
HDOT TM 6 - 00

Standard Practice for Operation of the California Type Profilograph and Evaluation of Profiles

1. Scope:

1.1 This test method covers the operation of the California Type Profilograph, the procedure used for determining the Profile Index from profilograms of pavements made with the Profilograph, and the procedure used to locate individual high points in excess of specification limits.

2. Operation of the California Type Profilograph

2.1 Apparatus

2.1.1 The California Type Profilograph consists of a frame 7.6 m (25 ft) in length supported upon wheels at either end. The profile is recorded from the vertical movement of a wheel attached to the frame at midpoint and is in reference to the mean elevation of the points of contact with the road surface established by the support wheels (see Figure 1). The profilogram is recorded on a scale of 1:300 (1 in = 25 ft) longitudinally and 1:1 or full scale, vertically. (If a computerized recorder is used, the profile trace must have the same scales.) Motive power may be provided manually or by the use of a propulsion unit powered with an engine attached to the assembly.

2.2 Operation

2.2.1 Clear the intended profilograph path of all loose material and foreign objects.

2.2.2 Move the profilograph at a speed no greater than a 5 km/hr (3 mph) so as to eliminate as much bounce as possible. Too high a speed will result in a profilogram that is difficult to evaluate.

2.3 Calibration

2.3.1 To check the height recording, place a gage block of known thickness between 10 mm (0.5 in) and 40 mm (1.5 in) under the surface of the sensing wheel. The record must indicate the actual height within ± 0.5 mm (± 0.02 in). Verify the height recording before any week of use, whenever the profilograph is reassembled and whenever there is evidence of possible inaccuracy.

2.3.2 To check the distance recording, mark a distance of 30.00 m (100.00 ft) on reasonably even pavement. Move the profilograph forward over the marked distance. The record must indicate 30.0 ± 0.3 m (100 ± 1 ft) between the marked points. Verify the distance recording before any month of use and whenever there is evidence of possible inaccuracy.

