



**AUTHORIZED MATERIALS LIST FOR HIGH-PERFORMANCE
RETROREFLECTIVE GLASS BEADS**

High-Performance glass beads are used with State Specification thermoplastic for traffic stripes and pavement markings with enhanced wet night visibility. These high-performance glass beads are typically applied in conjunction with a second 'drop' of the American Association of State Highway and Transportation Officials (AASHTO) Designation M247, Type 2 beads when placing thermoplastic traffic stripes and pavement markings.

The wet-night traffic stripe visibility advantage provided by high-performance glass beads is affected by the pavement's texture and drainage efficiency. Best wet-night visibility is afforded when used on well-drained, open-graded asphalt concrete pavement. Retroreflective pavement markers provide much better wet-night visibility than traffic stripes utilizing high-performance glass beads. The use of high-performance glass beads in traffic stripes does not replace the use of retroreflective pavement markers but can augment roadway delineation by providing brighter traffic stripes.

Specification requirements are in 84-2.02E and 84-2.03C(2)(e) of the 2018 Standard Specifications.

Evaluation Criteria: Authorization Procedures and Acceptance Criteria for High-Performance Glass Beads.

Manufacturer	Product Name	Reauthorization Date
Potters Industries, LLC	Visimax	08/2025
Potters Industries, LLC	VisiUltra EP	08/2025
Potters Industries, LLC	VisiUltra UC	08/2025
3M	Connected Roads All Weather Elements (Series Dry, Series 50/51, Series 90/91 and Series CA)	08/2025
Swarco, Industries, Inc	Plus9spots	8/2025
Swarco, Industries, Inc	Duralux	8/2025

Products on this AML are products that have been evaluated and found acceptable for use, provided the products are used in accordance with the manufacturer's instructions. Caltrans may perform additional job control testing during construction or installation.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



If you have questions about this AML, please contact the Caltrans Chemistry branch by e-mail sent to <chemistry.branch@dot.ca.gov>.