

### What is an Engineered Product?

Engineered products are designed, tested and manufactured according to approved standards. It is important to understand the differences between an engineered and non-engineered product.

### Official Seal of Engineers

A product that has not been designed to a specific standard may receive certification from a professional engineer (e.g. a self-fabricated work platform intended for use on a telehandler). An engineer's certification must be in writing and marked with their official stamp or seal.



### Examples of Engineered Products

You may find various engineered products on site ranging from machinery, materials and tools, to the PPE you use. These products **must** be set up, maintained and used as intended by the manufacturer to ensure worker safety.

Here are some common engineered products found on construction sites:

- **Fall Protection Equipment:** Harnesses, lanyards, retracting lifelines, anchor points and other related systems are examples of devices that must be designed in accordance with an approved standard.
- **Work Platforms for a Telehandler or Forklift:** These devices must be designed in accordance with an approved standard or certified by a professional engineer.
- **Scaffolding:** These systems come in different shapes and sizes. They must hold the weights of people, materials, tools and more. The components must be designed and rated to withstand those weights and forces.

### Benefits of Using Engineered Products

- **Structural Integrity:** Engineered products are designed to withstand intended load and stress, ensuring structural integrity. Non-engineered products may not undergo similar analysis and can fail unexpectedly, posing a risk of collapse or malfunction.
- **Safety Standards:** Engineered products often adhere to strict safety standards set out by regulatory bodies.

Non-engineered products may not comply with those standards, potentially leading to damage and/or injuries to workers and bystanders.

- **Durability:** Engineered products are constructed with materials and methods that ensure durability under specific conditions. Non-engineered products may not have the same level of durability, increasing the risk of wear, tear or sudden failure.
- **Financial and Legal Implications:** Engineered products don't face the same financial risks that non-engineered products do (e.g. on routine repair, replacement, fines, legal proceedings, etc.). Engineered and engineer-certified products that comply with local legislation reduce liability and help demonstrate due diligence as a defence if an incident were to occur.

### Best Practices

- **Use Certified Engineered Products:** Prioritize the use of engineered and engineer-certified products that comply with industry standards.
- **Set Up and Use:** Supervisors and competent workers should ensure the products are set up as specified by the manufacturer.
- **Training and Awareness:** Train and educate workers on safe use, proper set-up, dismantling (if required) of the products, risks associated with incorrect use, and the risks non-engineered products can impose.
- **Regular Inspections:** Conduct regular inspections of equipment and structures to identify signs of wear, damage, tampering, functionality, and actual and potential hazards.
- **Recertification:** Prior to being put back into service, some products require recertification from an engineer at pre-determined intervals or when an incident occurs. Always read and follow manufacturer recommendations.

### Conclusion

Selecting appropriate engineered products and certifying non-engineered products when required is crucial. It is equally important to set up and/or use them as the manufacturer intended, regularly inspect and maintain the products, and train workers on safe use and risks involved with the work they do.