

**Bureau of Materials**  
Illinois Laboratory Test Procedure  
Effective Date: January 1, 2007  
Revised January 14, 2021

**Sand Penetration Test of Penetrating Emulsified Prime (PEP)**

This test procedure applies to Article 1032.06(d) of the Standard Specifications for Road and Bridge Construction ([April 1, 2016](#)).

**1.0 GENERAL**

- 1.1 This procedure covers the testing required to perform the Sand Penetration Test on Penetrating Emulsified Prime (PEP) according to Article 1032.06(d).

**2.0 REFERENCE SAND**

- 2.1 The standard reference sand for this test shall be a natural silica type, composed almost entirely of naturally rounded grains of nearly pure quartz, and shall be graded as follows:

Sieve	No. 80 (180 $\mu\text{m}$ )	No. 100 (150 $\mu\text{m}$ )	No. 140 (106 $\mu\text{m}$ )	No. 200 (75 $\mu\text{m}$ )
Percent Passing	99 $\pm$ 1	97 $\pm$ 3	50 $\pm$ 5	2 $\pm$ 2

**3.0 PROCEDURE**

- 3.1 Dampen 312.5 g of reference sand with 5.0 g of water.
- 3.2 Place the moistened sand into a cylindrical metal container having a nominal capacity of 8 oz (235 ml) and compress at 100 psi (690 kPa).
- 3.3 Measure 5 g of prime into the container of compacted sand and record the time for penetration in seconds.
- 3.4 Remove a cross section of the sand and record the depth of penetration in millimeters.