

KOESTER AMERICAN CORP
PRESENTS

**AN ORS APPLICATION AT
HUB CITY FORD**



2909 NW Evangeline Thruway
Lafayette, Louisiana

APRIL 14 – MAY 4, 2007

WITH
PETRA COATINGS, INC.
Bowie, TX



May 16, 2007

Koester American's ORS Division provided training and equipment for an ORS application at the Hub City Ford auto dealership on 2909 NW Evangeline Thruway, Lafayette, LA from April 14th to May 4th of 2007. Koester American's ORS Division traveled to Hub City Ford to provide on-the-job-training to the crew of Petra Coatings, Inc of Bowie, TX, the contracted installer for the system. The application was on approx. 30,000 sf of oil contaminated concrete and the material was shipped from Koester American for the ORS application.

The project was planned in two phases; the first phase consisted of approx 15,000 sf on the front side of the shop with the Hub City Ford personnel moving all their tools and automotive equipment from this area for operations to begin. Upon completion of this first area, complete with final top-coating installed, the Hub personnel will move all their equipment back into this completed area and remove all tools and equipment from the second or back-side of the shop for operations to begin on the second 15,000 sf. Originally there was to be a time lapse of days or weeks between the two phases, but due to project delays the two were "tailed" together into one large phase to meet deadlines. Koester American ORS personnel flexed with the change in project plans to make sure that the Petra crew has full advantage of the ORS equipment and training.

Operations progressed through the facility until the entire area was deep-cleaned and the primer coating applied with the sand broadcast and even though there were many delays due to a faulty shotblaster, the ORS treatment went smoothly and as planned. The crew soon got into the rhythm of the ORS treatment which consists of foaming, spinning, vacuuming, foaming, rinsing and the primer application. All efforts were made by the installation crew not to interfere with the everyday working of the automotive shop and to keep any interference to a minimum. Hub City Ford was going through an extensive rebuilding plan during this application and all efforts were made by both the Koester rep and Petra Coatings to complete this project in a timely manner.

Koester American wishes to thank the Hub City Ford personnel for their patience and assistance in this project and to Petra Coatings for allowing us the opportunity to work with their professional floor crew and participate in this project.

