

American Concrete Pipe Association, Irving, Texas 75063-2595, USA

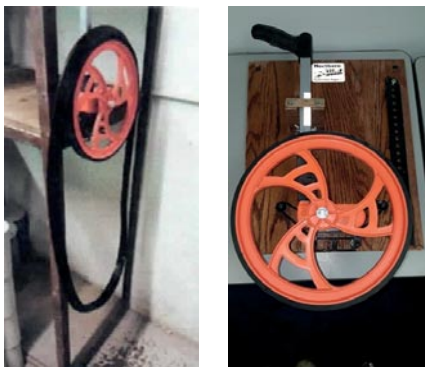
ACPA's awards drive innovation in concrete pipe plant facilities

The American Concrete Pipe Association introduced its Chairman's Quality Award in 2015 to recognize member plants and/or companies that have implemented successful innovations resulting in higher quality products and more efficient production processes. At its annual meeting in 2016, the overall winner was Northern Concrete Pipe, Inc. – Bay City, MI for its "Surveyor's Wheel" that safely and efficiently measures gasket length.

■ Matt Childs, P.E., President,
American Concrete Pipe Association ■

Rich Brewster, Director of Quality Control, developed the wheel apparatus. The process involves mounting a surveyor's wheel on a wall or shelf and rolling a gasket across the measuring wheel to determine its circumference length. The measuring tool and gasket are both marked with a start line, which are placed in line with each other. After resetting the distance indicator to zero the gasket is rolled across the wheel until the line on the gasket and the tool line up with each other again. The final measurement is read from the distance indicator and recorded. The wheel is used for accurately confirming length of gaskets required for precast concrete drainage products.

While trying to measure large gaskets which can exceed 32 feet for a 144-inch gasketed product, production staff at Northern Concrete Pipe found it difficult to accurately roll a gasket along a tape measure on the floor. Finding enough clean, clear, and safe floor space to achieve this was often a challenge, hence the innovative surveyor's wheel.



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The pallet knocker is a device that uses a pneumatic cylinder to extend a fabricated hammer. As the lever is engaged the hammer makes contact with the bottom of a pallet ring used to produce the bell end of a pipe. This contact causes the pallet ring to separate from the concrete pipe.

The wheel allows quality control personnel to measure gaskets efficiently, consistently, and accurately. The procedure measures gaskets in a clean area and protects the gasket for use. Gaskets can be measured in a safe area far removed from fork truck and moving equipment. The measuring technique keeps personnel from working on their knees in bent positions.

The Chairman's Quality Award, combined with ACPA's Chairman's Safety Award, help draw the attention of management and production teams to the vital need of production efficiency and safety in precast plants to be competitive in the marketplace. The Safety Award recognizes plants and/or companies that have implemented successful safety initiatives that result in a safer and more productive workplace. The overall winner announced at the 2016 ACPA annual meeting was Rinker Materials – Concrete Pipe Division CEMEX – Orlando FL for its "Pallet Knocker."

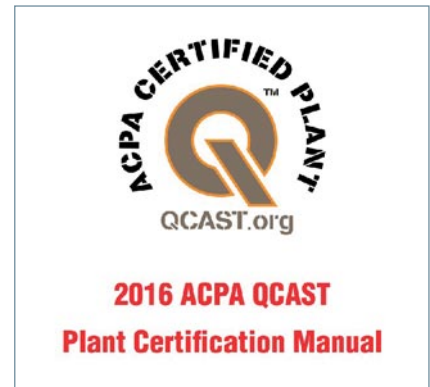
The pallet knocker is a device that uses a pneumatic cylinder to extend a fabricated hammer. As the lever is engaged the hammer makes contact with the bottom of a pallet ring used to produce the bell end of a pipe. This contact causes the pallet ring to separate from the concrete pipe. The device is used on 30-inch to 48-inch diameter pipe.

