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# Material Specifications

## White Prismatic Retroreflective Material

**Specification No.** 053-940-152  
California Department of Transportation  
Division of Equipment  
Development and Deployment

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**File:** White Retroreflective Material Specifications

**Contact:** 916-227-6447

The intent of this specification is to describe a prismatic, wide angle, removable, adhesive-backed, ASTM D4956-13 compliant, retroreflective material, designed to enhance daytime and nighttime visibility and conspicuity, as well as fleet identification of automotive and construction equipment.

1. **MATERIAL:** Shall be made of a flexible, durable, cuttable, adhesive-backed, impact and tear resistant material, all in accordance with American Society for Testing and Materials (ASTM) D4956-13 standards (reference 3M 983-10, Nikkalite 92802, or comparable), pressure-sensitive, prismatic, retro-reflective material having a smooth, flat, screen printable, outer surface.
2. **CLASSIFICATION TYPE:** ASTM D4956-13 Type VIII.
3. **ADHESIVE CLASS:** Shall be ASTM D4956-13 Backing Class 1. Material shall be pre-coated with an adhesive that allows application in temperatures ranging from 60°F minimum to 100°F maximum. Adhesive shall be protected with only the original factory-supplied release liner. Release liner shall be easily removed as a single unit by peeling without soaking in water or other solutions.
4. **DAYTIME COLOR:** White material shall conform to minimum daytime luminance factors and daytime color specification limits, per ASTM D4956-13 Tables 2 and 11, respectively, when tested in accordance with test method for daytime color in ASTM D4956-13 section 7.4. The daytime luminance shall additionally meet the requirements of Title 23, Code of Federal Regulations (CFR), Part 655, Appendix to Subpart F.
5. **NIGHTTIME COLOR:** White material shall conform to nighttime color specification limits, per ASTM D4956-13 Table 13, when tested in accordance with test method for nighttime color in ASTM D4956-13 section 7.12.
6. **RETROREFLECTIVITY:** Material shall be compliant with a minimum coefficient of retroreflection per ASTM D4956-13 Table 8 (Type VIII), when tested in accordance with ASTM D4956-13 section 7.3.
7. **WARRANTY:** Material shall have a minimum product warranty of seven (7) years, after product installation. Material shall be weather resistant and show no appreciable cracking, scaling, pitting, blistering, crazing, lifting, curling, or dimensional change after at least seven (7) years of unprotected outdoor vertical exposure, after installation. Unprocessed material shall have a minimum shelf life of two (2) years after delivery.
8. **SIZE:** For additional details refer to technical specifications and/or decal drawing(s) attached with this specification. Decal(s) shall be essentially similar to the sketch(es) or sample(s), which accompany and are considered part of this specification.
9. **PACKAGING:** Material shall be packaged in a manner to permit ready identification and convenient shelf storage. Each package shall be marked with its corresponding seven-digit Caltrans Stock Number (Part# XXX-XXXX).