TECHNICAL SPECIFICATIONS

Testing for Air Content in Plastic Concrete – Pressure Method

RMCAO

CSA A23.2 - 4C

1. **SAMPLING** – obtain a representative 30 L grab sample from between the 10% and 90% points of discharge.

2. Place the representative sample of concrete in the measuring bowl in three equal layers, consolidating each layer by rodding 25 times with a 16 mm diameter x 600 mm long hemispherically tipped steel rod. The rod must not forceably strike the bottom of the bowl when rodding the first layer and for the second and final layers shall just penetrate the previous layer. The sides of the bowl must be tapped smartly 10 or more times after rodding each layer to remove cavities and large air bubbles.

3. Slightly overfill the bowl with the third layer and after rodding and tapping, remove the excess concrete by sliding the strike-off bar across the top flange with a sawing motion until the bowl is just level full.

4. Thoroughly clean the flanges of the bowl and cover so that when the cover is clamped in place, a pressure-tight seal will be obtained.

5. Place cover on bowl with both petcocks open and clamp down securely. Add water through one petcock until all air trapped under the cover is forced out through the other petcock. To facilitate this operation, the bowl should be tilted and tapped. When the flow of water coming from the second petcock is free of bubbles, the trapped air has been expelled.

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6. Pump up air beyond the initial calibrated pressure point as shown from your meter and with the bleeder valve, stabilize the air back to the initial pressure. Close both petcocks.

7. Release the air into the chamber by opening the appropriate valve. The valve should be held in the open position until the gauge needle stabilizes while gently tapping the gauge. Release the valve. Read and record the air content to the nearest 0.1%.

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Notes:

1. When testing air content of low slump concrete (≤40 mm) it shall be vibrated rather than rodded to consolidate the sample.

2. This test method is not appropriate for evaluating the air content of low-density or porous aggregates.

References:
1 CSA A23.2-04 - Methods of Test and Standard Practices for Concrete

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