SETTING TIME OF MAGNESIUM OXIDE CEMENTS (C.294 - 72)

Calculation

In a 7-day standard test, the difference in the time at which the mixture begins to set and the time at which the mixture begins to harden is known as the setting time. The setting time is determined by placing a circular metal disk on the surface of the fresh mixture and recording the time at which the disk can no longer be moved. The difference between the initial setting time and the final setting time is the setting time of the cement.

**Procedure**

1. Place the cement in a moist environment at a temperature of 20°C ± 2°C and a relative humidity of at least 95% for 24 hours.
2. Remove the cement from the moist environment and place it in a standard test specimen mold.
3. Record the initial setting time in seconds for each cement.
4. Record the final setting time in seconds for each cement.
5. Calculate the setting time by subtracting the initial setting time from the final setting time.

**Results**

<table>
<thead>
<tr>
<th>Cement Type</th>
<th>Initial Setting Time (s)</th>
<th>Final Setting Time (s)</th>
<th>Setting Time (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.294 - 72</td>
<td>600 ± 50</td>
<td>1500 ± 50</td>
<td>900 ± 50</td>
</tr>
</tbody>
</table>

**Notes:**

- The setting time is the time required for the cement to reach the specified strength.
- The setting time is influenced by the type of cement, the amount of water used, and the environmental conditions.
- The setting time is important for the design and construction of concrete structures.