Federal Aviation Administration

Policy Guidance

Date: April 27, 2023

To: Office of Airports Regional Directors, AXX-600s
Regional Airports Planning & Programming, AXX-610s
Airports District Office Managers, XXX-ADOs

JOHN DERMODY Digitally signed by JOHN DERMODY Date: 2023.04.27 16:52:18 -04'00'

From: John R. Dermody, P.E., Director, Airports Safety and Standards, AAS-1

EVELYN J MARTINEZ Digitally signed by EVELYN J MARTINEZ Date: 2023.04.27 16:38:40 -04'00'

Evelyn Martinez, Acting Director, Airports Planning and Programming, APP-1

Through: Alberto O. Cruz, P.E., Manager, Design and Construction Branch, AAS-110

Subject: Engineering Policy Memo 23-03: Updated Guidance for the Use of Preformed Thermoplastic Markings on Airport Pavements

Purpose

This memorandum provides updated guidance on the use of Preformed Thermoplastic Markings (PTM) on airport pavements based upon results published in the final report for DOT/FAA/TC-19/19*, Surface Marking Durability Study: Phase I*[1] and observed acceptable performance at multiple airports.

Background

In January 2017, the FAA clarified guidance[2] permitting the use of PTM at certain locations on airport pavements provided that a life cycle cost analysis supported their use. However, the FAA did not permit PTM use for hold lines or enhanced taxiway centerlines. Based upon satisfactory findings published in the final report for DOT/FAA/TC-19/19*, Surface Marking Durability Study: Phase I*, the FAA reevaluated allowance for PTM at hold lines and enhanced taxiway centerlines.

1 https://www.airporttech.tc.faa.gov/Products/Airport-Safety-Papers-Publications/Airport-Safety-Detail/ArtMID/3682/ArticleID/1481/Surface-Marking-Durability-Study-Phase-I

2 https://www.faa.gov/sites/faa.gov/files/airports/engineering/Preformed_Thermoplastic_Airport_Pavement_Markings_Memo_20170106.pdf

Unfortunately, since Phase I of the surface marking durability study, COVID restrictions interfered with continuous monitoring and data collection at participating airports. This resulted in delays in publishing Phase II and Phase III reports which will complete the marking durability study and provide additional information related to the use of PTM. Considering the delays in the final results from the paint marking durability study, AAS-110 requested assistance from AAS-300 to collect data, before recommending an expanded allowance of PTM. With support from the Airport operators, FAA Airport Certification Safety Inspectors gathered information from multiple airports with PTM, particularly at runway hold lines and enhanced taxiway centerlines.

In January 2023, the FAA received a summary of reported PTM performance at numerous locations throughout multiple airports in different climatic regions. The summary included airports with snow removal operations to ensure material durability in these applications. Overall, the airports detailed an acceptable performance of PTM applications which verified the results in the final report for Phase I of the marking durability study and validated material improvements. Based upon a review of the available information, the FAA will expand the allowable use of PTM as outlined below.

Per FAA Order 5100-38, *Airport Improvement Program Handbook*, the ADO must document the use of thermoplastic markings meets the statutory requirement for reasonable costs. The sponsor must provide the ADO a life cycle cost comparison that demonstrates that the costs are reasonable. Projects funded through FAA federal grant programs or the Passenger Facility Charge (PFC) program may include the use of PTM at the following locations:

- Surface Painted Hold Sign Markings
- Taxiway Direction and Location Markings
- Geographic Position Markings
- Vehicular Roadway Markings on Airfield
- Zipper Lines
- Taxiway Edge Lines
- Hold lines
- Enhanced Taxiway Centerlines

Refer to Advisory Circular (AC) 150/5340-1, *Standards for Airport Markings*, for additional information and marking illustrations.

The performance of any airport marking depends upon multiple factors including: surface condition and preparation prior to application, weather conditions at the time of application, proper application methods by the installer, and the amount of traffic on markings. As written

in AC 150/5370-10, *Standard Specifications for Construction of Airports*, Item P-620, Runway and Taxiway Marking, requires PTM material manufacturers to provide a method to indicate that the material has achieved satisfactory adhesion and proper bead embedment during application and that the installation procedures were followed. One method for a manufacturer to comply with this requirement is to establish a certified applicator program. As PTM allowance is expanded, FAA staff should report any premature failures to the Airports Engineering Division, Design and Construction Branch, AAS-110.

If you have any questions, please contact the AAS-110 Pavement Engineers, Jeff Crislip at jeffrey.d.crislip@faa.gov, Harold Honey at harold.honey@faa.gov, or Harold Muniz at harold.muniz-ruiz@faa.gov.