

### ASPHALT PLUS CASE STUDY: I-75 NEAR PERRY, GA

I-75 is a major artery in GA, connecting Atlanta to southern Georgia and Florida. The roadway is located in a subtropical climate where stripping and rutting are significant issues for asphalt road construction. The region is exposed to extended periods of higher temperatures, humidity and rainfall.

In preparation for an eventual state specification of the dry mix process, GA DOT contracted for their first one lane mile of 1.5" dry mix rubberized asphalt overlay on I-75 south of Macon, GA near Perry, GA in 2007. The overlay was a Porous European Mix, and the project design utilized two mixes: one including rubber and a second modified asphalt mix that served as a control.

The first mix design was PEM that included a SBS Polymer Modified 64 -22 base binder with a performance grade of 76 - 22. The second mix design used the same PEM mix design and base binder, but instead of SBS, the mix was modified with the addition of a chemically engineered crumb rubber introduced as an aggregate. This second mix included the addition of 10 lbs. of minus 30 recycled tire crumb rubber per mix ton.

The pre-blended dry rubber product was fed into the production plant through the RAP collar using a modified fiber machine. The rubber feed rate was matched to the plant

operating rate so that the proportions of rubber and binder remained constant. Both production and laydown personnel did not report any difficulties with the rubberized product.



I-75 SOUTH OF MACON, GA

The original expectations for mix performance on these test strips was five to seven years. GDOT commissioned two follow-up reports on this project and on a project located on I-20 that utilized rubber and polymer modified SMA designs. Those reports can be found here: Both mixes are still in service in 2019, twelve years after placement. Both the polymer and rubberized pavements are showing similar distress (some cracking and stripping), and both pavements significantly exceeded expectations for this application. As a result of this trial and subsequent trial efforts, GDOT now has a specification for dry process rubberized asphalt that can substitute for polymer and terminal blend rubber applications.