Development of Methods for Determining Airport Pavement Marking Effectiveness

Federal Aviation Administration

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Manual Method

- Retro-Reflectometer

  Determine retro-reflectivity of the beads

- Spectrophotometer

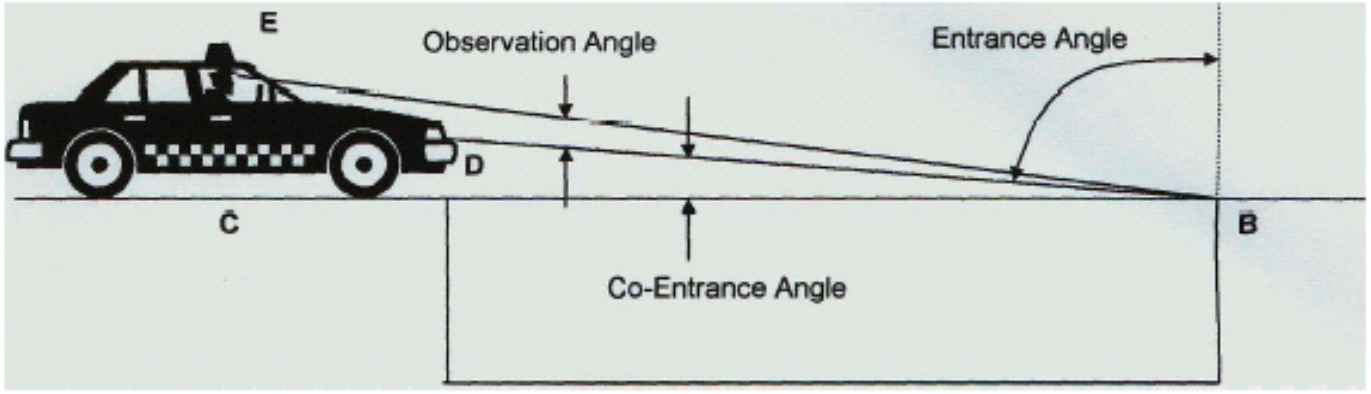
  Determine Fading of Paint

- Transparent Grid

  Determine Coverage of Paint

Thirty-Meter Geometry for Retro-Reflectivity

30 Meter Automotive Observation Distance Geometry



Angle ABD= Entrance Angle= 88.76 degrees
Angle CBD= Co-Entrance Angle= 1.24 degrees
Angle DBE= Observation Angle= 1.05 degrees

