

# PROPRIETARY MATERIAL REQUEST

Date: December 16, 2021

To: David H. Boruff

- INDOT Highway Design Director
- INDOT Bridge Design Director
- INDOT Traffic Administration Manager, Traffic Engineering Division

From: Joe Bruno

Sr. Traffic Engineer, Signals & Markings

Proprietary Material Name: Wet Reflective Preformed Plastic Markings

3M Company, Stamark™ High Performance Pavement Marking Tape Series 380 AW  
Advance Traffic Markings, MaxVision 300

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## Basis for Proprietary Material Request (select one)

- Certification No Suitable Equal Exists
- Certification, Essential for Synchronization
- Experimental/Research (*work plan required*)
- Public Interest Finding (PIF) (*suitable alternatives exist but are not the most cost-effective or in the public's best interest*)
- Programmatic Certification/Programmatic PIF (*work plan required*)  
If programmatic, provide the length of time that the approval is effective:

September 1, 2021 – August 31, 2024

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## Justification

- 1. Description of Need:** Multilane highways (divided or undivided) with AADT greater than 18,000 can be more challenging to navigate during wet weather and periods of low ambient light (dusk, dawn, nighttime, and even cloudy days). On these highways INDOT design guidance recommends the use of preformed plastic markings for the lane lines. On multilane highways with AADT greater than 80,000, preformed plastic markings may also be used for the edgelines. Preformed plastic markings are the most expensive type used by INDOT but have the highest retro-reflectivity and longest service life. However, not all preformed plastic markings provide the same level of performance during wet weather and periods of low ambient light. Wet reflective preformed plastic markings would be desired for interstate resurface projects, interstate added travel lanes projects, and other projects where the criteria for preformed plastic markings in Indiana Design Manual Figure 502-2C is met.

2. **Product History:** The National Transportation Product Evaluation Program (NTPEP) began its evaluation of one manufacturer of wet reflective preformed plastic markings in 2015. INDOT's first use of wet reflective preformed plastic markings was in 2019 on construction contract RS-39330, a concrete patching contract on US 52, US 231, and SR 25 in Tippecanoe County.
3. **Product Availability:** At this time two manufacturers have developed wet reflective preformed plastic markings- 3M and Advance Traffic Markings. Brite-Line is still in product development for wet reflective preformed plastic markings
4. **Product Cost:** To date INDOT has used wet reflective preformed plastic markings for the lane lines on 10 contracts with a weighted average unit price of \$3.35 per lft. This unit price is comparable to conventional wet reflective preformed plastic markings.
5. **Maintenance:** At present, INDOT's in-house maintenance crews only use traffic paint to maintain existing markings. The anticipated service life of wet reflective preformed plastic markings is the same as conventional preformed plastic markings, or about 10 to 12 years. As a result, the product does not impose any maintenance costs on INDOT.

**6. Product Alternatives: Summary Table**

	3M Stamark	ATM MaxVision 300	Conventional Preformed Plastic	Conventional Thermoplastic	Conventional Multi-component
Durable Marking	Yes	Yes	Yes	Yes	Yes
Service Life > 7 Years	Yes	Yes	Yes	No	No
Satisfies Wet Recovery Test (ASTM E 2177)	Yes	Yes	No	No	No
Proprietary Item	Yes	Yes	No, 3 or more manufacturers	No, 3 or more manufacturers	No, 3 or more manufacturers

Work plan attached. (*Work plan required for experimental/research and programmatic requests*)

APPROVED:  Date: 12/16/2021

- INDOT Highway Design Director
- INDOT Bridge Design Director
- INDOT Traffic Administration Manager, Traffic Engineering Division

### **Work Plan for Wet Reflective Preformed Plastic Markings**

The safety performance of the wet reflective preformed plastic markings will be evaluated by INDOT's Traffic Engineering Division. The crash results for contracts with wet reflective preformed plastic markings will be compared to similar projects prior to the change in design guidance. A report will be prepared prior to renewing or extending the programmatic approval. The Traffic Engineering Division will also check the National Transportation Product Evaluation Program (NTPEP) and other sources periodically to determine if a third manufacturer is producing wet reflective preformed plastic markings that meet INDOT requirements.