

CONSTRUCT FSG Formwork Products Policy

The CONSTRUCT Formwork Suppliers Group (FSG) members have identified an increased health and safety risk in UK construction due to the rising prevalence of unverified copy formwork and falsework products. This issue has been observed in formwork accessories such as tie rods and clamps, as well as in larger components like panels, beams, and aluminium shoring systems.

This situation is not new and was recently noted in a previous Temporary Works Forum (TWF) Information sheet number 8 “copycat product” dated January 2020.

Background on Copy Equipment

Aluminium systems were introduced to the UK around 40 years ago and many formwork product patents have now expired with a possibility of the functionality being legally copied (but retaining trademark protection from the name and visual representation, as well as protection from general laws relating to passing off).

We are aware of copies being made of all the major formwork systems on the market. It is considered highly likely that these will be done without knowledge of the required materials, quality controls and manufacturing tolerances needed to ensure that the products will meet the loading criteria defined.

Many of the UK formwork systems will have been designed to meet German and European standards and regulations, as well as UK standards and regulations. These require independent 3rd party verification, via approved engineers, to show that manufacturing drawings, product manufacturing, component testing, and system structural analysis are carried out according to the stipulations of the codes EN 12811 1-4, EN 12812, EN 12813, EN 16031 etc.

It is crucial to recognize that OEM supplier technical data is only applicable to genuine products from the supplier and must not be used with non-genuine equipment or when mixing genuine and non-genuine equipment. The data is created with verified knowledge of material grades, tolerance fits, and total functionality of the systems. Any deviation from the agreed manufacturer invalidates the technical data.

Historical Example of Copy Formwork Issues

A notable incident involving copy formwork occurred in the 1990s during the construction of the Glaxo Pharmaceuticals Stevenage Centre. A formwork table built with copy equipment broke apart while being moved, causing a sudden, unexpected movement of equipment that pushed a worker over the edge of the building, resulting in a fatality. The equipment failed because the thickness of metal around the T-bolt slot had been reduced, allowing the T-bolt to rip out of the slot under load. This tragic incident could have been avoided if genuine products had been used.

Legal and Safety Responsibilities

All stakeholders have duties under Health & Safety legislation such as the **Provision and Use of Work Equipment Regulations 1998** and the **Health and Safety at Work Act 1974** which dictate that all equipment must be fit for purpose. Under the **Corporate Manslaughter and Corporate Homicide Act 2007** Companies and organisations can be found guilty of corporate manslaughter as a result of serious management failures resulting in a gross breach of a duty of care.

Acceptability of Copy Products

Copy products could potentially be acceptable if they were clearly identified as such and were technically verified to their own data showing compliance with the rigorous development and testing process set out in EN 12811 1-4, EN 12812, EN 12813 and BS5975. Tests on copy products have resulted in a reduction in SWL capacity of 20%-25% against the genuine product. Mixing copy equipment with genuine equipment also undermines the integrity and capacity of the OEM equipment.

Increased Prevalence of Unverified Copy Products

Due to financial pressures, there is a growing prevalence of unverified copy products in the UK construction market. Raising awareness of this issue is essential, as many replica products are produced without full technical insight into the performance requirements of OEM products and without independent technical verification. Copy products pose an increased risk, especially when mixed with genuine products and when using the technical data of the OEM product/system. The disconnect between manufacturing drawings, material specifications, tolerances, and technical data for genuine products creates a significant health and safety risk.

Potential Risks of Replica Products

Replica products could be a health and safety risk in many ways:

- **Material Grades:** Use of different material grades than those specified.
- **Weld Quality:** Poor welds create weaknesses in the system. Many formwork products are aluminium, and the welding process is complex.
- **Manufacturing Tolerances:** Lack of knowledge of acceptable manufacturing tolerances, where out-of-tolerance issues create fit problems and weaknesses in connections.

Insurance and Liability Concerns

Using copy products creates insurance uncertainty and potentially uninsured risks. Designers of temporary works solutions specify products based on published technical data for OEM

products. Anyone knowingly or inadvertently changing the product from that specified assumes the role of Designer, with associated responsibilities under the CDM Regulations. The failure of an unverified copy product can result in uninsured losses and ambiguity regarding professional indemnities and product liability insurance responsibilities.

Awareness and Identification

There appears to be a lack of knowledge among site staff that they might be using inferior products unknowingly. Principal contractors often focus on checking design, erection, and methods but may be unaware that an inferior copy product is being used on their site. Genuine equipment is identifiable by manufacturing codes and identification markings. All genuine suppliers can show these markings and identify when and where the product was manufactured, and quality checked. If a product has no markings, it may be a copy with no technical or quality backup. Copies are often produced with markings, so there is no substitute for obtaining material from the original manufacturer or supplier.

Conclusion and Call to Action

The Formworks Suppliers Group committee of CONSTRUCT believe this is a health and safety risk concerning all members and the wider UK construction industry.

The aim of this note is to;

- Raise awareness of the issue to try and capture/prevent problems on-site
 - o Issue a safety bulletin via CONSTRUCT
 - o Engage with the TWf and issue an updated information sheet
- Engage with contractors to discuss and mitigate risks.
- Promote a discussion on the UK standards and regulations for defining product verifications.