

Procedure for Groove Depth and Spacing Measurements of Concrete Surfaces

1. Scope:

This test is for determining the depth of the grooving or texturing of tined surfaces.

Definitions:

Grooving: The mechanical cutting of mortar and aggregates in hardened pavement with center-to-center spacing of a nominal 1". Grooves must have a uniform width and a uniform minimum depth. The grooves should be straight with a continuous configuration to provide rapid dispersal routes for surface water drainage.

Plastic grooving: A means of meeting the above definition by manipulation of fresh concrete pavement at the specified spacing.

Texturing: The mechanical cutting of patterns in hardened pavement with a center-to-center spacing. Indentations should produce a rough, even or uneven pattern of specified width and depth.

Plastic texturing: The means of meeting the above definition by manipulation of concrete while it is in the plastic state.

Measurement: A specified individual determination of dimension, quality or quantity; by device or by comparison with standard or specified values.

2. Apparatus:

2.1 A gauge marked in 1/32" increments and capable of measuring to a depth of at least 1/2". An ordinary tire tread depth gauge meeting these requirements may be used.

2.2 Miscellaneous: 12" rule, 100' tape, broom or wire brush.

3. Procedure:

3.1 Randomly select 5 sites within the lot.

3.2 Remove all loose material from the site to be measured by brush or air pressure.

3.3 Determine and record the depth of 10 consecutive grooves in a straight line. Measure the deepest part of the groove within $\pm 1/2$ " of the straight line.

3.4 Perform calculations according to section 4.

3.5 Verify if tining spacing is within specification and document on DOT-55.

4. Report:

4.1 Calculations.

- A. Calculate the "Ave. depth" for each location to the nearest 1/32".

$$\text{Average depth} = \text{Site Total}/10$$

- B. Calculate the lot average by averaging the 5 "Site total" numbers from each location to the nearest 1/32".

$$\text{Lot average} = \text{Sum of site totals}/50$$

4.2 Report the test as being satisfactory, provided all the following conditions are met for each lot.

- A. The lot average is within specification (4/32" to 8/32")
- B. None of the individual site averages are outside individual site limitations (3/32" to 10/32").
- C. No more than 2 of the individual site averages are outside specifications (4/32" to 8/32")

5. References:

DOT-55

Sample ID 2229839

Groove Depth & Spacing Measurements of Concrete Surfaces

DOT - 55
3-19

PROJECT PH 0066(00)15 COUNTY Aurora, Ziebach PCN B015

Date Tested 06/14/2019 Tested by Tester, One Checked by Tester, Two

Test No. 01

Area Represented Station 325+26 to Station 359+62 Road Width 18.0

10,000 sq. yd Lot

SITE NO.	1	2	3	4	5
STATION	326+75	334+50	341+35	346+20	357+30
Dist. to CL	8.0'	2.0'	6.0'	4.0'	7.0'
	Depth (X/32)	Depth (X/32)	Depth (X/32)	Depth (X/32)	Depth (X/32)
1	9	5	6	11	9
2	8	3	7	10	11
3	10	6	7	10	12
4	7	6	9	10	8
5	9	7	7	8	11
6	8	6	6	4	12
7	8	9	9	7	10
8	9	6	6	7	10
9	10	6	6	7	8
10	10	8	8	4	12
TOTAL	88	62	71	78	103
Avg. Depth	9/32	6/32	7/32	8/32	10/32
Is Tining Spacing Within Spec (Enter Y or N below)					
SPACING	Y	Y	Y	Y	Y
Pass/Fail	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lot Average:				<u>8/32</u>	

Notes: No average depth can be below 3/32" or above 10/32"
 Only 2 average depths can be below 4/32" or above 8/32"
 The lot average shall be between 4/32" and 8/32"

Figure 1

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