



# **Authorization Requirements for New Signing and Delineation Materials**

Division of Safety Programs

This document details the laboratory and field requirements required for qualification of new traffic control devices for inclusion on the Department's Authorized Material Lists (AML) of Pre-Qualified and Tested Signing and Delineation Materials.

## **Foreword**

The Division of Safety Programs is responsible for maintaining this Authorized Materials List (AML) of "Pre-Qualified and Tested Signing and Delineation Materials" and for approving any new products to be added to the AML. This document lists the qualification criteria for new signing and delineation products for inclusion in the AML.

This AML is primarily limited to those traffic control devices (i.e.; Pavement Markers, Traffic Striping, Pavement Marking Tape, Delineators, Channelizers, Object Markers, etc.) whose use is covered in Part 3 of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

The Traffic Devices New Products Committee (TDNPC) reviews new traffic control device submittals and determines whether the Department has a need for the product or not. This committee consists of members from various Divisions of Caltrans (Maintenance, Traffic Operations, Construction, Engineering Services, etc.) The TDNPC provides recommendations to the Division of Safety Programs regarding the products on this AML.

The laboratory and field testing of new product submittals is completed by the Materials Engineering and Testing Services (METS) / Office of Roadway Materials and Testing (ORMT) / Chemical Testing Branch at Caltrans Transportation Laboratory.

Qualification testing of new products for inclusion on the AML usually includes both lab and field requirements, as described in this document.

In some cases, for field testing requirements can be satisfied by providing acceptable durability and performance data from field testing by the National Transportation Product Evaluation Program (NTPEP) DataMine.

The following webpage links have useful information:

Authorization Requirements for  
New Signing and Delineation Materials

Caltrans Construction Contract Standards:

<https://des.onramp.dot.ca.gov/office-engineer/construction-contract-standards>

Authorized Materials List (AML):

<https://dot.ca.gov/programs/engineering-services/authorized-materials-lists>

California Manual on Uniform Traffic Control Devices (CA MUTCD):

<http://www.dot.ca.gov/trafficops/camutcd/>

AASHTO – National Transportation Product Evaluation Program – DataMine:

<http://www.ntpep.org/Pages/NTPEPDataMine.aspx>

Caltrans – Division of Safety Programs:

<http://www.dot.ca.gov/programs/safety-programs/>

The Division of Safety Programs contact for general information regarding this AML is:

John Bamfield at (916) 217-0031, or [john.bamfield@dot.ca.gov](mailto:john.bamfield@dot.ca.gov)

Division of Safety Programs, Pavement Marking and New Products Branch

The Caltrans Transportation Laboratory contact for lab and field-testing is:

Lisa Watson at (916) 227-7291, or [lisa.watson@dot.ca.gov](mailto:lisa.watson@dot.ca.gov)

Office of Central Laboratories, Transportation Laboratory

## TABLE OF CONTENTS

<b>1. Pavement Markers .....</b>	<b>6</b>
Retroreflective with Abrasion Resistant Surface (ARS), Surface and recessed Application .....	6
<b>2. Temporary Pavement Markers.....</b>	<b>8</b>
Temporary Markers for Long Term Day/Night Use (6 Months or less) .....	8
Temporary Markers for Short Term Day/Night Use (14 Days or less) .....	8
<b>3. Striping and Pavement Marking .....</b>	<b>10</b>
Permanent Traffic Striping and Pavement Marking Tape .....	10
Temporary (Removable) Striping and Pavement Marking Tape (6 Months or less) .....	12
Preformed Thermoplastic (Heated in Place) .....	14
<b>4. Class 1 Delineators .....</b>	<b>16</b>
One Piece Driveable Flexible Type, 66-inch .....	16
Special Use Flexible Type, 66-inch .....	17
Surface Mount, Flexible Type, 48-inch .....	19
<b>5. Channelizers .....</b>	<b>22</b>
Surface Mount Type, 36-inch minimum .....	22
High-Speed Channelizer - Surface Mount Type, Flexible Type, 36-inch minimum.....	23
Lane Separation System .....	25
<b>6. Object Markers.....</b>	<b>27</b>
Type "K", 18-inch .....	27
Type "Q", 24-inch .....	27
<b>7. Markers for Concrete Barrier and Guard Rail .....</b>	<b>29</b>
Impactable Type .....	29
Non-Impactable Type .....	29
<b>8. Delineators for Concrete Barrier and Guard Rail .....</b>	<b>31</b>
<b>9. Retroreflective Sheeting – Channelizers, Barrier Markers, Delineators, Cone Sleeves, retroreflective stripes for plastic drums.....</b>	<b>33</b>

