



# *the* OUTRIGGER

R. Baker & Son Magazine  
*Veteran Owned Small Business*

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## R. BAKER & SON OSHA's New Final Rule on the Use of Cranes

After years in the works, OSHA's new final rule on the use of cranes and derricks in construction went into effect on November 8, 2010, replacing standards established 40 years ago that were in serious need improvement. About 267,000 firms employing 4.8 million workers were affected.

The new final rule is designed to prevent electrocution, safety hazards during assembly and disassembly, and equipment collapse and overturn. It sets requirements to ensure that ground conditions are sufficient to support the equipment and its load. Tower crane parts are required to be pre-inspected prior to erection. Employers are required to ensure that crane operators are qualified and certified, and that all workers are properly trained to recognize work zone hazards associated with equipment and any related duties. The rule also regulates the use of synthetic slings for assembly / disassembly work and procedures for working within the vicinity of power lines.

"After years of extensive research, consultation and negotiation with industry experts, this long overdue rule will address the leading causes of fatalities related to cranes and derricks," said Secretary of Labor Hilda S. Solis. The new standards are expected to lead to safer crane operations and significantly reduce accidents.

R. Baker & Son is in full compliance with the new standard and all riggers and signalpersons have been certified.



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## New Life for Old Buildings

**It's an undeniable fact that manufacturing in the United States has significantly decreased over the last decade as foreign competition has increased and many manufacturers have shifted production overseas.**

Factories have been shut down, their equipment packed up, sold, and relocated to new sites throughout the U.S. and around the world. This trend has raised concerns and posed many challenges, but it also offers new opportunities for reuse and rebirth.

One important concern that arises when a company halts production is the fate of the vacated buildings and the land they occupy. Some buildings are demolished, while others are to be refurbished for manufacturing or reconfigured into warehouse space. Others are reincarnated as prime commercial or residential real estate commanding top dollar, such as the old Maxwell House factory in Hoboken and the Domino Sugar refinery in Brooklyn, both of which have been converted into luxury apartments.

Restoration and reconditioning of these old factories often uncovers many interesting architectural and industrial artifacts from an era gone by. Beneath layers of paint and dirt, hidden in corners or in plain view, items that might have been considered junk in the recent past are increasingly salvaged and reused, or find rebirth as objects of value and beauty. One good example is the reuse of old materials in the refurbished Philadelphia Navy Shipyard.

Many manufacturing plants constructed during the mid-20th century utilized materials that have proved to be hazardous over time. Regardless of whether an old factory is slated to be refurbished or demolished, there are environmental, health and safety issues that must be addressed along the way. Toxic materials like asbestos, lead paint, PCBs and contaminated soil must be safely contained and removed, and the site restored to code compliance.

**R. Baker & Son has been instrumental in countless relocation, select demolition, remediation and reconditioning projects to the complete satisfaction of our clients.** As a leader in our industry servicing customers throughout the U.S., Puerto Rico, Canada and Europe, R. Baker & Son should be your first choice for your project.



# Cranes In Ancient Rome

During ancient times, the Romans erected some astounding structures such as the Colosseum, the Pantheon, and the aqueducts, leading us to wonder “how did they do it?” Much of what we know about Roman construction and engineering comes from 1st century writings by Vitruvius and drawings that depicted surprisingly sophisticated machinery, ancient precursors to our modern day cranes.

Using the simplest type of crane, which consisted of a single-beam jib, a winch, a rope, and a block containing three pulleys, a single man could raise a load weighing 330 lbs. Larger crews of men or oxen were required to operate heavier cranes utilizing five pulleys. The largest type, the polyspastos, used a set of three by five pulleys and came with two, three, or four masts, depending on the maximum load.

With four men at each side of the winch, it was capable of lifting over 3 tons, and when the winch was operated by a treadwheel, it could lift as much as 13 tons. In comparison to methods used by ancient Egyptians to construct the pyramids, which required fifty men to move a 2.5 ton block of stone, the Romans' lifting capability was 60 times greater.

It is obvious, however, that the ancient Romans' lifting capabilities went far beyond those of the polyspastos. Some structures contain blocks weighing as much as 100 tons at heights up to 19 meters, and the 53-ton capital block of Rome's Trajan's Column rests 34 meters from the ground. Modern engineers believe that these extraordinary lifts were achieved using a complicated system of towers, masts, capstans, men, and draught animals. Technology may have come a long way since then, but the physics of lifting heavy loads never changes, so the basic mechanical principles of ancient Rome still apply to our industry today.

INNOVATION + INTELLIGENCE + PASSION

## INTERPHEX 2011™

R. Baker & Son will be exhibiting at INTERPHEX 2011 at Jacob K. Javits Convention Center on March 29-31, 2011.

Please join us at booth Y2541 to meet Art Sferlazzo and discuss your project needs for rigging, plant & machinery moving, demolition, and plant and equipment relocations and installations. To attend Interphex as a guest of R. Baker & Son and save 15% on conference packages, please visit our Press Room to register.



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