ORS DEMONSTRATION

(Oil Removal System)

For:

AMBRAKE Inc.

Elizabethtown, Kentucky

COTHERN BROTHERS PAINTING, INC.

Boston, Kentucky

&

Koester American Corp.

Virginia Beach, VA

December 29, 2005

ORS DEMONSTRATION JOB
December 29, 2005

Koester American provided an ORS demonstration in Elizabethtown, KY in conjunction with Cothern Brothers Painting, Inc. of Boston, KY. The demonstration was performed at the AMBRAKE Facility on 300 Ring Road in Elizabethtown, KY. The job site was a "U" shaped area of approximately 700 square feet of oily concrete substrate surrounding a large production machine. This area had experienced many coatings failures in the past mainly because the machine generates much oil and the area is in constant hard use. Cothern Brothers had prepared the area by scarifying the concrete in the area prior to the Koester ORS team's arrival. This left the concrete with a very porous, open and a highly profiled surface to work with, (excellent conditions for ORS). The prepared CSP surface profile was to a CSP 5-6, (Concrete Surface Profile[1]). The plant was in a shut down mode and there was no production in progress. The only other personnel in the plant were maintenance personnel and other trades performing their projects. Water and electricity were readily available adjacent to the demonstration area. The Koester team arrived on-site at approximately 9:30 a.m. and proceeded to unload the ORS equipment.

The ORS equipment was set up in the aisle adjacent to the machine/work area. All hook-ups were made and machinery tested for operation. The first operation, foaming with the ORS-D special detergent commenced at 10:15 a.m.

Cothern Brothers supplied four 55 gallon containers for waste water removal and additional labor for operations. Cothern Bros. and Koester set up equipment to keep interference with other trades to a minimum.

This project was coordinated by Mark Sholtes of HPP Industrial Sales. Mark set the project up with Cothern Bros. and Koester American ORS Division, our sincere thanks to Mark and his staff at HPP for making this demonstration possible. Also a special thanks to the entire Cothern Brothers Painting crew for their professionalism and skill which made the job a success.

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[1] CSP-Refer to ICRI Concrete Surface Profile Guideline # 03732, ICRI (International Concrete Repair Institute), 1323 International Concrete Repair Institute 3166 S. River Road, Suite 132 Des Plaines, IL 60018
Phone: 847-827-0830 concrepair@aol.com.

Personnel Present:

Cothern Brothers Painting: Bobby Cothern, President; Robbie Cothern, Project Manager; Floor Coating Professionals, (Cothern Bros): Junior, Tom.
HPP Industrial Sales: Technical & Engineering Services; Mark Sholtes.
Koester American Corp: Joachim Bohlmann, Mac Krauss ORS Technical Representatives.

Demonstration Action Report
Thursday 12/29/05

9:30 a.m. The Koester crew arrived on-site and proceeded to unload the ORS equipment with the help of the Cothern Bros. crew. All equipment was set up so as to minimize any interference with the other trades that were working in the immediate area. A water source and electricity were located and all hook-ups completed. Operations then commenced. Joachim Bohlmann gave the Cothern crew instructions and tips on equipment set up and the purpose and function of all components.

10:15 a.m. Foaming operations commenced and Joachim gave all hands a try at foaming with the ORS-D special detergent. Foaming was completed at 10:20 a.m. At this point the foam is left to soak and penetrate for 1 hour. A few of Cothern Bros. crew, (Junior and Tom), received some more instruction on the ORS-D while the others were sent to perform duties elsewhere in the plant.

11:20 a.m. Spinning operations with the 24" floor spinner commenced. Again Joachim gave the crew instructions on how to proceed with this piece of equipment. All hands took turns getting "the feel" of the machine and how it cleaned the deck. This operation utilizes 200° F hot water, (see diagram of demonstration area), so care must be taken on equipment handling. At this point, the Koester crew experienced its first set-back in that halfway through the demonstration the high pressure handle-gun blew an O-ring and started to leak hot water profusely causing a potential safety hazard for the machine operator. Here we found that we did not have a replacement O-ring on hand and some temporary measures were taken to keep production going. To the dismay of the Koester crew we did not have any replacement parts, but at this time Robbie Cothern came through and provided us with a replacement handle from a power washer that they had. This worked well and operations continued safely with a minimal interruption period. (Koester has since re-supplied the demo van with these parts). The first spinning operation completed at 12:10 p.m.

12:10 p.m. With the spinning completed rinsing of the deck started. Joachim gave the Cothern crew instructions on how to fully rinse the ORS-D out of the area. A vacuum was used to manage excess water. The crew used the "turbo" wand head with high pressure hot water for this operation and during the rinsing procedures a lot of oily debris was washed out from under the machinery. This was to have a later impact on vacuuming operations, but at the time as much of this debris as possible was scooped up with a shovel and discarded into the

waste water barrels. This debris ranged in size from large chunks of matter – dirt, concrete, rags, metal bits to a fine slurry type of material that seemed to be made up of fine dirt and dust and bits of old coating. These rinsing operations were complete at approx. 12:45 p.m.