**10. Retroreflective Sheeting – Signs ..... 35**

    Type VIII, Super High Intensity (Typically Unmetallized Microprismatic Element) .....35

    Type IX, Very High Intensity (Typically Unmetallized Microprismatic Element) .....35

    Type XI, Very High Intensity (Typically Unmetallized Microsprimatic Element) .....35

**11. Alternative Sign Substrates ..... 37**

    Fiberglass Reinforced Plastic (FRP) and Expanded Foam (PVC).....37

    Aluminum Composite, Temporary Construction Signs and Permanent Signs up to 4 foot, 7 inches .....37

## 1. Pavement Markers

### **Retroreflective with Abrasion Resistant Surface (ARS), Surface and recessed Application**

#### **A. For new materials, the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **pavement markers** meet the requirements for pavement markers in Section 81-3 of the Caltrans Standard Specifications.
- d. NTPEP test deck data for minimum of one year

#### **B. Performance acceptance criteria:**

##### **References**

Caltrans Standard Specifications, Section 81-3

Caltrans Standard Plans, A20A thru A20E

California Manual on Uniform Traffic Control Devices (CMUTCD), Part 3

California Test 669

##### **Laboratory Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

##### **Field Evaluation**

At the end of a year, a maximum of 12% may be classified as missing or nonfunctional. This is equivalent to a NTPEP field evaluation rating of 1 or 0, averaged for both asphalt and concrete pavement. A minimum average

coefficient of luminous intensity of 40 mcd/lux after one year of field exposure is required.

**C. Send the sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Pavement Markers, Permanent Type  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 2. Temporary Pavement Markers

### Temporary Markers for Long Term Day/Night Use (6 Months or less)

### Temporary Markers for Short Term Day/Night Use (14 Days or less)

#### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **pavement markers** meet the requirements for pavement markers in Section 81-3 of the Caltrans Standard Specifications.
- d. Field data that indicates that the marker will survive for 6 months in traffic.

#### B. Performance acceptance criteria:

##### References

Caltrans Standard Specifications, Section 12-6 and 81-3

Caltrans Standard Plans, A20A thru A20E

California Manual on Uniform Traffic Control Devices (CA MUTCD), Part 6

California Test 669

##### Laboratory and Field Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

#### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory



Authorization Requirements for  
New Signing and Delineation Materials

Attention: Chemical Testing Branch, Pavement Markers, Temporary Type  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization:**

Manufacturer should submit its package to the Chemical Testing Branch at least 3 months prior to the listed expiration date with current information that probes that no changes has happened in the approval period to the material.

### 3. Striping and Pavement Marking

#### Permanent Traffic Striping and Pavement Marking Tape

##### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **permanent tape** meets the requirements for traffic stripes and pavement marking materials in Section 84 of the Caltrans Standard Specifications.
- d. Safety Data Sheet.
- e. NTPEP test deck data for minimum of one year

##### B. Performance acceptance criteria:

###### References

Caltrans Standard Specifications, Section 84

Caltrans Standard Plans A20A thru A20E

California Manual on Uniform Traffic Control Devices (CA MUTCD), Part 3

ASTM D6628 Standard Specification for Color of Pavement Marking Materials

ASTM D4505 Standard Specification for Preformed Retroreflective Pavement Marking Tape for Extended Service Life

###### Laboratory Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

### **Field Evaluation**

Product must remain on the roadway, maintain color, and provide comparable retroreflectivity as control. The white and yellow tape when measured in accordance with ASTM D4505 using a retroreflectometer in accordance with ASTM E1710 shall maintain a minimum retroreflectivity of 700  $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$  White and 500  $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$  yellow tape shall also meet the daytime color requirement as specified in ASTM D6628.

