

Examples of tools that could be used to evaluate a design proposal include:

- Comparative or absolute analysis
- qualitative or quantitative analysis
- deterministic or probabilistic analysis
- empirical calculations
- in-situ or laboratory testing
- computer aided modelling.

STEP 3 - Collate and evaluate results

During the process of analysis, multiple trials or design scenarios may have been considered and analyzed.

It is then necessary to collate and evaluate these results and draw conclusions to form the final report. The evaluation needs to take into account the agreed acceptance criteria for the analysis as set out in the PBDB and the results of any uncertainties or sensitivities. Further analysis, modelling and/or testing may be required if the outcomes are not consistent with the agreed acceptance criteria.

STEP 4 – Prepare a final report

The final report should clearly demonstrate that compliance with the conditions, the Standard and performance requirements agreed in the PBDB has been achieved. This should include:

- An overview of the PBDB
- Overview and outline of the analysis, modelling and/or testing carried out
- Evaluation of results
- A conclusion indicating compliance with the relevant performance requirements and agreed acceptance criteria.

In addition, the final report may be required to include;

- A regulation 126 Certificate of Compliance documenting the performance solution as required by the Building Regulations 2018.

For more examples of alternative methods and further guidance on developing an alternative method using the four-step process, please refer to the '**TEMPORARY STRUCTURES – Preparing an Alternative method**' document.