

ASTM D8514: A New Reflective Sheeting Standard for Vehicle Safety

▶ Introducing ASTM D8514

In June 2023, ASTM published a new specification for high-visibility vehicle markings. This new ASTM D8514 standard is a material specification defining the performance characteristics of reflective sheeting for use on a variety of vehicles.

▶ For What Types of Vehicles?

High-visibility reflective vehicle markings are intended to alert motorists to the presence of a vehicle stopped along an active roadway. Many different vehicles will benefit from these markings, including:

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| <ul style="list-style-type: none">• Police Vehicles• Ambulances• Fire Trucks | <ul style="list-style-type: none">• Delivery Vans• Utility Trucks• Refuse Trucks | <ul style="list-style-type: none">• Construction Vehicles• Emergency Roadside Assistance Vehicles |
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▶ Why was ASTM D8514 Created?

Prior to the creation of ASTM D8514, there was no common standard for vehicle markings. Instead, reflective specifications for traffic signs (e.g. ASTM D4956) were cross-referenced to specify reflective materials for vehicles. This often meant that lower-performing reflective sheeting was used on vehicles, which would not always provide adequate levels of visibility. ASTM D8514 was created to address these issues.

▶ How does ASTM D8514 differ from other reflective standards?

It was developed specifically for the needs of vehicle safety. As such, it incorporates many requirements unique to vehicle applications. Resistance to power washing and adhesive performance to OEM automotive paints are just two examples. Further, the retroreflectivity requirements are based upon the visibility needs of a vehicle, not those of a traffic sign.

▶ How were the minimum retroreflective requirements established?

The technical committee responsible for the development of D8514 reviewed best practices to establish a baseline table of minimum retroreflective performance. From there, these retroreflective minimums were cross-checked against existing human factors studies, including the UMTRI studies that were used to develop heavy truck and trailer conspicuity tape standards. Finally, a series of nighttime driving demonstrations were held to visually review materials in a real-world environment. (Note: UMTRI is the University of Michigan Traffic Research Institute.)

▶ What products are available to comply with ASTM D8514?

Aura Optical Systems' AURA® 191T Metalized Prismatic sheeting can be utilized to comply with the requirements of ASTM D8514. It is available in a variety of fluorescent and non-fluorescent colors. It is also available with Aura Optical Systems' AXE™ release liner, which incorporates air-egress properties for easier application. For more information about AURA® 191T and other reflective products, please contact your local representative.

▶ Where can a copy of ASTM D8514 be obtained?

ASTM D8514 can be purchased from the ASTM web-site: www.astm.org



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