

application note



Bond Strength Testing of Bridge Overlays

Universal Construction Testing, Ltd.

Proceq's Dyna verifies proper bonding of overlays to bridge decks, ensuring structural integrity.

Thin bonded overlays are used to repair concrete bridge decks throughout the United States. Repair work using a thin bonded overlay consists in removing the damaged concrete from the slab's surface and replacing it with a thin concrete overlay. The quality of the bond between the overlay and the substrate is important because it prevents the ingress of chlorides and contaminated water into the bridge deck and provides a new wearing surface on the bridge deck. A good bond ensures that the substrate and overlay react compositely.

Application

The project required a bonded overlay to be placed on several bridges along an Interstate in the Midwest region of the United States. The specifications called for the thickness of the overlay to be 2.5 inches thick on average and a minimum bond strength of 200 psi. The DYNA Pull Off Tester was utilized to evaluate the bond strength of the overlay. The DYNA Pull Off Tester was easy to use, reliable, lightweight and the instrument was rigid and well built. Our client and various DOT personnel on site were given a quick explanation and demonstration on the workings of the DYNA Pull Off tester. Everyone was impressed with the tester which gave our client the confidence in the testing and that the results obtained were acceptable.

Customer Quote

"Proceq appears to be the leader when it comes to not only to the DYNA Pull Off Tester but all other concrete testing products."

UCT Ltd.

Proceq customer since 2007

Customer

Universal Construction Testing Ltd. is a Chicago-based company providing a complete range of testing and consulting services for existing and new construction of concrete, masonry and steel structures worldwide. Since the firm's establishment in 1983, they have utilized state of the art NDT equipment and methods to assist them in their evaluation. Post construction services include condition survey, investigative testing and structural monitoring using leading edge NDT methods and computer aided technology.

Requirements

A user-friendly and well-established instrument to test the bond strength of the bridge overlay.

Proceq Product

Dyna Z16 Pull-Off Tester

Benefits to the Customer

- Simple to use Pull-Off bond adhesion tester
- Digital Display
- Solid construction for field use
- Peak hold capabilities
- Easy to set up
- Overall, quick in terms of setting up and getting results.
- Lightweight

Profile

Contributed by Proceq USA

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