### **C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, permanent tape  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

### **E. Reauthorization:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## **Temporary (Removable) Striping and Pavement Marking Tape (6 Months or less)**

### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **temporary tape** meets the requirements for traffic stripes and pavement marking materials in Section 12 of the Caltrans Standard Specifications.
- d. Safety Data Sheet.
- e. NTPEP test deck data for minimum of six months.

### **B. Performance acceptance criteria:**

#### **References**

Caltrans Standard Specifications, Section 12

ASTM D 4592

#### **Laboratory Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

#### **Field Evaluation**

At the end of six months, a maximum of 12% may be classified as missing or non- functional. This is equivalent to a NTPEP field evaluation rating of 1 or 0, averaged for both asphalt and concrete pavement. A minimum average coefficient of luminous intensity of 100 mcd/lux after 6 months of field exposure is required.

NTPEP test deck Product must remain on the roadway, maintain color, and provide comparable retroreflectivity as control. The white and yellow tape when measured in accordance with ASTM D 4592 and ASTM E1710, shall maintain a minimum retroreflectivity of  $100 \text{ mcd} \cdot \text{m}^{-2} \cdot 1\text{x}^{-1}$  at the end of 6 months. White and yellow tape shall also meet the daytime color requirement as specified in ASTM D6628.

**C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, temporary tape  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization:**

Manufacturer should submit its package to the Chemical Testing Branch at least 3 months prior to the listed expiration date with current information that probes that no changes has happened in the approval period to the material.

## **Preformed Thermoplastic (Heated in Place)**

### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?fmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **preformed thermoplastic** will meet the requirements for traffic stripes and pavement marking materials in Section 84 of the Caltrans Standard Specifications.
- d. Safety Data Sheet.
- e. NTPEP test deck data for minimum of one year.

### **B. Performance acceptance criteria:**

#### **References**

Caltrans Standard Specifications 2015, Section 84

Caltrans Specifications for Thermoplastic Pavement Marking Material, Preformed White and Yellow (METS Specification)

Caltrans Standard Plans 2015, A20A thru A20E

California Manual on Uniform Traffic Control Devices (CA MUTCD), Part 3

#### **Laboratory Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

#### **Field Evaluation**

NTPEP test deck Product must remain on the roadway, maintain color, and provide comparable retroreflectivity as control. The white and yellow Preform Thermoplastic when measured in accordance with ASTM D4505

using a retroreflectometer in accordance with ASTM E1710 shall maintain a minimum retroreflectivity of  $100 \text{ mcd} \cdot \text{m}^{-2} \cdot 1\text{x}^{-1}$  White and yellow tape shall also meet the daytime color requirement as specified in ASTM D6628.

**C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, preformed thermoplastic  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 4. Class 1 Delineators

### One Piece Driveable Flexible Type, 66-inch

These markers are purchased by the Warehouse for use by Maintenance and installed with the universal driver. They may have an attached U-Channel for ease of driving.

#### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **delineators** meet the requirements for delineators in Sections 12 and 81 of the Caltrans Standard Specifications.
- d. NTPEP test deck data for minimum of one year, vehicle impact test.

#### B. Performance acceptance criteria:

##### References

Caltrans Standard Specifications, Sections 12 and 81

Caltrans Specifications for Driveable Flexible Guide and Clearance Marker Posts, 9330-1287-6 and 9330-1288-8

Caltrans Standard Plans, A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD), Chapter 3F

##### Laboratory and Field Evaluation

Posts shall remain upright and serviceable after 10 vehicle impacts at 55 mph. The sheeting loss shall not more than 50% after the vehicle impacts.

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch



will contact the vendor to request samples and/or additional supporting documentation.

**C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Delineators  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

**Special Use Flexible Type, 66-inch**

The delineators should meet the properties in the Division of Procurement and Contracts Specification, Driveable Flexible Guide and Clearance Marker posts, except they don't have to be driven with the universal driver.

