

**Table 11:** Penetration Depths in Test Specimens with Mowilith after RCM (Rapid Chloride Migration Test)  
Measured with AgNO<sub>3</sub> Solution

| Test Specimen | Test Surface | Chloride Penetration Depth at Measuring Point |                    |                    |                  |      |      |      |      |                  |                    |                    | Average Chloride Penetration Depth |
|---------------|--------------|-----------------------------------------------|--------------------|--------------------|------------------|------|------|------|------|------------------|--------------------|--------------------|------------------------------------|
|               |              | 1                                             | 2                  | 3                  | 4                | 5    | 6    | 7    | 8    | 9                | 10                 | 11                 |                                    |
| -             | -            | mm                                            |                    |                    |                  |      |      |      |      |                  |                    |                    |                                    |
| 1             | 2            | 3                                             | 4                  | 5                  | 6                | 7    | 8    | 9    | 10   | 11               | 12                 | 13                 | 14                                 |
| 218-4E        | left         | 49 <sup>1)</sup>                              | 37 <sup>1)</sup>   | 14                 | 15.5             | 13   | 20   | 18   | 14   | 19               | 49 <sup>1)</sup>   | 49 <sup>1)</sup>   | 16.11                              |
|               | right        | 49 <sup>1)</sup>                              | 36 <sup>1)</sup>   | 20.5               | 14               | 13.5 | 19   | 16.5 | 11.5 | 17               | 24 <sup>1)</sup>   | 49 <sup>1)</sup>   |                                    |
| 218-5E        | left         | 45 <sup>1)</sup>                              | 24.5 <sup>1)</sup> | 12.5               | 13               | 11   | 9.5  | 9.5  | 10.5 | 9                | 30 <sup>1)</sup>   | 45 <sup>1)</sup>   | 11.04                              |
|               | right        | 45 <sup>1)</sup>                              | 23 <sup>1)</sup>   | 13.5               | 13.5             | 10.5 | 10   | 10.5 | 11.5 | 10               | 32 <sup>1)</sup>   | 45 <sup>1)</sup>   |                                    |
| 218-6E        | left         | 48 <sup>1)</sup>                              | 25.5 <sup>1)</sup> | 23 <sup>1)</sup>   | 13.5             | 12   | 12   | 12   | 18   | 17.5             | 31.5 <sup>1)</sup> | 48 <sup>1)</sup>   | 13.85                              |
|               | right        | 48 <sup>1)</sup>                              | 26 <sup>1)</sup>   | 23 <sup>1)</sup>   | 24 <sup>1)</sup> | 12.5 | 11.5 | 12.5 | 17   | 20 <sup>1)</sup> | 31 <sup>1)</sup>   | 48 <sup>1)</sup>   |                                    |
| 218-4S        | left         | 30 <sup>1)</sup>                              | 15 <sup>1)</sup>   | 10.5               | 9.5              | 9    | 8    | 7    | 9    | 15.5             | 45 <sup>1)</sup>   | 45 <sup>1)</sup>   | 10.77                              |
|               | right        | 29.5 <sup>1)</sup>                            | 21 <sup>1)</sup>   | 10.5               | 9.5              | 8    | 8    | 8    | 10   | 13               | 43 <sup>1)</sup>   | 43 <sup>1)</sup>   |                                    |
| 218-5S        | left         | 45.5 <sup>1)</sup>                            | 16.5               | 14.5               | 10               | 8    | 7.5  | 7.5  | 16.5 | 14               | 30 <sup>1)</sup>   | 32 <sup>1)</sup>   | 11.00                              |
|               | right        | 45 <sup>1)</sup>                              | 12.5               | 14                 | 10.5             | 8.5  | 9    | 8.5  | 18   | 9                | 30 <sup>1)</sup>   | 32 <sup>1)</sup>   |                                    |
| 218-6S        | left         | 48.5 <sup>1)</sup>                            | 41.5 <sup>1)</sup> | 23.5 <sup>1)</sup> | 16.5             | 7.5  | 5    | 6.5  | 7.5  | 21               | 35 <sup>1)</sup>   | 48 <sup>1)</sup>   | 11.20                              |
|               | right        | 48 <sup>1)</sup>                              | 48 <sup>1)</sup>   | 22 <sup>1)</sup>   | 17               | 7    | 4.5  | 6    | 7    | 17               | 35.5 <sup>1)</sup> | 48 <sup>1)</sup>   |                                    |
| 207-5         | left         | 38 <sup>1)</sup>                              | 22 <sup>1)</sup>   | 17                 | 11.5             | 8.5  | 5    | 11.5 | 9.5  | 13               | 17.5               | 42 <sup>1)</sup>   | 11.67                              |
|               | right        | 37 <sup>1)</sup>                              | 21 <sup>1)</sup>   | 12.5               | 10               | 12   | 9.5  | 9    | 11.5 | 17               | 21 <sup>1)</sup>   | 43.5 <sup>1)</sup> |                                    |
| 207-6         | left         | 30.0 <sup>1)</sup>                            | 16                 | 14                 | 10               | 6    | 6    | 7.5  | 7.5  | 8                | 11.5               | 47 <sup>1)</sup>   | 9.67                               |
|               | right        | 30.5 <sup>1)</sup>                            | 16                 | 12                 | 11               | 10   | 6    | 7    | 6.5  | 6                | 13                 | 47 <sup>1)</sup>   |                                    |

