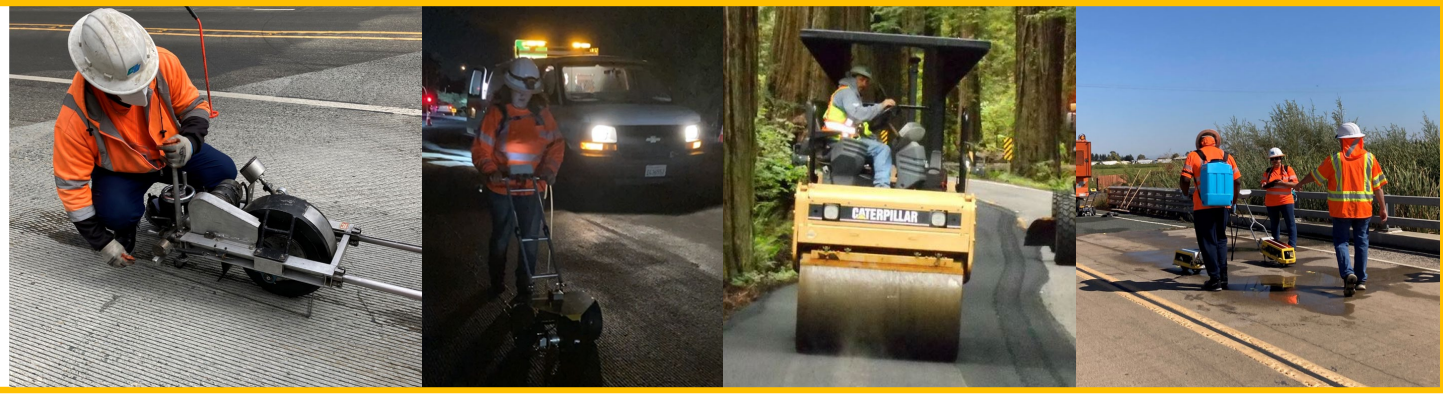


CT 342 Updates: Structures Construction

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AGENDA

- Background
- Review Key Updates
- Impact to Local Agencies
- Implementation Plan and Next Steps



CT 342 Background

CT 342 evaluates pavement surface friction for:

- Public Safety
- Pre-Design and Accident Investigations
- Acceptance Testing

Why update CT 342?

- CA PST is unique to Caltrans
- Limited number of available devices
- Aging equipment and maintenance challenges
- Local agencies often rely on Caltrans testing through cooperative agreements
- Need for a modern, shared solution accessible to both Caltrans and industry

Introduction of CFMEs

Continuous Friction Measuring Equipment – (CFME)

- Walk Behind Testers
- Measure Entire Profile
- Small, Compact, and Ergonomic
- Supported by FHWA Programs
- Commercially Available
- ASTM Standards: E3304 and E2340



Micro GripTester (MGT)



T2GO-R

CT 342 Key Updates

connected via cable or wireless interface. The CFME shall measure the friction property of the pavement surface in terms of a "friction value," which is generated from the CFME after a completed test. The "friction value" shall have a value within the range of 0.30 – 1.20.

E. MATERIALS AND EQUIPMENT

1. Glycerin
2. Water
3. Paint brush (approximately 2 in. wide)
4. Wooden spacer (1/4 in. thick, 2 ft. long and 1 in. wide)
5. A stiff fiber broom
6. Air pressure gauge
7. Infrared thermometer
8. Tread depth gauge

PART 1. CALIFORNIA PORTABLE SKID TESTER

1A. PROCEDURE

1. Clean loose material from the test surface using the stiff fiber broom.
2. Determine the grade of the test surface.
   a. Place the metal level on the test surface parallel to direction of traffic with the adjustable end down grade.
   b. Adjust the level until the bubble is centered.
   c. The grade is read directly on the calibrated sliding bar. See Figure 4. Record this slope to nearest 0.5 %.
3. Remove the skid testing unit from the vehicle, attach it to the bumper hitch, and connect the power cables as shown in Figure 5.
4. Position the skid tester with the test tire over the pavement surface to be tested. The test tire should be parallel to the direction of traffic.
5. Place the wooden spacer under the test tire and turn the adjustment knob to obtain a distance of¼ in. from the test surface to the bottom of the test tire. Remove the wooden spacer.
6. Wet the full circumference of the test tire and the test surface (from the initial tire contact point to approximately one foot ahead of the contact point) with glycerin, using the paint brush.