12:50 p.m. Second foam "carpet" was laid down by the Cothern crew. Extra attention was paid to the areas of heavy oil contamination, (see diagram), and those areas that were contaminated when the debris was blown out from under the machines. The foam was left to sit for approx 1 hour. The crew went to lunch at a local restaurant and some of the Cothern crew was sent to another area of the plant for other duties. Approximately 1.5 gallons of ORS-D special detergent was used for these cleaning procedures

2:00 p.m. Final power rinsing commenced. Joachim decided that a second cleaning with the spinner was not necessary so the crew advanced to final hot water rinsing. Joachim gave the crew instructions on how to remove the ORS-D from the deck and how to address any stubborn spots. Some of the suspect spots were subjected to spot application of ORS-D and rinsed. After a section was thoroughly rinsed the floor was vacuumed to remove standing or ponded water.

During these operations, the Koester crew experienced their second equipment failure. Both internal sump pumps in both the twin turbine vacuums stopped working. This was traced to large amounts of debris that got into the vacuum system during floor vacuum operations. During these operations the particle separator was disconnected from the vacuum system and the floor debris was sucked directly into the vacuum chambers thereby clogging the sump pump with debris and causing them to overheat and trip the internal breaker. This emphasizes the need for the particle separator in the vacuum system. (The Koester vacuums have since been thoroughly overhauled cleaned and are once again working to spec.).

3:00 p.m. Final rinsing and vacuuming of water completed and crew prepared for coating operations. At this point the Koester crew removed water blasting, heating equipment, vacuums and associated hoses and accessories to make room for coating and sand broadcasting. ORS-C, (Coating) kits were brought to the area and mixing drill with jiffy mixer attachment set up. Tom and Junior mixed the first kit of ORS-C. This kit was used to cut in around the machines with brushes and to start coating the deck.

4:30 p.m. Cutting in commences and initial application of material to the deck. The Cothern crew used brushes to cut in around various machinery and tight areas. Bobby Cothern started rolling the floor out with a roller. Coating was accomplished initially by pouring, then using a squeegee to draw the material out and back roll with an 18" roller. Because of the rough surface of the concrete, it was decided to use a smaller 9" roller that offered better coverage of the material over this rough surface. Coating operations were completed at approx. 5 p.m. A total of three, 4 gallon kits of Koester ORS-C were used with some left over. There was approximately 700 square feet of substrate coated with an

average spread rate, (based on material used), of 100 sf/gallon. (this amount is not an exact figure but an approximation as the surface was not uniform and very rough and that there was approximately 1 mixed gallon unused).

