

# WSDOT FOP for ASTM D 6931

## Standard Test Method for Indirect Tensile (IDT) Strength of Asphalt Mixtures

WSDOT has adopted ASTM D 6931 as published at <http://wwwi.wsdot.wa.gov/MatsLab/BusinessOperations/ASTMLogin.htm> with the following changes:

### 6. Specimens

6.1 Laboratory-Molded Specimens – Prepare the 150 mm (5.9 in) laboratory-molded specimens in accordance with WSDOT FOP for AASHTO T 312, to a height of  $62 \pm 1.0$  mm ( $2.44 \pm 0.04$  in). A minimum of three replicates shall be prepared for each mixture.

6.1.1 Air void ( $V_a$ ) of test specimen shall be  $7.0 \pm 1.0$  %.

### 7. Procedure

7.1 Section 7.1 shall be deleted in its entirety.

### 8. Calculation

8.1 Calculate the IDT strength as follows:

$$S_T = \frac{2F}{3.14 (hd)}$$

Where:

- $S_T$  = Indirect tensile strength (psi)
- $F$  = Total applied vertical load at failure (lbs)
- $h$  = Height of specimen (inches)
- $d$  = Diameter of specimen (inches)



**Tester Qualification Practical Exam Checklist**  
**Determining Indirect Tensile Strength of Compacted Bituminous Mixtures**  
**FOP for ASTM D 6931**

Participant Name \_\_\_\_\_ Exam Date \_\_\_\_\_

<b>Procedure Element</b>	<b>Trial 1</b>	<b>Trial 2</b>
1. The tester has a copy of the current procedure on hand?	_____	_____
2. All equipment is functioning according to the test procedure, and if required, has the current calibration/verification tags present?	_____	_____
3. Specimen height is 62 ± 1.0 mm (2.44 ± 0.04 in) or 38.1 mm (1.5 in) minimum for cores?	_____	_____
4. Specimen meets air void tolerance of 7.0 + 1.0 %?	_____	_____
5. Specimen placed in water bath at 77 + 2°F (25 + 1°C) for a minimum of 30 minutes but not longer than 120 minutes?	_____	_____
6. Press turned on and operating at a deformation rate of 2 in per minute?	_____	_____
7. Specimen placed on lower loading strip?	_____	_____
8. Upper loading strip lowered onto specimen with light contact?	_____	_____
9. Upper and lower loading strips parallel with each other?	_____	_____
10. Load applied at 2 in per minute?	_____	_____
11. Total applied vertical load recorded?	_____	_____
12. Indirect tensile strength in psi calculated and recorded correctly?	_____	_____

First Attempt: Pass      Fail                                      Second Attempt: Pass      Fail

Signature of Examiner \_\_\_\_\_

Comments:

**Tester Qualification Practical Exam Checklist**

**Determining Indirect Tensile Strength of Compacted Bituminous Mixtures  
FOP for ASTM D 6931**

Participant Name \_\_\_\_\_ Exam Date \_\_\_\_\_

<b>Procedure Element</b>	<b>Yes</b>	<b>No</b>
1. The tester has a copy of the current procedure on hand?		
2. All equipment is functioning according to the test procedure, and if required, has the current calibration/verification tags present?		
3. Specimen height is $62 \pm 1.0$ mm ( $2.44 \pm 0.04$ in) or 38.1 mm (1.5 in) minimum for cores?		
4. Specimen meets air void tolerance of $7.0 + 1.0$ %?		
5. Specimen placed in water bath at $77 + 2^\circ\text{F}$ ( $25 + 1^\circ\text{C}$ ) for a minimum of 30 minutes but not longer than 120 minutes?		
6. Press turned on and operating at a deformation rate of 2 in per minute?		
7. Specimen placed on lower loading strip?		
8. Upper loading strip lowered onto specimen with light contact?		
9. Upper and lower loading strips parallel with each other?		
10. Load applied at 2 in per minute?		
11. Total applied vertical load recorded?		
12. Indirect tensile strength in psi calculated and recorded correctly?		

First Attempt: Pass      Fail    Second Attempt: Pass      Fail

Signature of Examiner \_\_\_\_\_

Comments: