

Tool Box Talk

Engineered vs Non-Engineered Products

When starting a project it is important to review the differences between an engineered product versus a non-engineered product. Engineered products are designed, tested and manufactured according to approved standards.

Benefits of Using Engineered Products

- Structural Integrity:** Engineered products are designed to withstand intended load and stress, ensuring the structural integrity of the product. Non-engineered products may not undergo similar testing and can fail unexpectedly, posing risk of collapse or malfunction.
- Safety Standards:** Engineered products often adhere to strict safety standards that are set out by regulatory bodies. Non-engineered products may not comply with these standards, leading to potential safety breaches and accidents.
- 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 risks that non-engineered products do. Failure of non-engineered products could lead to additional costs for repairs, replacements and potential legal proceedings. Using an engineered product and/or having an engineer certify a product can cover liability and due diligence in the case of a structural or mechanical failure.

Best Practices

- Use Certified Engineered Products:** Prioritize the use of certified and tested engineered products that comply with industry standards.
- Regular Inspections:** Conduct routine inspections of equipment and structures to identify any signs of wear or potential hazards, especially when non-engineered products are in use. In certain cases products require a recertification from an engineer prior to the product being put back into service.
- Training and Awareness:** Educate the team about the risks associated with non-engineered products and emphasize the importance of using certified equipment for safety and reliability.

Examples of Engineered Products

You can find many engineered products on-site ranging from the materials and tools you use, to the PPE you will require to do the job safely. The following are engineered products commonly found on construction sites:

- Anchor points used for fall protection are a great example since permanent anchor points are required to be an engineered product or certified by an engineer. This differs in the case of a temporary anchor point which does not have the engineering requirement.
- Shoring boxes are another example of an engineered product you will find on site. These are required by law to be designed, installed, used and dismantled according to an engineer's specifications. This ensures the safety of those working in, near or around the excavation as well as the safety of any nearby structures.
- Demolition where adjacent or adjoining structures may be affected is another case where an engineer is required. This provides a safeguard for these surrounding structures, ensuring their structural integrity is maintained.

Engineers Official Seal

When a product is engineered or certified by an engineer, the certification must be in writing and should be marked with an official stamp or seal. To the right is an example of how this stamp/seal looks.



Conclusion

Understanding the hazards associated with non-engineered products is crucial for maintaining a safe working environment. By choosing engineered products that meet industry standards, conducting regular inspections and ensuring everyone is aware of the risk involved you can minimize possible injury or loss of time for equipment/tool repair and overall cost of a job.