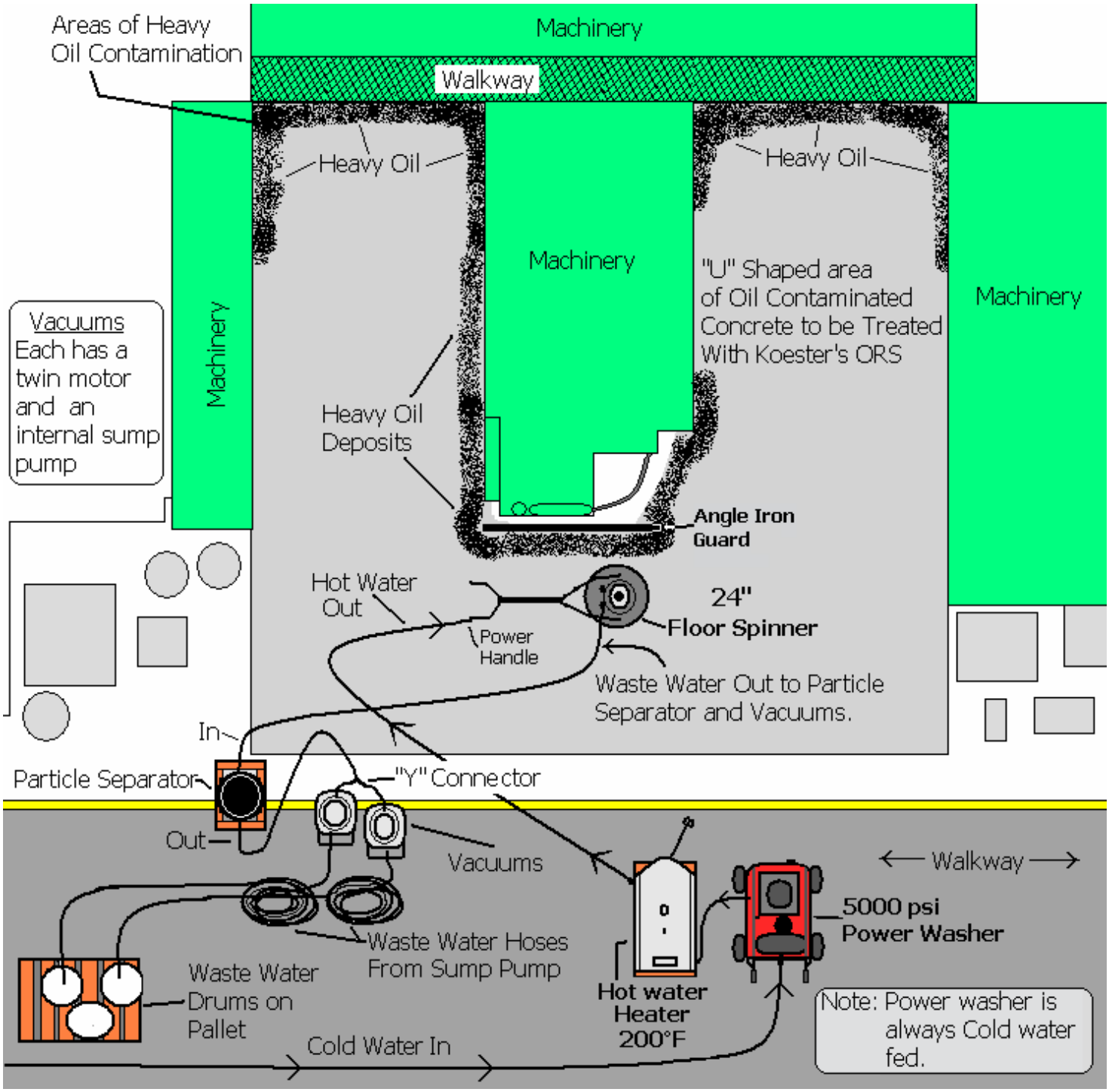
5:10 p.m. Sand broadcast commences with a fine grade washed silica sand. This was broadcast to rejection. Sand broadcast completed at 5:35 p.m.

5:40 p.m. Demonstration/job completed, clean up of all equipment and area of coating by Koester crew and the Cothern Brothers crew. Koester crew loaded equipment back into demonstration van and started return trip to VA Beach.

Koester Materials Used:	Approximately 2 gallons of ORS-D special detergent, approximately 7 gallons of ORS-C primer.
Materials supplied by Cothern Bros:	Roller covers and frames, squeegee, cut-in brushes, labor, broadcast sand and waste water barrels.
Materials supplied by AMBRAKE:	Water, 110 V power for equipment.

Koester American wishes to thank Mark Sholtes of HPP Industrial Sales, who was instrumental in setting this demonstration up with Koester American, Cothern Brothers Painting and AMBRAKE. A special thanks to Cothern Brothers Painting for providing the demonstration area and their professionalism and enthusiasm in our new process.

Floor Plan Drawing of ORS Demonstration
Area for AMBRAKE Facility
Elizabethtown, KY
December 29, 2005



* This drawing is not to scale

ORS Demonstration
Elizabethtown, KY

Picture Gallery

Koester American Corp.
Cothern Brothers Painting, Inc.

December 29, 2005

Floor area to be coated with the ORS treatment. This is the right leg of the "U" shaped area. This area has been subjected to oil contamination.

The left leg of the "U". Cothern Bros. has already pre-profiled the surface to an approximate CSP 5-6. Note the dark areas at the edge of the machinery, oil.

A close up of the oil and grease build up near the machine. You can see the edge of the floor preparation near the hose.

This area is directly adjacent to the previous photo and also shows extensive oil and grease build-up. The concrete appears to be uncoated in these areas.

This photo shows clearly the demarcation line between the oily substrate and the machined surface profiled area with aggregate showing.

Another area under the machine showing extensive oil build-up under and around these machines.

More oil, grease and debris. We were told that this particular machine caused a lot of oil contamination. This photo and the previous shots were taken toward the back of the "U".

This is toward the front of the center section on the front-left. The machine had been leaching oil into the substrate for years and had made coating impossible.

Robbie Cothern of Cothern Bros. on the left, Joachim Bohlmann, Koester American in the center and Mark Sholtes of HPP Industrial Sales on the right.

Mac Krauss of Koester American, grinding a steel stud even with the floor surface. Any studs, nails, or metal protruding from the deck should be ground off flush.

Mark takes a turn at foaming the substrate with the ORS-D, special detergent. Joachim gives Mark some tips on application techniques using the Koester foam gun.

Junior of Cothern Bros, foams the deck with the ORS-D foaming gun. This "carpet" of foam is applied in an even, thick layer covering the entire area to be treated.

