
Test Procedure for**MEASURING THICKNESS OF PAVEMENT LAYER****TxDOT Designation: Tex-140-E****Effective Date: August 1999**

1. SCOPE

- 1.1 This method determines the thickness of a base, subbase, or subgrade when a core cannot be obtained.
 - 1.2 The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.
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2. APPARATUS

- 2.1 *Drill with auger bit, grubbing hoe, or other acceptable tool.*
 - 2.2 *Nail, blade, knife, or other suitable tool, not to exceed 3 mm (1/8 in.) in thickness, and approximately 75 mm (3 in.) in length.*
 - 2.3 *Folding scale, 2 m (6 ft.), or other scale with 3 mm (1/8 in.) or smaller divisions.*
 - 2.4 *Depth measurement indicator, DHT No. 2238 (not to be used for pay purposes).*
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3. PROCEDURE

- 3.1 Drill or dig a hole to sufficiently penetrate the layer immediately below the layer being measured. Determine the thickness of the layer after the finished grade (bluetops) has been obtained.
 - 3.2 Make a vertical groove on the side of the hole to remove loose material and expose interface of both layers.
 - 3.3 Locate interface visually. When the interface is clearly defined, push a six-penny nail or blade horizontally into the interface approximately 25 mm (1 in.)
 - 3.4 Measure from the clearly defined interface or top of nail (blade) to the top of the layer being measured to nearest 3 mm (1/8 in.) and record as t_1 . A straightedge or surveyor's stake may be used to place across top of hole to determine the top of layer.
 - 3.5 Move the nail to another location on the interface and measure the thickness. Record as t_2 , etc.
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- 3.6 Repeat until obtaining a minimum of three measurements per hole.
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4. REPORT

- 4.1 Report the average of three measurements (t_1 , t_2 , and t_3) to the nearest 3 mm (1/8 in.) as the thickness of the pavement layer.

Note 1—If lime or cement is used as a soil stabilizer in neutral or acid soils, the bottom of this layer may be emphasized by a light application of 1% phenolphthalein indicator solution prepared in accordance with Tex-600-J. This solution should be applied after the vertical groove is made and from the bottom up. Once the interface is identified, application of the solution should stop.

Note 2—If depth measurement indicator is used:

- Drive the indicator into soil deeper than the specified requirement.
- Rotate using a pin through the shaft.
- Carefully remove indicator and lay on ground with groove up.
- Identify bottom and top of layer.
- Measure layer thickness.
- Record layer thickness to nearest 3 mm (1/8 in.)