

OFFICE MEMORANDUM



MICHIGAN
DEPARTMENT OF STATE HIGHWAYS

July 18, 1967

To: R. L. Greenman
Acting Testing and Research Engineer

From: L. T. Oehler

Subject: Report on Witcogard Rustproofer for Guard Rails.
Research Project 63 NM-90; Research Report No. R-644

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Witcogard Rustproofer for guard rails, a coating system consisting of a proprietary bituminous binder overcoated with colored stone granules, has been under test evaluation on about 115 ft of weathered, galvanized guard rail since September 1963. Details covering the application were presented in Research Report No. R-440, dated October 7, 1963.

The service test was conducted on I 96 in Grand Rapids in two areas which, after two winters of exposure, were found to have greater than average probability of developing white rusting of galvanizing on beam rails. One area contained approach rails under a grade separation at Knapp Street, the other rails were on an interchange ramp at Leonard Street.

A. J. Permoda reports the following performance for the Witcogard coating after about 4 years of service:

1. The coating was scraped from the outward ridge of rail corrugations by vehicles, presumably snow plows, to give the poor appearance shown in Figures 1 and 2. The scrapings varied from complete to partial removal of the composite Witcogard coating.
2. There was some minor loss of granules on the top face at Knapp Street where black binder was becoming visible.
3. There were only two small areas, about 1-in. diameter, where the coating had flaked off as shown in Figure 3. Otherwise, adhesion was adequate.
4. The Witcogard coating, except as noted, gave good protection to the galvanizing during the test period.

Summary:

In our test, the Witcogard Rustproofer for guard rails proved much more susceptible to scraping damage from vehicles and snow plows, than

the galvanized coating. During four years of service testing, the guard rails presented unsightly appearance due to removal of granules and coating, and some exposure of black binder. The damage can easily be repaired, according to the producer, but the maintenance operation is probably undesirable.

The Witcogard coating may give more satisfactory performance in areas of lesser snowfall or where snow removal is not attempted up to the face of the guard rails. The coating is used extensively on the Indiana Toll Road and in some other States.

OFFICE OF TESTING AND RESEARCH

L. T. Oehler

L. T. Oehler, Director
Research Laboratory Division

LTO/AJP:sjt



Figure 1. (top) Scraping damage on 50 ft of test guard rail at Knapp St. after four years of service. Gray granules overcoated the black binder.

Figure 2. (center) Scraping damage occurring on 65 ft of test guard rail at the Leonard St. ramp, after four years of service.

Figure 3. (right) The Witcogard coating had good adhesion since only two small round areas showed flaking. This was at Knapp St. Photo also shows scraping damage. (Photographed 6-23-67)

