



**Temporary Works
forum**

Promoting best practice in
the construction industry.

TW18.010

Output from the Temporary Works in Construction Research Symposium
Northumbria University, Newcastle, September 2017

NOTE:

The **bold headings** indicate the theme considered. The bullet points beneath give the research questions or statements raised during the “sand pit” session.

Why do people do what they do?

- Backpropping design (interaction with floors and post tensioned structures)
- 20 principles of temporary works
- Application of Eurocodes to temporary works design

Buildability

- What are the twenty simple engineering principles?
- How can CDM be evolved to genuinely inspire design for minimal accidents?
- Measurements of buildability? (metrics)
- How to influence/consider buildability through design?
- What is ‘buildability’? What are its features?

Thrust blocks

- How do reinforced concrete thrust blocks work?

Engineering education

- What is the best way to teach young engineers about temporary works? Is site experience essential?
- What are the relative role of analysis, heuristics, experience, and taught knowledge in construction method engineering/temporary works?
- Can academics teach temporary works? Do they have the experience?
- Engineering education should explain the difference between temporary and permanent works.
- Construction methodology course should be part of every academic year?
- How do we get young engineers site experience?



Cont./...

- What are the 20 simple principles that can be demonstrated, and with which every engineer should be familiar?
- Can temporary works be taught in the classroom environment? If not, then how?
- What are the benefits of teaching the history of engineering – and perhaps philosophy?
- Why don't more universities teach construction methodology? How would you teach it?
- What are the career options within temporary works?
- How do you measure competence/buildability of design?

Philosophy

- Why is there a distinction between 'temporary' and 'permanent'?
- How do we change the 'branding' of temporary works?
- What are temporary works?

Education/Policy

- Why do people do what they do? (Human factors/failure)
- How do we instil an attitude of safety on site, and extinguish bravado?

Policy/Technical

- How do we incorporate buildability in permanent works design?
- Is there a procedure for designing slope stability for temporary works?

Regulations Policy and Management

- How do we get clients to pay for appropriate supervision on site?
- How do you get contractors to follow your design?
- How are Eurocodes to be used in temporary works design?
- How can clients influence buildability on site?
- How do we measure buildability?
- How can we change CDM to be effective?
- How to generate 'trust' between all parties on a construction project?
- When do we need design certificates?
- How do we interpret Eurocodes for temporary works?
- How do we promote innovation in temporary works? To use something provable rather than proven.
- In what area of temporary works would an 'idiots guide' be beneficial?
- The role of Temporary Works Coordinator is an admission of an imperfect management system? What roles will be equally beneficial?
- Spread of accidents and fatalities by company size?

Technical questions

- How do you apply partial factors to temporary rock engineering?
- How much flow for wicking nylon ropes?
- Ties in masonry – examine different design methods?
- Capacity of reinforcement ties?
- Rebar stability – Strength of ties and cages. How to lift rebar? Factors of safety?
- Capacity of reinforcement ties?
- Tensile strength of mass concrete?
- How does reinforced concrete work in shear?
- How do reinforced mass concrete thrust blocks work?
- Is there an analysis method to model/idealised fatigue loading from tidal forces on supporting temporary works?
- Research into tensile strength of concrete at early age
- How do we get soil parameters for mixed soils?
- What are the flotation forces of tunnels on soft ground?
- What are the risks associated with modern design methods (lure of the virtual ... ?)?
- Using recycled materials from site as temporary works?