

## STEEL TAPING DATA SHEET

### For measuring a calibration course

Name of calibration course: \_\_\_\_\_

City/town and State: \_\_\_\_\_

Date: \_\_\_\_\_

Start time: \_\_\_\_\_ Finish time: \_\_\_\_\_

Pavement temperature: Start \_\_\_\_\_ Finish \_\_\_\_\_ Average \_\_\_\_\_  
(thermometer shaded from direct sun)

**Measurements and calculations:**

- 1 First measurement. This establishes tentative start and finish marks which should not be changed until the final adjustment on line 6 below.

$$\frac{\text{_____}}{\# \text{ tape lengths}} \times \frac{\text{_____}}{\text{distance per tape length}} + \frac{\text{_____}}{\text{partial tape length}} = \frac{\text{_____}}{\text{measured distance}}$$

- 2 Second measurement. This checks the distance between the SAME tentative start and finish points marked in the first measurement, but use new intermediate taping points.

$$\frac{\text{_____}}{\# \text{ tape lengths}} \times \frac{\text{_____}}{\text{distance per tape length}} + \frac{\text{_____}}{\text{partial tape length}} = \frac{\text{_____}}{\text{measured distance}}$$

- 3 Average raw (uncorrected) measurement of course \_\_\_\_\_

- 4 Temperature correction. Use the average pavement temperature during measurement. Work out answer to at least seven digits beyond the decimal point.

$$\text{Correction factor} = 1.0000000 + (.0000116 \times [\text{Celsius temperature} - 20])$$

Correction factor = \_\_\_\_\_

NOTE: For temperatures below 20C, factor is less than one  
For temperatures above 20C, factor is greater than one

- 5 Multiply the temperature correction factor by the average raw measurement of the course (line 3)

$$\frac{\text{_____}}{\text{correction factor}} \times \frac{\text{_____}}{\text{avg. raw measurement}} = \frac{\text{_____}}{\text{corrected measurement}}$$

- 6 If you wish, you may now adjust the course to obtain an even distance, such as one kilometre. This is not necessary as you may choose instead to use an odd-distance calibration course whose endpoints are pre-existing permanent objects in the road to guard against hazards such as repaving. If you adjusted the course, explain why you did it.

**Final (adjusted) length of calibration course** \_\_\_\_\_