



Designation: D7942 – 15 (Reapproved 2023)

Standard Specification for Thermoplastic Pavement Markings in Non Snow Plow Areas¹

This standard is issued under the fixed designation D7942; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers a reflectorized thermoplastic-based pavement striping material of the class that is applied to the road surface in a molten state by screed/extrusion or ribbon extrusion means. Retroreflectivity of the pavement marking compound is achieved initially by surface application of retroreflective optics at the time of pavement marking application. Upon cooling to normal pavement temperature, the pavement marking material produces an adherent reflectorized stripe of specified thickness and width capable of resisting deformation by traffic. The pavement marking compound includes retroreflective optics (glass beads or composite optics, or both) that are incorporated into the material at the time of manufacture that provide retroreflective properties during the service life of the material.

1.1.1 This specification is limited to:

1.1.1.1 Longitudinal applications in non snow plow areas,

1.1.1.2 Standard (non-profile) pavement marking applications, and

1.1.1.3 Applications on smooth asphalt or concrete surfaces. Asphalt seal coat applications, which use large aggregate resulting in a very rough, open grade finish, are excluded from this specification.

1.1.2 This specification includes:

1.1.2.1 Compositional and physical property requirements of the thermoplastic pavement marking material,

1.1.2.2 Requirements for the optics that are used to reflectorize the thermoplastic pavement marking material after application,

1.1.2.3 Field performance requirements for the installed thermoplastic pavement markings, and

1.1.2.4 Material application requirements.

1.2 The values stated in inch-pounds units are to be regarded as the standard except where noted in the document.

¹ This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.38 on Highway Traffic Control Materials.

Current edition approved May 1, 2023. Published May 2023. Originally approved in 2015. Last previous edition approved in 2015 as D7942 – 15. DOI: 10.1520/D7942-15R23.

The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D36/D36M Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)

D92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester

D4960 Test Method for Evaluation of Color for Thermoplastic Pavement Marking Materials

D6628 Specification for Color of Pavement Marking Materials

D7307 Practice for Sampling of Thermoplastic Pavement Marking Materials

D7308 Practice for Sample Preparation of Thermoplastic Pavement Marking Materials

D7585/D7585M Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments

D7735 Test Method for Type A Durometer Hardness Testing of Thermoplastic Pavement Marking at Elevated Temperatures

E313 Practice for Calculating Yellowness and Whiteness Indices from Instrumentally Measured Color Coordinates

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.