

## COPYRIGHT ACKNOWLEDGMENT

Recipient acknowledges that photocopies of these Materials/Documents made available for inspection only, pursuant to the California Public Records Act (CPRA; Govt. Code sections 6254 et seq.) **(a)** are not in the “public domain,” which refers to Materials/Documents that are not protected by copyright; **(b)** the California Department of Transportation (Department) is the owner of the copyright to the Materials/Documents, which are protected by copyright laws and/or other intellectual property laws; **(c)** Recipient’s use of the Materials/Documents are not a “Fair Use” exception to copyright law defined in 17 U.S.C.A. section 107; and **(d)** Recipient must retain all copyright notices and any other proprietary notices on any permitted copies and/or reproductions of the Materials/Documents and Recipient shall not remove any trademark, copyright or other proprietary notices on the Materials/Documents provided by the Department.

Copying or redistribution in any manner for commercial use, including commercial publication, or for personal gain is strictly prohibited. You may not use any content contained in the Materials/Documents in any manner that may give a false or misleading impression or statement as to the Department or any third party referenced in the Materials/Documents. Recipient’s inspection of the Materials/Documents pursuant to a CPRA request does not provide Recipient with title or ownership to the Materials/Documents, but only a right to inspect such Materials/Documents. The CPRA request shall not be construed as conferring any license to Recipient under the Department’s intellectual property rights, whether by estoppel, implication or otherwise.

The Department has registered these documents, and/or is in the process of registering its copyright, with the Copyright Office in accordance with title 17, United States Code. Therefore any infringement to the Department’s copyright works requested here will be a violation of federal law and the Department will pursue such violations in the extent of the law.

# Material Specifications

## Fluorescent Orange Prismatic Retroreflective Material

**Revision Date:** September 4, 2015

**Specification No.** 053-940-151  
California Department of Transportation  
Division of Equipment  
Development and Deployment

**File:** Fluorescent Orange 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 3924S, Nikkalite 92847, 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:** Fluorescent orange 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:** Fluorescent orange 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 five (5) years, after product installation. Material shall be weather resistant and show no appreciable cracking, scaling, pitting, blistering, crazing, lifting, curling, delaminating, or dimensional change after at least five (5) years of unprotected outdoor vertical exposure, after installation. Unprocessed material shall have a minimum shelf life of 2 years after delivery.
8. **SIZE:** The length and width will be specified by the purchaser. Material shall not be spliced. 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:** When ordered in rolls, material shall be evenly wound on a core of sufficient rigidity to prevent distortion of the roll. Striping shall be packaged one each per roll. Decals shall be packaged in a manner to permit ready identification and convenient shelf storage. Each package or roll shall be marked with its corresponding seven-digit Caltrans Stock Number (Part# XXX-XXXX).