

Mistakeproofing: A Mindset and Practice to Improve Construction Occupational Safety and Health

Mistakeproofing the Design of Construction Processes Using Inventive Problem Solving

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Overview

“Mistakeproofing” is the use of any device or method that either makes it impossible for an error to occur or makes the error immediately obvious once it has occurred. The objective of mistakeproofing is to reduce or eliminate the occurrence of errors, as they cause resource waste and defects. Mistakeproofing includes both labor and management: everyone can help identify opportunities to reduce or eliminate errors by applying mistakeproofing tools and practices through creative problem-solving. The authors explore how mistakeproofing applies in construction to reduce incidents and worker injuries, which are substantial sources of waste in the industry as they interrupt production, cost lost workdays, or result in other harm.

Key Findings

- The principles of mistakeproofing offer practical and useful application in the construction industry. Their systematic pursuit is bound to help improve quality performance, including safety and health performance.
- Quite a few applications of mistakeproofing already exist in the construction industry. Documentation of existing practices will inspire greater adoption of mistakeproofing.
- Developing a mistakeproofing mindset starts by raising awareness and empowering people to experiment with devices or methods in pursuit of continuous improvement. Training will be needed to foster a mistakeproofing mindset.
- The generation of new ideas on how to mistakeproof certain product or process designs can be supported by drawing on the principles of TRIZ (Theory of Inventive Problem Solving).
- The six principles of mistakeproofing align to some degree with the five levels in OSHA's Hierarchy of Controls, in that both prioritize elimination and substitution of practices subject to human error.

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Read the report:

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