**A. For new materials the manufacturer must provide:**

Authorization Requirements for  
New Signing and Delineation Materials

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **delineators** meet the requirements for delineators in Sections 12 and 81 of the Caltrans Standard Specifications.
- d. NTPEP test deck data for minimum of one year.

**B. Performance acceptance criteria:**

**References**

Caltrans Standard Specifications, Sections 12 and 81

Caltrans Standard Plans, A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 3F

**Laboratory Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

**Field Evaluation**

Posts shall remain upright and serviceable after 10 vehicle impacts at 55 mph. The sheeting loss shall not more than 50% after the vehicle impacts.

**C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Delineators  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any

discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

#### **Surface Mount, Flexible Type, 48-inch**

##### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **delineators** meet the requirements for delineators in Sections 12 and 81 of the Caltrans Standard Specifications.
- d. NTPEP data that indicates marker will survive at least 10 vehicle impacts at 55 mph.

##### **B. Performance acceptance criteria: References**

Caltrans Standard Specifications, Sections 12 and 81

Caltrans Standard Plans A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 3F

### **Laboratory Evaluation**

The laboratory and field evaluation should be performed by the vendor.

### **Field Evaluation**

Posts shall remain upright and serviceable after 10 vehicle impacts at 55 mph. The sheeting loss shall not more than 50% after the vehicle impacts.

Should product be equipped with attachments (soil, anchor, etc.), approval will require that attachment has been determined to be an integral part of a product.

### **C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Delineators  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 5. Channelizers

### Surface Mount Type, 36-inch minimum

#### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. NTPEP data that channelizer will survive 10 vehicle impacts at 55 mph.

#### B. Performance acceptance criteria:

##### References

Caltrans Standard Specifications, Sections 12

Caltrans Standard Plans, A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 3H

##### Laboratory Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

##### Field Evaluation

Posts shall remain upright and serviceable after 10 vehicle impacts at 55 mph. The sheeting loss shall not more than 50% after the vehicle impacts.

Should product be equipped with hardware or adhesive attachments (surface of the road), approval will require that said attachment has been determined to be an integral part of a product.

#### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Channelizers  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

### **High-Speed Channelizer - Surface Mount Type, Flexible Type, 36-inch minimum**

#### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.

- c. Certification that **channelizers** meet the requirements for channelizer materials in Section 12 of the Caltrans Standard Specifications.
- d. Test data to evaluate its longevity and system remaining serviceable for one year in the field.

**B. Performance acceptance criteria: References**

Caltrans Standard Specifications, Sections 12 and 81

Caltrans Standard Plans A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 3F

**Laboratory Evaluation**

The laboratory and field evaluation should be performed by the vendor.

**Field Evaluation**

Posts shall remain upright and serviceable after 200 vehicle impacts at 70 mph. The sheeting loss shall not be more than 50% after the vehicle impacts.

Should the product be equipped with attachments (soil, anchor, etc.), approval will require that attachment has been determined to be an integral part of a product.

**C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Channelizers  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).



**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test, and remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

#### **Lane Separation System**

##### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **channelizers** meet the requirements for channelizer materials in Section 12 of the Caltrans Standard Specifications.
- d. Test data to evaluate its longevity and system remaining serviceable for one year in the field.

##### **B. Performance acceptance criteria:**

#### **References**

Caltrans Standard Specifications, Sections 12

Caltrans Standard Plans, A73C

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 3H

### **Laboratory and Field Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

### **C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Channelizers  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 6. Object Markers

Type “K”, 18-inch

Type “Q”, 24-inch

### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.

### B. Performance acceptance criteria:

#### References

Caltrans Standard Specifications, Sections 12

Caltrans Standard Plans, A73A

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 2C, 5C, 6F, 9B

#### Laboratory and Field Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Object Marker  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any

discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 7. Markers for Concrete Barrier and Guard Rail

### Impactable Type

### Non-Impactable Type

#### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meet the performance acceptance criteria.