ORS Division; Koester American Corporation

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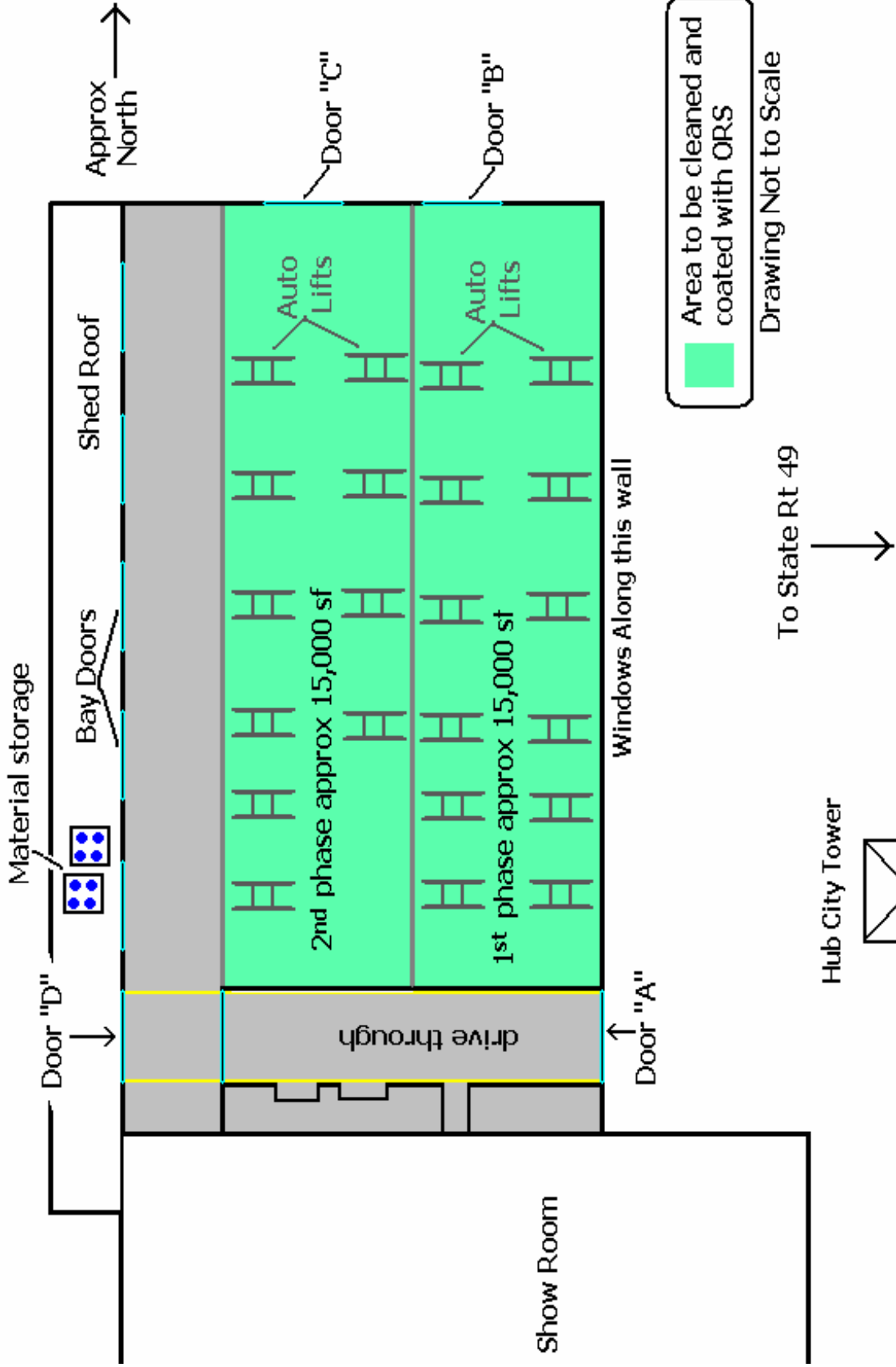
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Picture Gallery OF The ORS Application



Hub City Ford
Lafayette, LA



The following picture gallery covers the first of the two 15,000 sf sections of this facility. The second phase of 15,000 sf is essentially the same type of operation and entails the same installation procedures, equipment and scheduling as shown in the first section. Both sections were completed and the dealership resumed its auto repair operations on the new floor.



The Hub City repair shop to be treated with the ORS is the building with all the windows on the right above. Door A is on building front just to the right of the tower for reference.



This is the drive through section from door A to door D as noted on the floor plan, the ORS treatment will be applied to the area on the right in photo.



This is a shot of the first phase floor of approx 15,000 sf looking down toward door B. Note the shotblaster on right.



This shot shows the general layout of the shop with auto lifts built into the floor. This is looking back toward door A.



Shotblasting operations in progress. The floor was double shotblasted to remove a surface sealer, old wax, dirt and to profile the floor.



ORS water heater (silver) on left and 5000 psi water blaster on right set up prior to ORS operations. Note shotblasting is still in progress in background.



This slab is oil contaminated. Here oil is puddle on the surface by one of the lifts.



More oil on the concrete. This oil will penetrate deep into the substrate and continually leach back to the surface.



Here is a shot of the aggressive double shotblast pattern. Note the 90° pattern and the oil (dark areas) coming back up.



Another shot of the shotblasted deck just prior to the start of the ORS treatment. The dark areas are oil coming back to the surface through the open capillaries of the concrete.



The Petra Coating crew starting the first application of the ORS-D special detergent. The detergent is applied using the Koester foam gun, cold water and ORS-D.



The detergent is mixed at the nozzle along with 5000 psi cold water to form the "foam carpet" that will be allowed to sit for approx 1 hour.



The foam is applied at approx 350 sf/gallon and will sit for 1 hour. This will allow the maximum penetration of the concrete. Note that all lifts are in the up position.



