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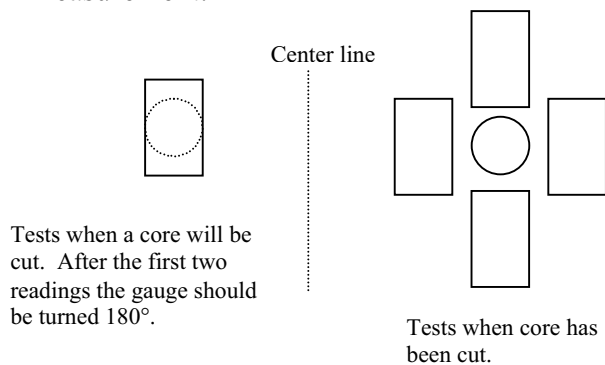
Troxler Application Brief

An Instruction Guide for the Special Calibration Procedure for Troxler Thin-Layer Gauges

October, 1998

When using a Troxler thin-layer gauge, it is recommended that a special calibration be performed on the asphalt mix being measured. This allows the gauge to correct for surface voids, air voids or materials present in the mix, such as iron slag, glass, large aggregate, rubber, etc., which can cause the gauge to read in error. Once a special calibration is enabled, it remains active until the gauge is turned off or it is disabled. Generally the test strip area is the best place to perform this procedure. Troxler recommends following these steps for this function:

1. This procedure “fine tunes” the gauge to the specific asphalt that is being measured. A new special calibration will need to be performed if the mix characteristics change. Set the thickness in the gauge as the minimum thickness of the asphalt being placed and do not change this.
2. If using the Model 3450, press the **SPECIAL** key, choose <1> **Special operation** and press <2> **Thin Lift Special**. If using the Model 4640 gauge press **Shift** and **Special Calibration**. Choose **new** on the special calibration menu for either gauge.
3. Enter the special calibration number (for storage in gauge’s memory) and number of readings to be taken (recommend 12 or more) if using the Model 4640. If using the Model 3450 gauge choose <1> **Measure density** and input the number of readings (recommend 12 or more).
4. Choose at least three (3) core sites close together (approximately 2 to 5 feet apart if possible) to take gauge readings on or around. Keeping the core sites close together helps to insure that the density will be relatively uniform.
5. Position the gauge on a marked site that will be cored or around a site that has been cored as pictured below. Make sure that the gauge is sitting flat on the asphalt and does not “rock” before beginning the measurement.



6. Take at least four (4) one minute measurements on or around each core site (equalling 12 measurements or more).

7. If the core densities are known, average the core densities (pcf or kg/m³) and enter this as the core value. If the core values are not yet known, store these readings and exit the special calibration mode. If you need to return to enter the core value later, simply enable this special calibration and the gauge will ask for the core value.
8. The Model 3450 then requires the name of the special calibration to be entered.
9. Be sure to disable this special calibration if you are measuring a different material.
10. To erase the special calibration, simply store a new one under the same special calibration storage number (1-11) as the one to be erased.