#### B. Performance acceptance criteria:

##### References

Caltrans Standard Plans, A76A, A76D, A76G, A78A

California Manual on Uniform Traffic Control Devices (CA MUTCD),  
Chapter 2C

##### Laboratory and Field Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

#### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Barrier Marker  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 8. Delineators for Concrete Barrier and Guard Rail

### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. Certification that **Concrete Barrier and Guard Rail Delineators** meet the requirements in Chapter 3F of the California Manual on Uniform Traffic Control Devices.

### B. Performance acceptance criteria: References

Caltrans Standard Plans, A77N4

California Manual on Uniform Traffic Control Devices (CA MUTCD), Figure 3F- 101 (CA)

### Laboratory and Field Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Delineators, Guard Rail and Concrete Barrier  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.



## **9. Retroreflective Sheeting – Channelizers, Barrier Markers, Delineators, Cone Sleeves, retroreflective stripes for plastic drums**

### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502, <http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. NTPEP 3-year outdoor exposure data

### **B. Performance acceptance criteria:**

#### **References**

Sheeting will not be Type I or II as defined in ASTM D 4956

#### **Laboratory and Field Evaluation**

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

### **C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Retroreflective Sheeting, Channelizers  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

**D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

**E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 10. Retroreflective Sheeting – Signs

**Type VIII, Super High Intensity (Typically Unmetallized Microprismatic Element)**

**Type IX, Very High Intensity (Typically Unmetallized Microprismatic Element)**

**Type XI, Very High Intensity (Typically Unmetallized Microprismatic Element)**

### **A. For new materials the manufacturer must provide:**

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.
- c. NTPEP data for 3 years of outdoor exposure

### **B. Performance acceptance criteria: References**

Caltrans Standard Specifications, Section 82

California Manual on Uniform Traffic Control Devices (CA MUTCD), Part 2

ASTM D4956 Standard Specification for Retroreflective Sheeting for Traffic Control

### **Laboratory and Field Evaluation**

NTPEP data will indicate that the sheeting will meet the specification requirements in ASTM D4956 for sheeting type and color.

### **C. Send the submittal and sample to the Chemical Testing Branch:**

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Retroreflective Sheeting  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any

discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.

## 11. Alternative Sign Substrates

### Fiberglass Reinforced Plastic (FRP) and Expanded Foam (PVC)

### Aluminum Composite, Temporary Construction Signs and Permanent Signs up to 4 foot, 7 inches

#### A. For new materials the manufacturer must provide:

- a. Authorized Materials List Submittal Form TL-9502,  
<http://cefs2.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TL9502>
- b. Material/system data sheet with detailed performance information, properties and installation instructions. Data in this document must indicate that the system meets the performance acceptance criteria.

#### B. Performance acceptance criteria:

##### References

Provide data that alternative signs substrate must perform as well as aluminum substrate.

Provide data that sheeting will adhere and the durability will be the same as aluminum substrate.

##### Laboratory and Field Evaluation

Once all documentation has been submitted and the initial assessment has been completed one representative from Chemical Testing Branch will contact the vendor to request samples and/or additional supporting documentation.

#### C. Send the submittal and sample to the Chemical Testing Branch:

Caltrans Transportation Laboratory  
Attention: Chemical Testing Branch, Alternative Signs Substrate  
5900 Folsom Boulevard  
Sacramento, CA 95819

When the submittal package has been evaluated and reviewed, the Department will notify the manufacturer of the findings. When any

discrepancies are resolved to the satisfaction of the Department the material will be placed on the AML.

**Final Report:** By Chief, Chemical Testing Branch provides report to Traffic Devices New Products Committee (TDNPC).

**Approval/Rejection:** By Chief, Office of Safety Programs based on recommendation by TDNPC.

The Department reserves the right to sample, test and to remove the product from the AML at any time.

#### **D. Processing Requirements**

Incomplete Submittal Packages will not be considered and will be discarded after 30 calendar days from the day of initial submittal.

#### **E. Reauthorization criteria:**

Manufacturer will submit its package to the Chemical Testing Branch at least 3 months prior to the listed reauthorization date with current information that indicates that no changes have been made to the material.