



# Concrete Air Indicator

## **Directions for Use**—(Ref. AASHTO T199-00, English Units)

Fill metal cup with cement mortar, excluding particles larger than No. 10. Use a narrow blade to pick up mortar. Rod material in the cup to compact mortar. Strike off excess even with the top of the cup. Clean any mortar from cup and stopper.

Hold finger over stem opening and fill large end with isopropyl alcohol to line on glass (alcohol may be inserted in the stem opening after stopper is inserted, with syringe or dropper if desired).

Insert stopper in tube, invert indicator and adjust liquid level to top line of stem making sure that all air bubbles are removed and that the stopper is firmly inserted.

Place finger over stem opening to prevent loss of any liquid and gently roll the indicator from vertical to horizontal several times while tapping using a finger from the other hand until all the mortar has been dissolved out of the cup into the alcohol.

With the indicator in a vertical position carefully remove finger from the opening and count the number of spaces to the nearest 1/2 graduation from the top to the new liquid level. Use the number indicated to compute the mortar-corrected air content as follows:

## **Example**

For purpose of this example, we will use 6-1/2 as the number of gradations from the top to the new liquid level. Assume for purposes of this example, a mix with mortar content of  $15\text{ft}^3/\text{yd}^3$ . Refer to Table 1 on the other side of this document, which indicates for 15 the multiplier we would use is 1.22. Multiply 1.22 by 6.5 to obtain 7.9 percent mortar-corrected air content in a cubic yard of concrete for this mix.

To compute the % air content in the mix, add the number obtained for mortar-corrected air content to the curve correction factor found in Table 2 on the other side of this document. In the case of our example the result would be  $7.9 + 1 = 8.9$ .

**Table 1—Conversion Table for Stem (Chace) Factor of 2.2**

Mortar Content Ft <sup>3</sup> /yd <sup>3</sup>	Multiply Stem Reading By
10	0.81
11	0.90
12	0.98
13	1.06
14	1.14
15	1.22
16	1.30
17	1.39
18	1.47
19	1.55
20	1.63
21	1.71
22	1.79
23	1.87
24	1.95
25	2.03
26	2.12
27	2.20

**Table 2—% Air Content Curve Correction Factor**

Mortar Corrected Air Content %	Curve Correction %
1	-0.1
2	0
3	0.2
3.5	0.3
4	0.3
4.5	0.4
5	0.5
5.5	0.6
6	0.7
6.5	0.8
7	0.8
7.5	0.9
8	1.0
8.5	1.1
9	1.2
9.5	1.3
10	1.3
11	1.5
12	1.7
13	1.8

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