

Temporary Works Forum (TWf)

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COMPETENCIES OF THE TWC¹

1 Background

It is important that those individuals appointed to the roles of Temporary Works Coordinators (TWC) and Temporary Works Supervisors (TWS) are competent. It is a legal requirement notwithstanding the good business aspect to such appointments.

At present there is no definitive manner of assessing or prescribing individual competency. This note aims to provide guidance on this subject. It should be noted that regardless of any such guidance, ultimately the competency of an individual will be a matter of judgement on the part of the organisation's Designated Individual (DI) and in accordance with the management procedures put in place by him/her.

2 Competence

2.1 Although it is necessary to consider both 'corporate' and 'individual' competence, this note concentrates on the latter. However it is the company's responsibility to train, equip, brief and supervise its employees in accordance with the law, and that means that assessment of who is competent to coordinate or supervise temporary works is down to company management. This requires a reminder to clients and others that their duty is to select and use only competent organisations.

2.2 Individual competence is defined as an appropriate combination of education, training and experience for the assigned task, i.e. the ability to:

- carry out the assigned duties at the level of responsibility allocated;
- understand any hazards related to the work (or equipment) under consideration;
- detect any technical defects or omissions in that work (or equipment), recognise any implications for health and safety caused by those defects or omissions, and be able to specify a remedial action to mitigate those implications.

There is some current guidance and this is summarised in Annex A. However this is somewhat generalised.

¹ based around BS5975: 2008 +Amendment 1:2011. TWS will be considered in detail in a later version of this note.

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2.3 BS5975 states²:

7.1.2 It is essential for the TWC to be competent and to have relevant up-to-date training and both the qualifications and the experience appropriate to the complexity of the project. The appointment of the TWC should be made known to all concerned.

7.3.2 It is essential for the TWSs to be competent and to have relevant up-to-date training and both the qualifications and the experience appropriate to the complexity of the project

3 Role of the TWC

In order to assess the necessary competence one needs to consider the role. This can be done by considering the duties set out in Clause 7.2.5 of BS5975 and reproduced below.

a	Co-ordinate all temporary works activities	
b	ensure a temporary works register is established and maintained;	A
c	Ensure that the various responsibilities have been allocated and accepted	
d	Ensure that a design brief is prepared with full consultation, is adequate and is in accordance with the actual situation on site.	
e	Ensure that any residual risks, identified at the design stage, assumed methods of construction, or loading constraints identified by the designer of the permanent works are included within the design brief	
f	Ensure that a satisfactory temporary works design is carried out	
g	Ensure that a design check is carried out by someone who was not involved in the original design; this should include: <ul style="list-style-type: none"> • Concept • Structural adequacy • Compliance with the brief³ 	
h	Where appropriate, ensure that the design is made available to other interested parties e.g. the CDM-C or the designer of the permanent works	
i	Register or record the drawings calculations and other relevant documents relating to the final design	A
J	Ensure that those responsible for on-site supervision receive full details of the design, including, including any limitations and guidance notes associated with it and prepare a specific method statement	

² The accepted definition of ‘competence’ includes training and experience in its scope; hence the clauses below include a degree of repetition.

³ Also (suggested by TWf) ‘interdependency with all other components which form a part of the structural system’. It is important that someone is formally required to give an overview of the design (which may be carried out by more than one party) to ensure it is robust as an entity.

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k	Ensure that checks are made at appropriate stages	
l	Ensure that any proposed changes in materials or construction are checked against the original design and appropriate action taken.	
m	Ensure that any agreed changes, or correction of faults, are correctly carried out on site.	
n	Ensure that during the use of temporary works all appropriate maintenance is carried out.	
o	After a final check which is satisfactory, ensure a permit to load (bring into use) is issued by either the TWC or TWS, issue formal permission to load/bring into use	
p	When it has been confirmed that the permanent structure has gained adequate strength and/or stability, ensure a permit to unload (take out of use) the temporary works is issued by either the TWC or TWS, (see 7.3.3);	
q	ensure that a documented safe system of work is in place and implemented for the dismantling of any temporary works;	
r	ensure that any relevant information for the health and safety file is transmitted to the CDM co-ordinator;	
s	in all cases, ensure that the TWSs are operating in accordance with the approved procedures.	

A number of points arise from this table⁴, viz:

- ‘The bar’ should not be lowered just to accommodate the smaller organisation or project. Although flexibility and proportionate action is sought, a minimum compliant standard is required come what may.
- only two items are wholly administrative (denoted A)
- as in any walk of life, even ‘co-ordinating’ or ‘ensuring something is done’ requires experience and understanding of the subject matter.
- temporary works are high risk and identified as a key issue in respect of the prevention of catastrophic events [1].

4 Competencies

4.1 The duties outlined above will require (variously, depending upon the nature of the project and complexity of the temporary works) knowledge, skills and ability in [2]:

- i. engineering knowledge and understanding – ability to apply technical and practical skills (read, understand and implement the requirements of drawings and specifications)

⁴ Care is required here. The members of BSI committee were careful to ensure the role did not require the TWC to have knowledge of design principles. Designing, especially temporary works, requires a different competence from that required for co-ordinating and implementing. Checking installation could be a Clerk of Works or Inspector role. See reference 2.

