8–9 Capacitance Test Method – Etched Foil for Cathode1 of 1	
<ol> <li>Scope of Test Etched Foil for Cathode</li> <li>Definitions of Technical Codes         <ol> <li>1)C<sub>0</sub> : Initial Capacitance</li> <li>2)C<sub>60</sub> : Capacitance after Hydration Process (60 min)</li> <li>3)∠IC<sub>60</sub> : {(C<sub>60</sub> - C<sub>0</sub>)÷C<sub>0</sub>} × 100(%)</li> </ol> </li> <li>Test Procedure</li> </ol>	3) Measurement Circuit
<ol> <li>The following tests and measurements shall be performed on the same test specimen.</li> <li>Procedure ①Capacitance Measurement ②Hydration Resistance Test</li> </ol>	
<ul> <li>4. Test Equipment for Capacitance Measurement <ol> <li>Capacitance Measurement Device</li> <li>Capacitance Meter in accordance with JIS C 5101–1,4.7</li> <li>Measurement Frequency : 120Hz±5%</li> <li>Measurement Voltage : 0.5Vrms or less</li> </ol> </li> <li>2) Measurement Vessel <ul> <li>Material</li> <li>Glass</li> <li>Volume</li> <li>200ml or 300ml</li> </ul> </li> <li>3) Counter Electrode <ul> <li>Test Specimens</li> </ul> </li> <li>4) Vessel for Hydration Process <ul> <li>Material</li> <li>SUS 304</li> <li>Volume</li> <li>600±60ml</li> <li>Temperature Control</li> <li>Capable of maintaining the temperature of approx. 500ml of deionized water at 95°C or higher.</li> </ul> </li> </ul>	$5\pm 2\text{mm}$ Figure 43 The test specimen shall be immersed in the measuring electrolyte so that the top edge of the Projected Area (area to be measured) is level with the surface. 4) Measurement Calculation Capacitance per 1cm <sup>4</sup> is calculated by the following formula $C = \frac{Cm \times 2}{5}$ Where : Cm = Measured Value ( $\mu$ F) : C = Capacitance ( $\mu$ F/cm <sup>4</sup> ) per 1cm <sup>4</sup>
<b>5. Test Specimen</b> Test Specimen : In accordance with <i>8–1 Selecting</i> <i>Test Specimens for Electrical</i> <i>Characteristics Measurements.</i>	<ul> <li>7. Hydration Resistance Test         <ol> <li>1) Hydration Process             Test Specimen</li></ol></li></ul>
<ul> <li>6. Capacitance Measurement <ol> <li>Electrolyte for Capacitance Measurement</li> <li>Ammonium Adipate : 150g</li> <li>Deionized Water : 1,000ml</li> <li>Specific Resistance : 6.5(+2.0 -1.5) Ω cm/70±2°C</li> <li>pH : 6.7(+0.5 -1.5) /50±2°C</li> </ol> </li> <li>2) Condition for Capacitance Measurement</li> <li>Measurement Temperature : 30±2°C</li> </ul>	<ul> <li>Hydration Process Time : 60±1min</li> <li>Hydration Temperature : 95 °C or higher</li> <li>Number of Specimen : 6 or less per hydration process</li> <li>Deionized Water Change : Change deionized water for every hydration process.</li> <li>2) Capacitance Measurement</li> <li>Measure the capacitance after hydration process (C<sub>60</sub>) according to Article 6 above.</li> <li>3) Measurement Calculation of ∠C<sub>60</sub></li> <li>Use the following formula to calculate foil capacitance stability after the hydration process.</li> <li>∠C<sub>60</sub> : {(C<sub>60</sub> - C<sub>0</sub>)÷C<sub>0</sub>} × 100(%)</li> <li>Note:</li> <li>Hydration Resistance Test shall be used for foil C518, C519</li> </ul>