Smooth Seal Pavement Preservation Application at Desert Mountain Home Owners Association

On September 13th International Surfacing began the first Smooth Seal project in Arizona. This pavement preservation system is not unique from the standpoint of application, which is simply a double chip seal. However the chip seal type concerning the first layer and the second layer is what makes this system unique in function, durability and expected longevity.

The first layer is made up of a Polymer Modified Asphalt Rubber (PMAR) binder applied from 0.60 to 0.65 gallons per square yard covered by a 3/8 inch “high volume” hot pre-coated aggregate. The second layer is made up of a Rubberized Asphalt Binder (RAB) applied from 0.20 to 0.25 gallons per square yard covered by a 1/8 inch “copper slag” that was also utilized hot pre-coated.

The binder formulation for both binder materials is specific regarding the two layers merging as one application and the strength of the system is defined by the interlock of the two layers of cover material (aggregate and slag). The “Smooth Seal” pavement preservation system was designed prior to the beginning of the project and all materials testing was done at the Mactec Engineering laboratory.

From the standpoint of construction this project was very difficult logistically with many types of roadways to consider from the “Parkway” which is considered a major arterial roadway, “Desert Mountain Blvd.” which carries all the heavy construction and delivery vehicles, the “Main Entrance” which carries all the local resident traffic, “102nd Place” which is considered a collector street and the Arrowhead Village subdivision. The varied pavement types and conditions were a challenge during construction along with the heavy traffic on the parkway, as this area of Scottsdale Arizona supports an elite and influential level of residents. Expectations were high from the very beginning which added to the level of difficulty on this project.

During construction the weather was a factor ranging from rain to record heat. The record heat (+ 110º F) posed problems with construction that were not expected this time of year. The project overall was a success and the residents are pleased with the end result even though the timeframe for completion was extended by over a week compared to the original schedule.
102nd Place before and after Smooth Seal Pavement Preservation System Application