



Rotational Sensitivity in Traffic Signs

Easy to read road signs play a critical role on today's chaotic roadways.

According to the Federal Highway Administration (FHWA), about half of traffic fatalities occur at night, although only about one quarter of travel occurs after dark. Adequately maintained retroreflective signs improve highway safety and prevent roadway departure crashes.

However, in many states, road signs often do not meet their intended purpose by utilizing what the American Association of State Highway and Transportation Officials (AASHTO) defines as “rotationally sensitive” reflective sheeting.

For instance, signs with varying levels of reflectivity are noticeably less clear to drivers, especially at night and in bad weather conditions, potentially reducing reaction time.

Sign sheeting orientation is a relatively new concern.

For the end-user, an unsatisfactory sign is a time-consuming, costly nuisance requiring them to repeat the whole process: resubmit the order, reclose the road and take down the signs; ultimately, placing crews and drivers in harm's way for a second time. The alternative would be to leave up a sign that does not meet its intended purpose and is unsafe to the driver.

When AASHTO published M268-10 in 2011 it officially recognized prismatic sheeting specifications, presenting the problem of “rotational sensitivity.” The Federal Highway Administration (FHWA) which collaborated with Texas Transportation Institute (TTI) produced the second edition of the 2003 MUTCD. This manual, listed minimum standards for retroreflectivity, which in turn initiated dialogue on rotational sensitivity.

Choosing rotationally insensitive products also benefits end-users. It increases confidence in the fabricators, and ensures the resulting signs will have optimal reflective performance from any angle and in any location.

Solution: Avery Dennison's Omni-Directional Prismatic Retroreflective Films

Avery Dennison, an innovator in the creation and application of prismatic materials. Avery Dennison's Omni-Directional films stand alone as the only truly rotationally insensitive prismatic sheeting on the market today. Durable and robust at any angle, omni-directional sheeting is the fabricator's foolproof solution, perfect for any sign of any size or any shape. Compliant with all federal and state specifications, omni-directional sheeting materials take the guesswork out of sign-making. Virtually every piece of sheeting is usable, eliminating most waste. Road signs manufactured from omni-directional materials provide consistent retroreflectivity, whether on dark rural roads or in bright urban areas, and regardless of installation.

Avery Dennison, a recognized industry leader in developing innovative identification and decorative solutions for businesses and consumers worldwide, has been manufacturing components for prismatic signs since 1924. Globally recognized as a supplier to preferred sign shops, Avery Dennison offers the most comprehensive range of reflective sheeting in the industry, providing a full spectrum of products to meet or exceed local specifications.



For the complete whitepaper on reflective signage and the industry dialogue on rotational sensitivity, contact reflective.orders@averydennison.com.