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Problem: HOW DOES THE USER OF LIFT EQUIPMENT KNOW THE "RATED WORKING LOAD" (RATED CAPACITY)?

OSHA regulations (Part 29 Section 1926.251) states that: "Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load."

Problem: SHOULD LIFT EQUIPMENT THAT IS NOT PROPERLY IDENTIFIED BE PLACED INTO USE?

There are two reasons why unidentified lift equipment should not be placed in operation.

(1) The lifting equipment can be overstressed and fail causing people to be injured and product damaged.
(2) It is a violation of OSHA regulations.

Problem: WHAT HAPPENS WHEN LIFT EQUIPMENT IS USED WITHOUT IDENTIFICATION OF "SAFE WORKING LOAD"

Unfortunately, nothing happens until someone is hurt. Then not only is OSHA involved, but the person injured suffers pain or death. Violation of OSHA regulation can result in financial penalties, but the biggest penalty is to the person injured. The best policy is to use common sense and make sure "lifting systems" are properly identified.

Problem: WHAT METHODS ARE AVAILABLE TO DESIGN A "LIFT SYSTEM"?

One method of designing a "lift system" is to use available materials and then test it to 5 times the "safe working load". Use stronger materials whenever failure occurs until a test does not fail. When a test does not fail, it is good for a FS = 5. This method could be called a "proof of design" method.

A simpler method is to design each component of the "lift system" for the load it must carry. Calculations require less time and effort than the hit or miss "proof of design" method. Formulas and properties of materials available provide sufficient information for a reliable design. Accuracy of the design and fabrication is demonstrated when the lift system is physically tested to 125% of the "safe working load"