During the old tip-out process, an employee would use a 4 to 5-lb sledge hammer to strike the bottom of the pallet ring until the ring would separate from the bell end of the pipe. An employee could swing the hammer 80-100 times a day. Rinker's concern was the potential for an employee to sustain an injury and fatigue. Now, the employee is farther away from the forklift and pipe and protected by the guarding during the pallet removing process. The potential for injury and fatigue has been reduced if not eliminated.



■ Matt Childs, P.E. is President of the American Concrete Pipe Association. He has been with ACPA since summer, 2000. Matt holds a Bachelor's Degree in Business Administration from Baylor University, a Bachelor's Degree in Civil Engineering, and a Master's Degree in Civil & Environmental Engineering from the University of Texas at Arlington. He is a registered professional engineer in the state of Texas. Matt is the fourth generation of his family to have worked in the concrete pipe industry, and worked as a laborer in a concrete pipe plant in Texas during his college years. matt@concrete-pipe.org

and handling/storage procedures, as well as performance testing and quality control documentation. Plants may be certified in storm sewer and culvert pipe, sanitary sewer, box culverts, three-sided structures, manholes, and precast structures. Plants in each of the certification categories that score 95% or better on their annual QCast audit are recognized with the ACPA QCast Awards.



ACPA QCast Manual

QCast is a voluntary program to continue the advancement of quality in the precast concrete pipe and products industry. Each year the manual for the program is reviewed and when necessary updated to accommodate industry-wide Standards revisions, and changes in production technology. The purpose of the manual is to establish ACPA's Certification Program requirements. It forms a basis by which ACPA's third party audit agency will audit participating pipe, manhole, box culvert, three-sided structure and precast manufacturers' plants. The manual includes requirements for:

- Calibration and certification of production, testing, and inspection equipment and instrumentation,
- Ongoing plant (internal) inspection and test documentation,
- Product tests and documentation,
- Raw material certification documentation,
- Third party audit verification,
- Product design documentation,
- Product storage, handling, and repair.

is a reflection of ACPA's quality and safety awards, QCast certification program and Quality School. But it is the friendly competition between members for the awards, and then sharing the knowledge associated with the entries that result in greater efficiencies in production and safe workplaces. There is no doubt that the Chairman's Quality Award and Chairman's Safety Award drive innovation that is characteristic of ACPA-member concrete pipe plants. ■



Production facility safety and overall efficiencies in plant productivity include cages to isolate crane hook blocks from workers, repositioning of hydraulic hoses on forms to reduce back and muscle stress injuries, caged ladders and decks for accessing equipment, and volumes of print material for warnings, best practice procedures and personal health and hygiene.

Plant management is ultimately responsible for the quality of the product made in their plant. The manual requires that management shall ensure that the supervisory and production personnel immediately responsible for product quality are properly trained. The training results in innovation in quality and safety that is recognized industry-wide.

Simple innovations that lead to production facility safety and overall efficiencies in plant productivity were highlighted at the ACPA's annual meeting. These include cages to isolate crane hook blocks from workers, repositioning of hydraulic hoses on forms to reduce back and muscle stress injuries, caged ladders and decks for accessing equipment, and volumes of print material for warnings, best practice procedures and personal health and hygiene.

Both the Quality and Safety Awards are reinforced by the ACPA's Plant Certification Program, commonly known as QCast, which is the recognized Standard for quality assurance in America's concrete pipe industry. The QCast program covers the inspection of materials, finished products

The quality and safety awards, and the QCast program are elements of the ACPA's Quality School held each year at the beginning of the heavy production season. The 4-day school is attended by veteran employees and new hires alike. Employers encourage their production staff to attend and then return to their workplaces with certificates attesting to their competence in modern production techniques, reinforcement, concrete mixing, batching and transport, self-consolidating concrete, consolidation, pre and post pour inspection, curing and fundamental calculations.

The high quality of concrete pipe and the production facilities of member companies

FURTHER INFORMATION



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