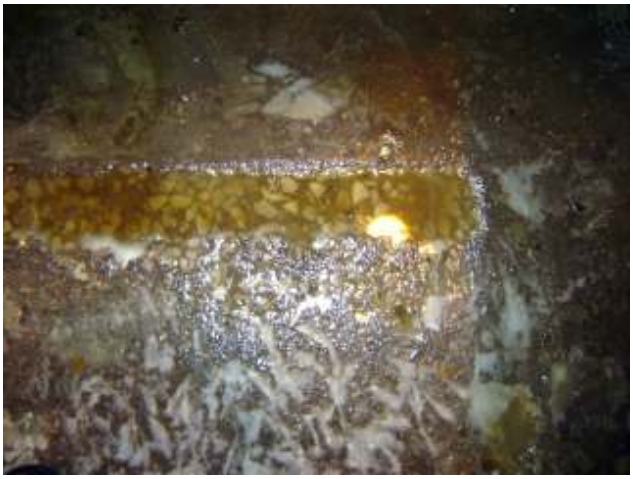
Foaming continues with Junior doing the application and Joachim assisting with the ORS-D container.

First application of the ORS-D foam complete. At this point the entire area is covered with the carpet and is of a white color. Let this soak in for 1 hour.

Oil is captured by the detergent and brought to the surface as seen by the yellowish colored areas in the foam above.

More oil coming to the surface in the foam. Notice how the foam is starting to become clear.

Overall view of the foam as the hour draws to a close. Again notice how the foam is turning clear from its original white color.



Close up of a very contaminated area at the end of the hour soak. The yellow liquid is oil trapped in a fine emulsion with the detergent.

Cothern Brothers Painting crew on-site: Junior on the left, Joachim in center and Tom on the right.

Joachim gives the crew instructions on how to proceed with the high pressure floor spinner to deep clean the substrate.

High pressure floor spinner in operation. Pressure is 5000 psi and water is 200° F. Note vacuum hose attachment to help the waste water.

Junior takes over spinner operations. This high pressure procedure forces the detergent into the concrete for deep cleaning action.

Spinning operations continuing. Note Tom tending the hoses for Junior as he moves the spinner over the entire floor being careful not to miss any spots.

Wrapping up the spinning operation. At this point Junior is letting the vacuum action remove some of the excess water on the deck.

Performing rinse operations to remove all the excess water and oil emulsion prior to the second application of foam.

Rinsing continues with Joachim standing by with a vacuum to remove and control water flow.

Junior applying the second foam carpet with Mark standing by.

Second application of foam down and a 50 minute or so wait follows. When the foam turns clear it is a good indication of the proper time.

It was decided not to spin a second time but to use the high pressure "turbo" nozzle to remove the last of the oil. This action also washed out a lot of debris.

Final rinsing continues. Some spot cleaning with the ORS-D may be necessary and it is a good idea to have some in a small spray bottle to accomplish this application.

Final rinsing commences and all standing water must be removed for primer coating. The concrete does not have to be dry, however.

Final vacuuming, note the clean look of the substrate.

This shot shows how the vacuums are arranged. Note the "Y" connector in foreground, hooking the two twin turbine vacuums to one hose for increased suction.

The floor is now ready to receive the ORS-C primer coating.

This is the same hose shown on the first page of this gallery that was covered in oil and grease. Note how clean the substrate is now.

This is also the same support that was shown on the first page. The water is leaching out from under the machine and needs to be taken up with rags. The concrete can be wet but no standing water.

Tom starts mixing procedures with the ORS-C primer coating. Tom is using a 1/2" drill and a jiffy mixer.

After mixing the ORS-C for approximately 3 minutes, it is poured into another bucket for distribution on the floor.

Here Tom is cutting in around the perimeter of the area. You must be careful not to get this application too thin, the proper millage rate must be maintained.

After cutting in, rolling operations started. The crew started coating using a squeegee and an 18" roller.

Squeegee operations over the rough substrate. This proved to be difficult as the material tended to "pond" in the low areas, pits and holes.

In this application a 9" roller was the best for application of the ORS-C. This allowed the material to be applied evenly with little ponding.

After application of the primer.

Another shot of the completed primer application.

You must wait for approximately 15-20 minutes before final application of sand is started. The waiting period is critical, i.e. not to start too soon, you want the sand on the surface of the coating.

Cothern Brothers president and owner, Bobby Cothern, using foot spikes, seeding the wet primer with fine silica sand. The broadcast is to rejection.

The final floor after broadcast is complete. This operation is done to rejection in the coating. The size of the sand determines the final surface.

The finished product. ORS treatment complete, coated with primer and seeded with sand. After a 12 hour wait, sweep up excess sand and apply final top coat system, (See data sheet for cure times-details).