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12. Performing Organization Name and Address NDDOT M+R <input checked="" type="checkbox"/> North Dakota DOT NDDOT OTHER* <input type="checkbox"/> Materials and Research Division NDSU <input type="checkbox"/> 300 Airport Road UND <input type="checkbox"/> Bismarck ND 58504-6005 UGPTI <input type="checkbox"/> OTHER* <input type="checkbox"/> *see supplementary notes		13. Sponsoring Agency Name and Address North Dakota DOT Materials and Research Division 300 Airport Road Bismarck ND 58504-6005	
14. Supplementary Notes			
15. Abstract Purpose and Need To produce an aesthetically pleasing surface finish on visible concrete, such as jersey barriers and bridge fascias, the NDDOT specifies Surface Finish "D" (specification 602.03 I.5). Before Surface Finish "D" may be applied the concrete must complete the curing period of seven days. NDDOT Specification 602.03 F does not allow the use of liquid forming curing compounds on concrete surfaces that will receive Surface Finish "D". Concrete that will receive Surface Finish "D" must either have forms kept in placed or be wet cured until the completion of the curing period. The surface finish material consists of an application, or applications, of a cement-based, commercially-packaged masonry coating material. An alternative to a cement-based coating is Texcote XL-70C Bridge Cote. XL-70C is a polymer based organic resin system that contains a curing compound. Because it contains a curing compound, the manufacturer maintains that the product may be applied during the curing period. It does not require sandblasting of the concrete surface prior to application and requires only one coat. The manufacturer reports that another major benefit of this product is that it produces a uniform color coating that is less "splotchy" than is often seen with cement-based coatings. Objective The objective of this project is to determine if Texcote XL-70C Bridge Cote will produce an aesthetically pleasing and durable surface finish for concrete and the results of this evaluation may be used to determine if a change in the current specification for Surface Finish "D" should be considered. Summary There was some difficulty applying the XL-70C until the equipment was set-up correctly. When observed approximately 5 weeks after application, the color appeared uneven. The uneven color was probably a result of the spray pattern used by the applicators. The control section with the cement-based material also appeared uneven and blotchy. The material was tested for its ability to act as a curing compound and did not meet requirements of AASHTO T-155 when tested by NDDOT. After approximately four years, the XL-70C is showing signs of distress, particularly in the bottom 3 to 6 inches, most likely because of salt/snow plow damage. The uneven color on the Jersey barriers is still evident in both the test section and the control section. Because the XL-70C did not meet the requirements of AASHTO T-155 it is not recommended that this product be used as a curing compound. As a surface finish, the XL-70C did not perform as well as the control section. However, the control section was located along a ramp while the test section was located along mainline interstate. As a result, there were differences in traffic loading and the amount of salt and snow plow activity. Also, a segment of the control section was protected by a guardrail. These issues may have improved the life of the control section. Therefore, while XL-70C is not recommended as a curing compound, further research would be beneficial to determine if XL-70C performs as well as Surface Finish "D" under identical conditions.			
16. Key Words Concrete Surface Finish Curing Compound	17. Distribution Statement No restrictions. This document is available by clicking on the Final link: North Dakota Department of Transportation Materials and Research Division: 300 Airport Road Bismarck ND 58504-6005 Office: (701) 328-6900 Fax: (701) 328-0310	18. No. of Pages 17	19. File type/Size 551 kb