
POLICY, PLANNING, & INTERMODAL DEVELOPMENT DIVISION

Research & Development Section

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Attendees:

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FIELD REPORT

U2016 – 02

**Berlin 2947(1) Pavement Marking Study – US 302
Initial Winter Season Inspection on the Bike Lanes**

Product Information:

PreMark[®]

PreMark[®] preformed thermoplastic is manufactured by Ennis-Flint of Thomasville, North Carolina. The manufacturer claims the product is a heavy-duty, durable intersection grade pavement marking material. It is used primarily for regulatory markings on public streets, highways, and private properties. It is claimed to have a cost-effective service life that lasts 6 to 8 times longer than paint. There are no minimum ambient or road temperature requirements for application which can extend the marking season into colder months. Retroreflective glass beads are mixed throughout the material so that as the marking wears new beads become exposed. It provides a clean and crisp appearance because the product is pre-cut and ready for use. The nominal thickness is 90 mils for both white and green colors. [1]

CycleGrip[®] MMAX

CycleGrip[®] MMAX is a colored bike lane treatment, manufactured by Ennis-Flint of Thomasville, North Carolina. The manufacturer describes the products as a specialized system that combines state-of-the-art Methyl Methacrylate resins with hardwearing aggregate and premium pigments. The advanced technology provides long-lasting color retention, friction, and extreme durability. It is ideal for long lane areas with low to high vehicle traffic including cross-over points such as parking lot entries/exits along the corridor. The application thickness is 90 mils. [2]

Color-Safe[®]

Color-Safe[®] is an acrylic based resin system used for color pavement markings and anti-skid surfacing that is manufactured by Transpo Industries, Inc. of New Rochelle, New York. The manufacturer claims the product provides excellent color retention and durability. It is manufactured in a variety of colors and aggregate sizes and is typically used for demarcation of crosswalks, bicycle and pedestrian paths, bus lanes, and other specially designated areas. It can be used as a surface coat to enhance skid-resistance for high friction surfacing on hazardous turns and high accident areas. The typical application thickness is 60-100 mils. The target in place thickness for the product in this project will be as close as possible to 90 mils in

place. Both green and white will be used for this project. Green will be used for the green bike lane section as designated in the plans. White will be used for the Bicycle Detector Symbols located within the green bike lane as designated in the plans. [3]

ATM 400

ATM 400 is manufactured by Advance Traffic Markings of Roanoke Rapids, North Carolina. The manufacturer claims that ATM 400 provides exceptional durability in the most demanding traffic conditions. It is recommended for longitudinal and transverse application in high traffic areas and offers superior visibility under all lighting conditions. The extra thick 90 mil composite resists wear and provides extended life over standard highway markings. The adhesive system minimizes tape movement in hot and cold climates and extends the application season typically shortened by marginal weather conditions. [4]

Deltaline[®] HDX

Deltaline[®] HDX profiled tape is manufactured by Brite-Line[®] Technologies, LLC of Denver, Colorado. The manufacturer claims it is a high performance durable pavement marking that also provides extended reflective performance not achievable from traditional markings. It is specifically engineered for more demanding intersection and crosswalk applications. The profile design provides long term reflective retention of the abrasion resistant glass beads and anti-skid particles which are bonded to the durable polyurethane topcoat. The product is manufactured without any heavy metals, lead chromate pigments, or other similar lead containing chemicals. The nominal thickness is 65 mils. [5]

EA: Experimental Features - SPR 732

Work Plan: WP 2013 R-4

Date: Thursday, December 15, 2016

Time: 1:00 PM to 2:00 PM

Weather: 15°F, Partly Sunny & Windy

The Research Section went out to the Berlin 2947(1) test deck to check on the status of the Pavement Marking Tapes. A visual inspection, photos and notes were conducted on the test deck after the winter seasons first snowfall. It snowed periodically from December 11 to earlier in the day of the inspection. The plow trucks went through the test deck several times scaping the snow off the roadway and applying a salt solution.

Notes:

Figures (1 – 3) show the condition of the Ennis-Flint CycleGrip MMAX bike lane and of the ATM 400 pavement marking tape. From the photos, it is can be seen that the bike lane and the symbols are performing well during the day and have stayed intact. Figures (4 & 5) show the condition of the Transpo ColorSafe bike lane and of the Brite-Line HDX pavement marking tape. The figures show that the products in the section are performing well and staying intact. Figures (6 & 7) depict the condition of the Ennis-Flint Thermoplastic Premark bike lane and symbols. From the figures, it can be seen that the Ennis-Flint Premark bike lane and symbols have withstood the initial snow plowing passes and are performing well. During the visual inspection, it was noted that the white skips at this section had some of their edges scrapped off. It should be noted that the skips on the edges of the bike lane at in this section are white Polyruca paint.

The Transpo ColorSafe and Ennis-Flint CycleGrip MMAX Green bike lanes were a bit hard to see because they were dirty. It seemed that roadway dirt and grim settled on top of the bike lane due to the rough texture of the products. Driving through the test deck after the quick visual inspection, at a couple of the intersections I noted that the arrowhead of one of the left arrows was scrapped off near MM 6+00 of the test deck. Periodic inspections on the test deck are warranted after the winter season to check on the durability of the pavement making tapes.

Photos:



Figure 1: Big Lots Intersection ATM 400 Stop Bar 25+63



Figure 2: Big Lots Intersection ATM 400 Bike Symbol 25+74



Figure 3: Big Lots Intersection Ennis-Flint CycleGrip MMAX Bike Lane



Figure 4: CVS Intersection Transpo Colorsafe Bike Lane and Brite-Line HDX Symbols



Figure 5: CVS Intersection Transpo Colorsafe Bike Lane and Brite-Line HDX Skips



Figure 1: Price Chopper Intersection Ennis-Flint Thermoplastic Premark Bike Lane and Symbols



Figure 2: Price Chopper Intersection Ennis-Flint Thermoplastic Premark Bike Lane and Symbols

References:

1. Ennis-Flint. "PreMark® Bike and Pedestrian Brochure." http://www.ennisflint.com/getmedia/39dded8b-3174-4269-8c8f-d99724402ec7/Brochure_PreMark-Bike-and-Ped?ext=.pdf.
2. Ennis-Flint. "CycleGrip® MMAX Brochure." http://www.ennisflint.com/getmedia/939b3c08-1bb2-4bfe-8a72-58592946ae8d/Brochure_CycleGripMMAX_041514_MKT00040?ext=.pdf.
3. Transpo Industries, Inc. "Color-Safe® Product Sheet." <http://www.transpo.com/roads-highways/materials/pavement-marking-material/color-safe-bike-lanes>
4. Advance Traffic Markings. "ATM 400 Extended Life Permanent Marking Tape Overview." http://www.trafficmarkings.com/atm_400_marking_tape.asp.
5. Brite-Line® Technologies, LLC. "Deltaline® HDX Product Data Sheet." <http://brite-line.com/assets/media/products/DeltalineHDX.pdf>.

6. Ennis-Flint. "PreMark Application Instructions."
Z:\PPID\PPAndRBureau\Research\RAC\SPR_Projects\732 - Pavement Marking Comparison Study\Tapes\Product Info\Bike Lanes\Ennis-Flint\PreMark
7. "Berlin 2947(1) Option B Construction Plan."
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8. Ennis-Flint. "CycleGrip MMAX Application Instructions."
<http://www.ennisflintamericas.com/by-brand/mmax/cyclegripmmax>
9. "Berlin 2947(1) Testing Plan."
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