

Rejuvenating Treatment Preserves Runway, Grooving



PHOTO CREDIT: Tracor Rejuvening
At Paso Robles Airport, unsealed grooved asphalt was crack-sealed prior to rejuvenator application

Late last year a city-owned airport in California preserved its runway pavements by using a rejuvenating process that also preserved the essential runway grooving.

The city-owned municipal airport of Paso Robles, Calif. — nestled in the Coastal Ranges midway between Los Angeles and San Francisco — has seen increased traffic as the popularity of its surrounding wine country grows.

In addition to booming aviation-driven wine tourism, both the California Highway Patrol and California Department of Forestry maintain bases and aircraft there.

With that kind of air traffic to deal with, late last year Paso Robles undertook a runway pavement preservation program to keep the airfield in top shape for the years to come, but needed to use a rejuvenator that would not clog the functioning grooves in the runway.

KEEP GROOVES CLEAR

Paso Robles Municipal Airport received Federal Aviation Administration funding for miscellaneous ground work that also included an airfield crack sealing application and surface treatment application.

The major concern in choosing a pavement seal was the fact that the runway features a grooved asphalt surface, so it was imperative the surface voids were not plugged with asphalt or filler.

The Paso Robles airport was constructed in 1943 by the U.S. wartime government as the Estrella Army Airfield. After World War II ended, under the War Surplus Act of 1949, the airport was transferred to the County of San Luis

The city will continue to look at long-term scheduled rejuvenation to extend pavement life.

Obispo. It was acquired by the city in 1973 and is currently under the direction of airport manager Roger Oxborrow.

Its main runway 1-19 is 6,000 x 150 ft. Its maximum weight load is 150,000 lbs, which accommodates Lockheed C-130s and Boeing 737-type aircraft. The secondary runway is 4,700 x 150 ft. and can handle weights up to 60,000 lbs.

In 1984 the runway received a 4-in. overlay that included 1 in. of open graded friction course. With no pavement preservation applied to this surface, it began to ravel and required the airport to constantly sweep it for the last several years of its life. This surface was then overlaid in 2001 with a 4-in. mat of similar OGFC design.

A goal of the FAA funding was to preserve the runway and provide life extension. The city consulted with John Smith of Tartaglia Engineering, Atascadero, Calif., to design and prepare the bid. The successful contractor was Cal Portland Construction, Santa Maria, Calif.

In November 2011, in advance of the rejuvenator, longitudinal cracks between paving passes were routed



Asphalt pavement rejuvenator is applied to runway by Western Oil Spreading Services

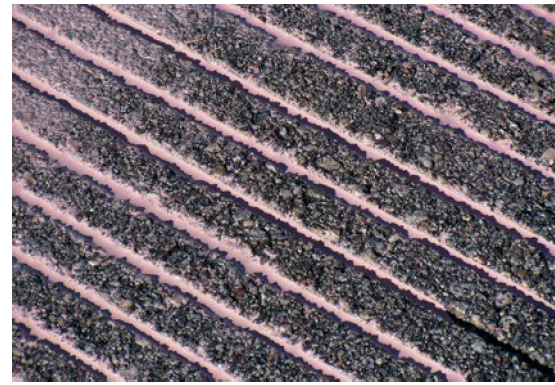
and filled with Deery 200 Hot Applied Sealant. This work was completed at night.

The application of *Reclamite* asphalt rejuvenator was applied the following week. The main concern was the moving target of weather. Although it was late in the year, both the city and the engineering consultant wanted to complete this work. Fortunately the weather pattern was favorable and the rejuvenator seal was applied in one day by the applicator Western Oil Spreading Services, Inc., Santa Paula, Calif.

NOVEMBER WEATHER COOPERATES

The work started at 9 a.m. with an ambient air temperature of around 50 deg F and a mix of sun and cloud. As the day progressed, the ambient temperature increased to a high of 60 deg F. Mat temperature approached the mid 70s.

Based on several test sections placed earlier on the runway, Jim Brownridge, marketing manager with rejuvenator supplier Tricor Refining, LLC, set the application




Rejuvenator penetrates asphalt pavement while preserving grooved surface

rate of the rejuvenator at 0.10 gal per square yard of 1:1 diluted emulsion with water. The goal was to maximize surface penetration with little to no surface residual and no sanding or gritting of the surface. This was achieved with rapid absorption of the emulsion.

The challenge was to rejuvenate the asphalt with an emulsion that fully penetrates the asphalt concrete, yet does not plug the voids. The premise of a rejuvenator is to “flux, co-mingle, penetrate” and rejuvenate the asphalt binder, not to add additional asphalt to the pavement, sealing and plugging its surface. The rejuvenator adds back the light oils/ fractions referred to as the maltenes/ saturates that have oxidized from the asphalt binder, causing the aging of the surface.

Work proceeded rapidly. The runway had been scheduled to close for a minimum of four days, but due to the excellent absorption and cooperative weather, it was re-opened three days later.

That was a good thing as the State of California raised the alert level for forest fires due to increasing Santa Ana winds, and the first morning two forest service aircraft landed, one a new BAE-146 four-engine bomber, the first of its type to land in California.

This job went exactly as planned and the city will continue to look at long-term scheduled rejuvenation to extend pavement life. 

Information for this article provided by Tricor Refining, LLC

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