

UTC Project Information	
Project Title	MPC-626 – Effectiveness of Concrete Bridge Deck Sealants
University	South Dakota State University
Principal Investigator	Rouzbeh Ghabchi, Ph.D., P.E. Nadim Wehbe, Ph.D., P.E.
PI Contact Information	<p>Rouzbeh Ghabchi, Ph.D., P.E. Associate Professor South Dakota State University Phone: (605) 688-6333 Email: rouzbeh.ghabchi@sdstate.edu ORCID: 0000-0002-3827-6315</p> <p>Nadim Wehbe, Ph.D., P.E. Professor South Dakota State University Phone: (605) 688-4291 Email: nadim.wehbe@sdstate.edu ORCID: 0000-0002-6266-8378</p>
Funding Source(s) and Amounts Provided (by each agency or organization)	<p>USDOT, Office of the Assistant Secretary for Research and Technology \$95,221</p> <p>South Dakota Department of Transportation \$137,099</p>
Total Project Cost	\$232,320
Agency ID or Contract Number	69A3551747108
Start and End Dates	February 19, 2020 to July 31, 2024
Brief Description of Research Project	<p>The South Dakota Department of Transportation (SDDOT) questions if the use of the polymer chip seals is efficient and cost-effective in preventing water and chloride infiltration on bridge decks. Polymer chip seals are commonly used to seal the decks, resulting in improved friction (skid resistance). Since the early 1990s, SDDOT has used polymer chip seals on decks to reduce water permeability and chloride penetrability. This prevents deterioration due to corrosion of the steel reinforcement from chloride ingress in the decks. The seals' failure on the deck causes rapid degradation that significantly increases maintenance costs to prolong service life of the decks. To determine the effectiveness of deck sealants and their performance on bridge decks in South Dakota, immediate and rigorous laboratory and field testing-based research considering different types of deck sealants must be done. This work will not only help validate the claim for efficiency and cost-effectiveness of the sealants for South Dakota bridge decks, but also provide technical recommendations regarding their practical use.</p>

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none">• Reports• Project Website	