

Yonkers Tries 40% Recycled Asphalt Pavement and Drives Impressive Results

Situation

Peckham Industries partnered with the City of Yonkers and Yonkers Contracting to pave a portion of Kimball Avenue between Yonkers Avenue to Hildreth Place. The plan was to use a 12.5mm surface hot mix asphalt design consisting of 40% Recycled Asphalt Pavement (RAP). At the time of the project initiation, the state's approved asphalt mixes used a maximum of 20% RAP. Peckham proposed a 40% RAP mix to help reduce greenhouse gas emissions and positively impact the overall community.

Goal

Peckham, the City of Yonkers, and Cargill collaborated with the goal of responsibly increasing recycled content (RAP) into its mix. The desired outcome was to provide Yonkers residents with a more cost-effective and sustainable road that performs better than traditional asphalt.

Solution

An optimal rejuvenator like Anova® Rejuvenator reactivates aged asphalt contained in recycled material to revitalize performance and increase durability. Anova Rejuvenator has been expressly engineered to reverse aging effects, improve cracking resistance, and maintain rutting performance. These attributes lead to measurable business and economic benefit for mix producers and road owners.

Cargill and Peckham have been doing business for several years. In 2019, Peckham started looking into rejuvenators, and with the support from Cargill this effort has grown from a single location using Anova Rejuvenator to six locations in three states. Peckham also started to work with Cargill in



Yonkers Contracting paving using hot mix asphalt with Anova® Rejuvenator produced at Peckham's Bronx plant - Madison Kappel - Peckham Industries.

other sectors of their business. Currently, the collaboration between Cargill and Peckham is active in New York, Connecticut and Massachusetts.

For this project, a 40% RAP design was developed, which is significantly higher than the average in this area. The mix, developed with Cargill's Anova® Rejuvenator was designed, produced and tested at Peckham Industries' Bronx, NY hot mix asphalt plant. Peckham ran volumetrics on the plant produced mix as required by the NY State DOT and the City of Yonkers. The mix also went to Cargill's asphalt lab for advanced quality control through testing of the extracted and recovered binder.

CASE STUDY



Freshly paved Kimball Avenue in Yonkers being rolled and compacted - Madison Kappel - Peckham Industries.

Representatives from Peckham Industries, NYS Dept. of Transportation (NYSDOT), Cities of Yonkers, Mt. Vernon, and other local municipalities were on site during production and paving to see how the high RAP mix was laid and handled by the paving crew. Cargill's Asphalt Solutions teams was also present to offer any support needed and to answer questions about high RAP mixes and how Anova Rejuvenator contributes to the projects sustainability goals.

The NYSDOT attended the project and took cores from the road for further evaluation. The pavement will continue to be subjected to performance testing and monitoring by the NYSDOT and Peckham quality team.

Key Results

The paving team gave their impressions of the RAP design, noting that the rejuvenated mix had a darker, richer look. Material lay down went as expected with the 40% RAP mix rolling and compacting like a low RAP or virgin mix design. Feedback from the crew included comments noting that detailed work around manhole covers, inlets and driveways was easier than usual. The high RAP mix also passed all required volumetric specifications and the extracted mix binder grade met expectations.

The shift from 20% RAP (standard NYSDOT maximum) up to 40% RAP has generated significant cost savings. The City of Yonkers and Yonkers Contracting both agreed that finishing their existing contract with the high RAP mix including Cargill's Anova Rejuvenator was a great way to stretch the Yonkers budget and deliver their taxpayers a better road for their investment.

Yonkers Mayor Mike Spano said "The use of RAP is a win-win for US. It provides us the opportunity to use a more durable and environmentally friendly material on our streets while potentially saving taxpayer dollars."

The NYSDOT representatives on the project also now have plans to include a high RAP rejuvenated mix on a state project in the near future.

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