This is a small test area to determine the amount of oil contamination. This shot was made 15 minutes after the foaming and note the oil already coming out.



Heavy oil concentrations around the lift rams, note the yellowish staining in the foam.



The special detergent will actually penetrate the concrete and bring the oil to the surface. Shotblasting helps this mechanism greatly.



After the 1 hour wait, spinning operations commence with the high pressure spinner and hot, (180° F) water for maximum deep cleaning.



Even though it does not look like much is happening, there is 5000 psi hot water shooting down at the deck forcing the detergent deep into the concrete.



The ORS equipment set-up. Left background is the water heater and blaster; to the right of those is the particle separator with the two vacuums in the foreground.



This is a shot of the deck after the hour wait on the foam which has gone from a white color to clear. Note the oil as a yellowish stain in the center.



This shot is a little further back from the shot above. Note the two waste water (blue) barrels on the skid with the hoses from the vacuums.



After spinning operations, the crew tends to waste water management and removes all excess water.



A detail shot of a workbench leg after the first cleaning. Note the fine debris on the floor, the particle separator will keep this out of the vacuum system.



Here is the base of an auto lift leg, note that there is still some oil leaking out from under the leg.



The first area by door A gets the second foaming application. Most floors with this amount of contamination will require two applications of the ORS-D.



Foaming continues; the second application goes thinner and the spread rate can increase to 350 – 400 sf/gallon (approx).



The second application requires a much shorter wait period or about 15 – 20 minutes.



Second application spinning operations are also stepped up and a much faster floor speed can be used.



Although this shot is a little blurry, you can see the crewman in the center background final rinsing with the high pressure wand.



The Koester American ORS-C epoxy coating stored under the shed roof outside of door D in the back of the facility. Note that all pallets are properly marked and wrapped for safe shipping.



The mixing station is set up for the first section to be coated. Rule of thumb: always coat what you clean in the same day, mix only what you are to use immediately.



Pallet of sand for the sand broadcast placed nearby for easy access by the crew. Mesh size 30 – 40 washed and dried silica sand is recommended.



Mixing of the ORS-C primer coating starts. A pre-mix in the blue bucket, then to the white bucket and add component "B"; mix for 3 minutes and out to the floor.



Application of the primer starts. The crew has taped a demarcation line next to the drive through, poured a ribbon of material squeegee and backroll. The concrete can be damp.



Standard epoxy application techniques are applied. Spread rate for the primer is 100 sf/gallon, backroll to an even color consistency.



Spikes are a necessity as backrolling continues by door A. A 15 – 20 minute wait before the sand broadcast begins.



Finishing up the first section of coating. Note the change in color of the material toward the top of the paint area as the surface starts to set up-time to sand.



Petra Coatings crew enlists the aid of a sanding machine consisting of a blower and a sand hopper (yellow) for even sand distribution over a large area.



The sand machine in action. Always sand to rejection ensuring full and complete coverage of sand. Leave NO bare spots.



The first section cleaned, coated and sanded. Allow a 12 hour cure before excess sand is swept up. The crew gets some rest.



This is the same area after the next days ORS operations. Note the sand piles as the crew sweeps up after a 12 hour cure. As long as the sand is not contaminated it can be reused.



The ORS process is continuing behind the camera, in front all coated and sanded with 12 hour cure. Note in the far background the crew is applying the final top coat to the first section.



The Petra crew applying the final top coat system of a gray epoxy followed by a gray poly urethane.



The finished floor looking back toward door A. The floor now has a 10 year Koester warranty against delamination due to oil migration to the surface.



Here is a shot of the finished floor looking down the workbench line. The repair shop on the right was working during the application on the left side.



After the floor cures out and is deemed ready for occupancy by the contractor, the Hub City personnel will move all the equipment from the second phase back here to continue working.



The Petra Coatings crew from left to right: Jimmy, Charles, Mike and Don



Joachim Bohlmann, ORS Manager of Koester American signals all is well with the ORS application. The crew continues its application of the top coat in the background.