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- ii. management and leadership – ability to plan and manage, particularly people and resources
- iii. independent judgement – ability to identify limits of personal, and team's knowledge and skills
- iv. health, safety and welfare – a sound knowledge of legislation, hazards and safe systems of work, ability to manage health, safety and welfare within own area of responsibility
- v. interpersonal skills and communication – ability to communicate well with others at all levels, ability to discuss ideas and plans competently and with confidence.

And also (added by TWf):

- vi. experience appropriate to the complexity of the project
- vii. temporary works procedures and issues associated with the type of temporary works being used.

i) to v) above need to be acquired in part through appropriate and assessed TWC training (Note 1) and maintained and updated via moderated CPD in temporary works.

Note 1: This may be an in-house or externally proved course covering appropriate temporary works issues. Refresher training should be provided at least every three years although updates of on-going issues e.g. lessons learnt, new legislation or BS, should be contemporaneously accommodated.

4.2 In due course these may lend themselves to a National Occupational Standard (NOS), leading to an NVQ or similar.

Actions by the Designated Individual (DI)

4.3 Every appointment should be a judgement by the DI. The quoted attributes are indicative of the expected attainment.

In each case the DI should be able to make specific judgements in order to consider the specific attributes of the individual. The DI should document the reasons for acceptance of the individual. There may be cases where the DI needs to take advice.

In all cases the DI should consider the elements of the role, itemised in 3. And the schedule of skills listed in 4.1 when assessing an individual.

Cont...

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References

1	CIRIA 2011: Guidance on catastrophic events in construction
2	Marples. F, The role and competence of temporary works coordinators Institution of Civil Engineers Civil Engineering Briefing. 10.1680/cien.2011.164.2.53
3	BS 5975: 2008 + A1. Code of practice for temporary works procedures and the permissible stress design of falsework

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ANNEX A

3.1 HSE

HSE has recently issued ‘The management of temporary works in the construction industry (SIM 02/2010/04) in which the competency of the TWC is discussed. It states:

Ideally a TWC would:

- Have experience of the relevant types of temporary works.*
- Have completed formal TWC training.*
- Hold a Degree / HND in civil/ structural engineering.*
- Be a Chartered Civil / Structural Engineer*

Although a Chartered Civil or Structural Engineering qualification is desirable, the numbers with these qualifications and with experience of the co-ordination of temporary works, is unlikely to be sufficient to provide cover for all projects. The key attributes of a competent TWC are in order of priority,

- 1. relevant experience,*
- 2. formal TWC training and*
- 3. professional qualifications.*

3.2 BS5975

The BS does not say anything beyond the need for the TWC to be ‘*competent and to have relevant up-to-date training and both the qualifications and the experience appropriate to the complexity of the project*’. The definition of competence used in the BS is:

3.11 competent person

Person with sufficient knowledge of the specific tasks to be undertaken and the risks which the work will entail, and with sufficient experience and ability to enable them to carry out their duties in relation to the project, to recognise their limitations, and to take appropriate action in order to prevent harm to those carrying out construction work, or those affected by the work.

4 Examples of Industry guidance

The ‘ICE Manual of health and safety in construction’, Chapter 17 ‘Falsework’ suggests:

In practical terms this (i.e. competence) can be taken to mean:

- *Knowledge of the relevant structural engineering design and construction processes*
- *Knowledge of relevant safety legislation and industry good practice*
- *Substantial site experience of falsework of similar type and complexity*

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5 Example requirements of contractor organisations

These obviously vary organisation to organisation and represent individual organisation's own preferences. Hence these are included for information only.

Temporary Works Co-ordinators

Example 1 (from a Contractor)

(1) Essential Requirements

- (a) The TWC should have a relevant academic qualification (e.g. civil engineering degree, HND or HNC) or in the absence of this the DI must be satisfied that the TWC has the same level of engineering knowledge and understanding as someone who has a relevant academic qualification.
- (b) The TWC must have at least 5 years experience of working on similar projects.
- (c) The TWC must have attended the in-house TWC course.
- (d) The TWC must have a detailed knowledge and understanding of this procedure and its implementation.

(2) Desirable Requirements

- (a) For projects involving complicated or high risk TW the TWC should be a Chartered Civil Engineer and/or have TW design experience. Appointment of a TWC with no additional responsibility for site operations will be considered for projects of this type.

(3) Additional Requirements

- (a) The TWC may need to satisfy the competence requirements of a third party, for example Network Rail for projects where the TW could affect the safety of an adjacent railway. In these situations the DI must take account of these additional requirements when appointing the TWC.

Temporary Works Supervisors

Example 1

(1) Essential Requirements

- (a) The TWS must have at least 3 years experience of working on similar projects.
- (b) The TWS must have attended the in-house TWC course.
- (c) The TWS must have a detailed knowledge and understanding of this procedure and its implementation.