1D. REPORTING OF RESULTS

1. The report shall include the following data:
2. The name of the tester and the date when test measurements were recorded
3. The contract number
4. The year when the pavement surface was placed
5. The location of the test measurements
6. The surface grade for each test site
7. The initial and corrected test measurements and the average coefficient of friction value for each test location
8. Average air temperature during testing
9. Report California Portable Friction Tester value to the nearest hundredth of a decimal point.

PART 2. CONTINUOUS FRICTION MEASURMENT EQUIPMENT

2A. PROCEDURE

1. Ensure that all tires rotate freely on the CFME.
2. Check the condition and tire pressure for all tires on the CFME.
   a. Three-wheel CFME Measuring tire: 5 psi & 1mm tread depth, and no more than two years old from the manufacturer date.
   b. Three-wheel CFME Drive Tires: 10 psi & 1.6 mm tread depth.
3. Perform a self-test of the sensors on the CFME to verify calibration, per manufacturer specifications.
4. Ensure all user settings, e.g., water level, number of measurements per foot, are correct before making friction measurements.

2B. FIELD CALIBRATION/VALIDATION

1. Perform a calibration check according to the manufacturer's specifications before the first surface friction test at a new location, or as required by project specifications.
2. Use an infrared thermometer and pressure meter for pavement temperature and tire pressure, respectively
   a. Prior to initiating any CFME testing, verify that surface temperature

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2026 Standard Specification Updates

51-1.01D(3)(b)(iii) ~~Coefficient of Friction~~Skid Resistance

After deck ~~surfaces~~ and approach slab~~s~~ surfaces have been textured, the Engineer performs ~~friction testing~~ skid resistance testing of the concrete surfaces under California Test 342. Allow 25 days for the Department to schedule for skid resistance~~coefficient of friction~~ testing.

When opened to traffic or before seal coats are placed, whichever occurs first, d~~D~~eck ~~surfaces~~ and approach slab~~s~~ surfaces must have: ~~a uniform surface texture with a coefficient of friction of not less than 0.35 when opened to traffic or before seal coats are placed, whichever occurs first.~~

1. Uniform texture
2. Skid resistance complying with one of the following under California Test 342:
   - 2.1 Coefficient of friction not less than 0.35 under Part 1
   - 2.2 Average friction value not less than 0.80 under Part 2

If portions of completed deck surfaces or approach slabs ~~have a coefficient of friction of less than 0.35~~do not comply with the skid resistance requirement, those portions must be ground or grooved parallel to the center line to ~~produce a coefficient of friction of not less than 0.35~~comply with the skid resistance requirement. Grinding and grooving must comply with section 42.

The skid resistance~~coefficient of friction~~ requirements do not apply for bridge decks to be covered with membrane seals.

Equivalent Acceptance Criteria for Bridge Decks	
CA PST:	0.35
CFME:	0.80

***Established through statewide correlation study (2021-2024)**

CT 342 Implementation Plan

- [x] Update CT 342 to include CFMEs – *October 2025*
- [x] Develop IA Exams and Checklists for CFME – *April 2026*
- [ ] Publish updated CT 342 for CA PST and CFMEs – October 2026
- [ ] Implement CFMEs for Acceptance Testing in 2026 Specifications – *October 2026*

Phase 1 (2025-2026)

- [ ] Solicit feedback from Local Agencies/companies performing CFME testing per 2026 Specifications – 2027
- [ ] Implement CFMEs for Contractor's QC and Caltrans/Owner QA in 2028 Specifications – *October 2028*

Phase 2 (2027-2028)

METS

Caltrans









QUESTIONS