Three Thirty-Meter Geometry Retro-Reflectometer

- LTL-X Retro-Reflectometer

  Manufactured by Delta Light & Optics in Denmark

- MX30 Retro-Reflectometer

  Manufactured by Potters Industries in USA

- MP-30 Mirolux Retro-Reflectometer

  Manufactured by Mirolux Products Inc. in USA

LTL-2000 Retro-Reflectometer

Spectrophotometer

- Settings 2 ° - D_{65} - Yxy

Coverage Check

- 10-Inch Grid

Coverage Check

- 5 X 20-Inch Grid

Automated Method – Van Mounted Retro-Reflective Check

Repaint Criteria - 70 mcd/m²/lx Yellow Paint And 100 mcd/m²/lx White Paint

Problem – White Paint Turning Yellow

Taking Line Readings

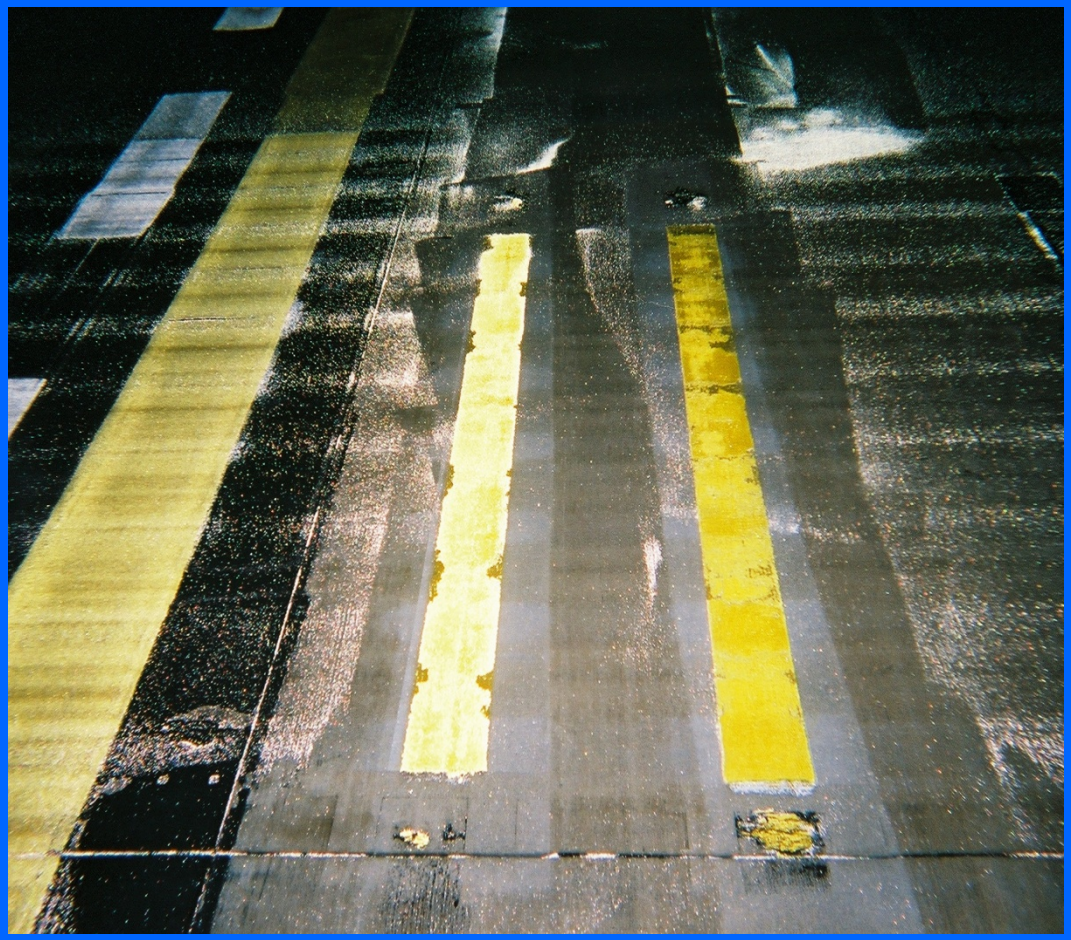
Arrow Head Type III Beads – Tail Type I

Polyurea Centerline At Newark

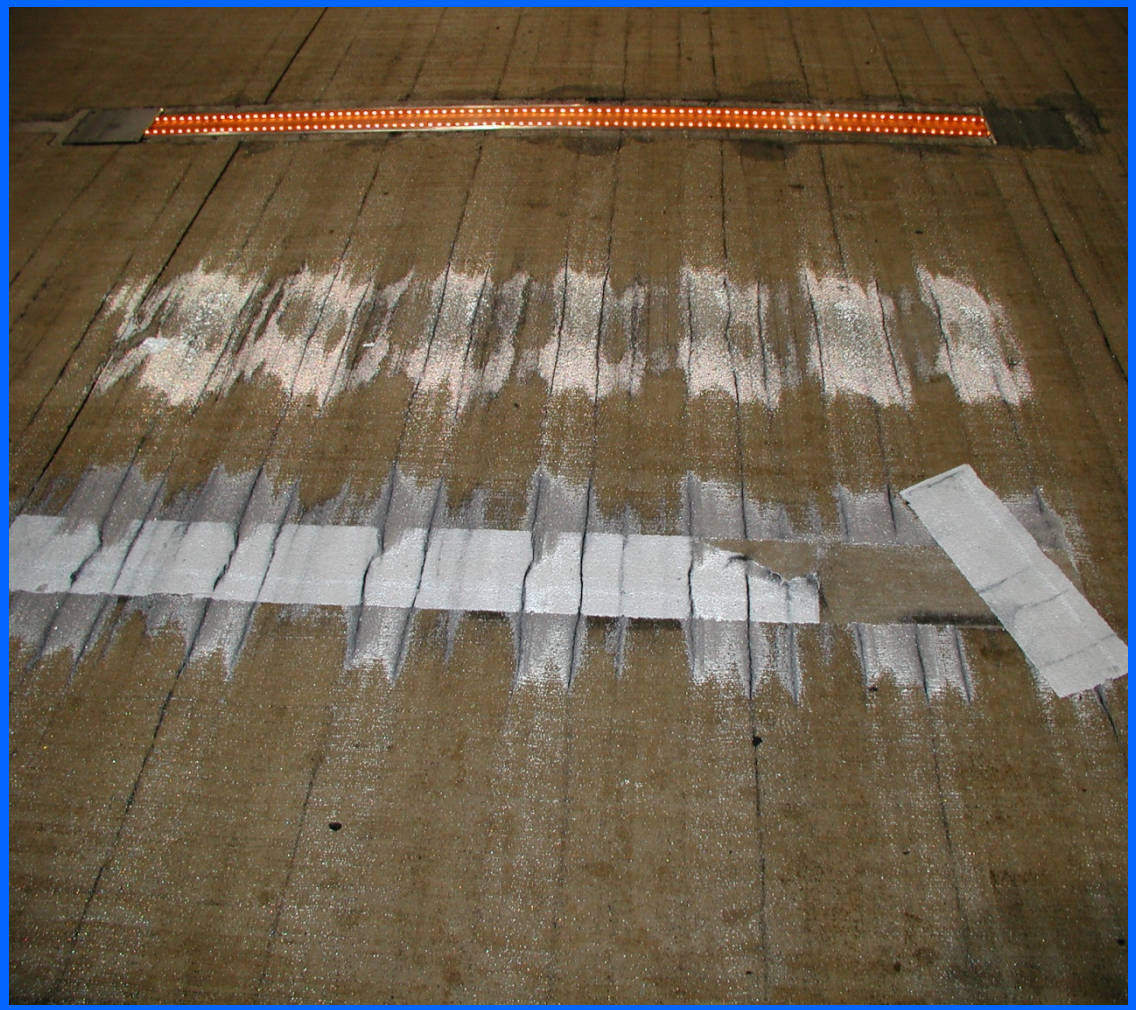
Polyurea Marking Material at Newark

Polyurea Marking Material At Newark

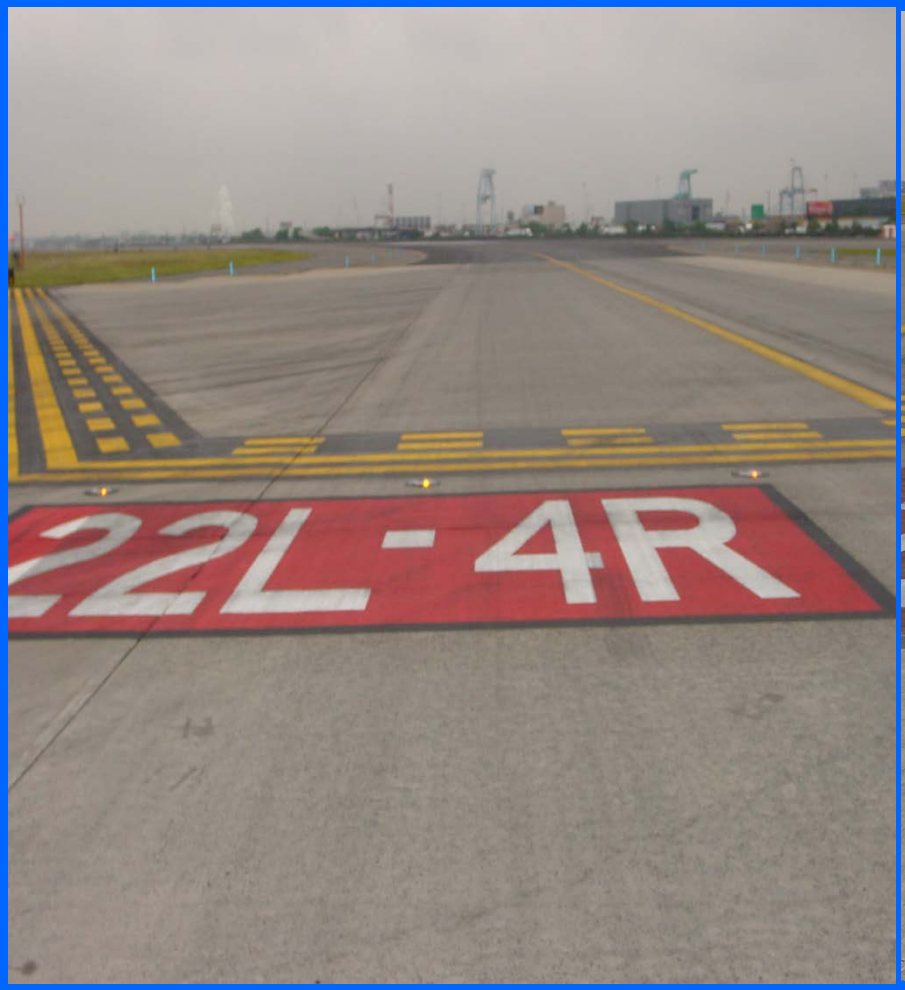
Polyester Marking Material



Polyester Marking Material



Thermoplastic Marking Material



Thermoplastic Marking Material

Hand Sprayer to Apply Paint

Truck Paint Sprayer

Questions or Comments?

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