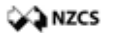


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Technologies to Sustain Environmental Stewardship
in Preparation of Infrastructure Stimulus



Alar Engineering Corporation, Mokena, IL 60448, USA & Liebherr Concrete Technology Co., Newport News, VA, 23607, USA

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The World of Concrete hosted the CSDA Green Roundtable on Slurry Recycling, where Alar Engineering Corporation and Liebherr Concrete Technology Co. combined their technological “know-how” and presented a mechanical alternative for recycling concrete process slurry-water, meeting environmental regulations, minimizing waste and reducing operation costs as it pertains to the concrete sawing and drilling institutions. These machines could enable companies to gain leverage in winning prospective infrastructure project bids.

In related precast and ready mixed industries, the Alar Auto-Vac® is proven technology for the treating and recycling of concrete process water at a lower cost than conventional do-it-yourself methods. The installation of the Auto-Vac® water recycling system has performed beyond expectations at companies such as Hanson Aggregates in Southern California (a Heidelberg Cement Group), and the availability of a combined Liebherr LRS Recycler and Alar Auto-Vac® Water Recycling System could further enhance operations in new concrete markets such as infrastructure.

“The Alar Auto-Vac® is experiencing unprecedented success in the concrete world,” said Steve Gorski, National Sales Manager of Alar Engineering Corp. “It has already surpassed record sales within the precast and ready mixed markets. With the combined technologies of the LRS Recycler and Auto-Vac® Filter, we expect the highway, bridge and sewer system companies to make the move to these mechanical marvels.”

Staying Ahead of the Curve through Environmental Stewardship

Many precast and ready mixed customers have already benefited from implementing a Liebherr and/ or Alar system. Quality Saw & Seal, one of the leading providers of concrete sawing and drilling services in the Midwest United States, recently acquired a Liebherr LRS Recycler and Alar Auto-Vac® Filter for recycling slurry-water from their concrete drilling & sawing, bridge deck grooving, pavement grinding, core drilling,

and all related concrete cutting activities. The LRS Recycler and Auto-Vac® combination will enable Quality Saw & Seal to proactively stay ahead of the curve by creating an “environmental edge”; allowing them to recycle their process slurry-water on location. The trailer-mounted units not only offer mobility, but a potential cost savings that could provide a return on investment in less than two years.

The Liebherr LRS Recycler separates out the rock “chips” and other aggregate materials, producing a clean, readily transported or recycled material. The concrete chips are easily collected and transported off site for use as fill or recycled. This system is [primarily] used for grinding and grooving operations. In the sequence of operation, the Liebherr machine would operate before the Alar.

After the Liebherr Recycler successfully removes the concrete pieces, the slurry-water (containing the cement fines) is pumped into an agitated holding tank. The objective is to keep the solids in suspension; not let them settle in the tank. The slurry-water is pumped from the mixing tank to the Alar Auto-Vac®. Prior to reaching the Alar system, a metered amount of polymer is injected into the filter feed line and blended with the slurry through a series of in-line 90° “injection” feed pipes. The polymer increases the micron size of the cement fines; allowing for faster filtration, cleaner effluent, drier solids, and conserves diatomaceous earth (the consumable filter media used during the Auto-Vac® operation).



This trailer-mounted Auto-Vac® produces dry, manageable landfill-ready solids, which is easily collected for transport off site.



The Auto-Vac® filter separates the cement fine solids from the water. As water is vacuumed through a filter aid media pre-coat, solids accumulate on the drum's surface. A variable speed knife advances, removing the solids from the surface with lathe-like precision.

The polymer-treated slurry water feeds into the Alar Auto-Vac® filter system. The suspended solids accumulate on the surface of the filter drum and the water is vacuumed through the diatomaceous earth filter

media. A variable speed knife advances, removing the solids from the drum surface; leaving a clean layer of filter media to capture more fines. The Auto-Vac® is a self-cleaning filter that separates the water from

the cement fines, generating ½ micron clean, recyclable water; and producing dry, manageable landfill-ready solids. The filtered water is pH adjusted and pumped into a non-potable clean water tank for reuse; the dewatered, filtered cement fines are easily collected for transport off site. "You have to see it to believe it," says Gary McCall, Area Manager, Hanson Aggregates West Region, of his Alar Auto-Vac® filter.

These recycling systems are the result of a collaborated effort driven by customer feedback, and the commitment to deliver the latest innovative products in one convenient installation. (Both systems can be sold, and operated, separately). ■



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FURTHER INFORMATION



Alar Engineering Corporation
9651 W. 196th Street
Mokena, IL 60448, USA
T +1 708 4796100
F +1 708 4799059
info@alarcorp.com
www.alarcorp.com



Liebherr Concrete Technology Co.
4100 Chestnut Ave.
Newport News, VA, 23607, USA
T +1 757 2455251
F +1 757 9288701
herbert.batzenhart@liebherr.com
www.liebherr.us