

Half-Width Placed Concrete Deck Structures – Epoxy Overlay

PennDOT Engineering District 2-0

Bridge Deck Preservation

The use of salt for winter maintenance has been very detrimental to concrete bridge decks. The epoxy surface treatment helps to prevent salt contamination of the concrete which in turn prevents deck deterioration. In addition, the epoxy overlay improves skid resistance of the surface and seals any cracks in the deck concrete.

Epoxy Surface Treatment as a Protective Barrier

The contamination of concrete decks has long been a challenge to the transportation community. The salt contaminates the concrete and allows the reinforcement bars to rust. The rusting reinforcement expands and causes delamination and potholes in the deck. The epoxy surface treatment adheres to the deck and provides a barrier against salt contamination. It also improves skid resistance of the surface and seals any cracks in the deck.

Increased Bridge Deck Life is the Main Benefit

The use of epoxy surface treatment prevents salt contamination and therefore will increase the bridge deck life.



Contact Information

George M Uhl, P.E.
(814) 765-0483
guhl@pa.gov

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Construction Contracts in District 2-0

The use of epoxy surface treatment on bridge decks is used extensively in our district. We have been including the work in individual construction contracts for quite some time. It is used on new decks, rehabilitation and preservation contracts.

We are now working on bidding bundled construction contracts to get a better price on the work. The contract would only involve epoxy surface treatment. In the past, we just added the item to the contract, but that may involve holding the project over until the next year when that work would be completed. By bundling the work in a contract, it allows a specialty contractor to do the work in a group of bridges in a specific county or counties and saves on mobilization.

Our County Maintenance Forces also perform limited epoxy surface treatments.

Increased Bridge Deck Life is the Main Benefit

We do not have enough data yet to document the long-term effects yet.





Surface is prepared by shot blast to ensure adhesion to the deck



Applying Epoxy Surface Treatment



Epoxy is covered with a high-friction stone to ensure skid resistance.

PUBLICATION 408 SECTION 1046 COVERS THE USE OF EPOXY SURFACE TREATMENTS

The epoxy surface treatment is paid for by the SY (\$34/SY)