1) Values with a large edge inflow are not factored in

**Table 12:** Calculation of the Chloride Migration Coefficients of the Concrete Mixtures without Mowilith from the Results of the RCM Tests

| Test Specimen | Temperature | Cylinder Length | Test Voltage | Penetration Depth | Auxiliary Variable $\xi$ | Testing Time | $D_{\text{migration}}$                | Average $D_{\text{migration}}$ |
|---------------|-------------|-----------------|--------------|-------------------|--------------------------|--------------|---------------------------------------|--------------------------------|
| -             | k           | mm              | V            | mm                | -                        | s            | $\cdot 10^{-12} \text{ m}^2/\text{s}$ |                                |
| 1             | 2           | 3               | 4            | 5                 | 6                        | 7            | 8                                     | 9                              |
| 118-4E        | 293         | 48.0            | 30           | 10.30             | 1.26                     | 86400        | 4.04                                  | 2.61                           |
| 118-5E        |             | 49.3            |              | 7.97              |                          | 151200       | 1.79                                  |                                |
| 118-6E        |             | 47.8            |              | 9.08              |                          | 151200       | 2.01                                  |                                |
| 118-4S        |             | 48.2            |              | 11.97             |                          | 171000       | 2.42                                  | 2.20                           |
| 118-5S        |             | 47.1            |              | 10.82             |                          | 171000       | 2.12                                  |                                |
| 118-6S        |             | 48.2            |              | 10.39             |                          | 171000       | 2.07                                  |                                |
| 107-1         |             | 47.8            |              | 7.91              |                          | 167400       | 1.56                                  | 1.56                           |

**Table 13:** Calculation of the Chloride Migration Coefficients of the Concrete Mixtures with Mowilith from the Results of the RCM Tests

| Test Specimen | Temperature | Cylinder Length | Test Voltage | Penetration Depth | Auxiliary Variable $\xi$ | Testing Time | $D_{\text{migration}}$                | Average $D_{\text{migration}}$ |
|---------------|-------------|-----------------|--------------|-------------------|--------------------------|--------------|---------------------------------------|--------------------------------|
| -             | k           | mm              | V            | mm                | -                        | s            | $\cdot 10^{-12} \text{ m}^2/\text{s}$ |                                |
| 1             | 2           | 3               | 4            | 5                 | 6                        | 7            | 8                                     | 9                              |
| 218-4E        | 293         | 49.5            | 30           | 16.11             | 1.26                     | 334800       | 1.75                                  | 1.42                           |
| 218-5E        |             | 45.4            |              | 11.04             |                          | 334800       | 1.07                                  |                                |
| 218-6E        |             | 48.0            |              | 13.85             |                          | 334800       | 1.45                                  |                                |
| 218-4S        |             | 49.0            |              | 10.77             |                          | 343800       | 1.09                                  | 1.11                           |
| 218-5S        |             | 48.5            |              | 11.00             |                          | 343800       | 1.10                                  |                                |
| 218-6S        |             | 48.6            |              | 11.20             |                          | 343800       | 1.13                                  |                                |
| 207-5         |             | 50.6            |              | 11.67             |                          | 336600       | 1.25                                  | 1.11                           |
| 207-6         |             | 47.7            |              | 9.67              |                          | 336600       | 0.96                                  |                                |

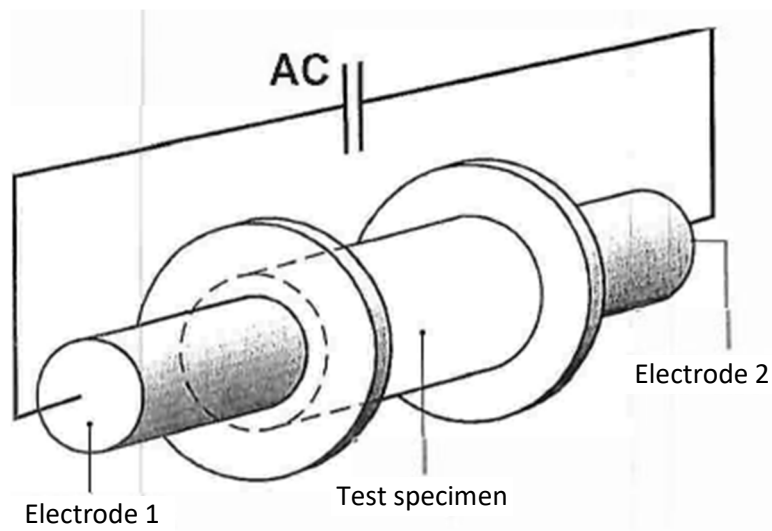


Figure 2: Schematic Sketch of the Two-Electrode Method (TEM)

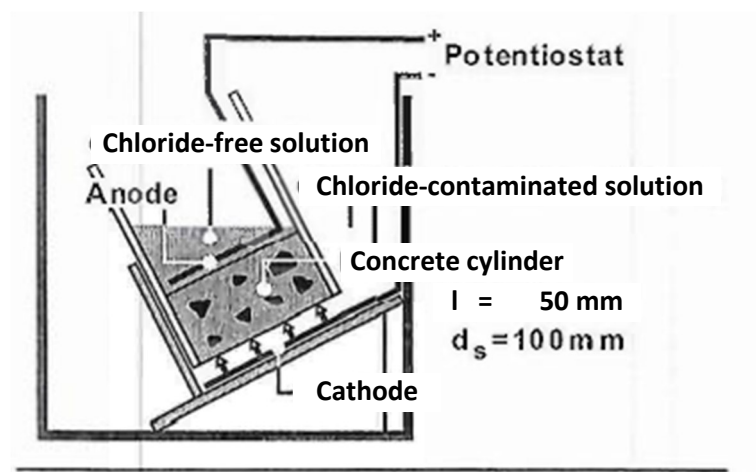


Figure 3: Schematic Test Set-Up of the Rapid Chloride Migration (RCM) Test

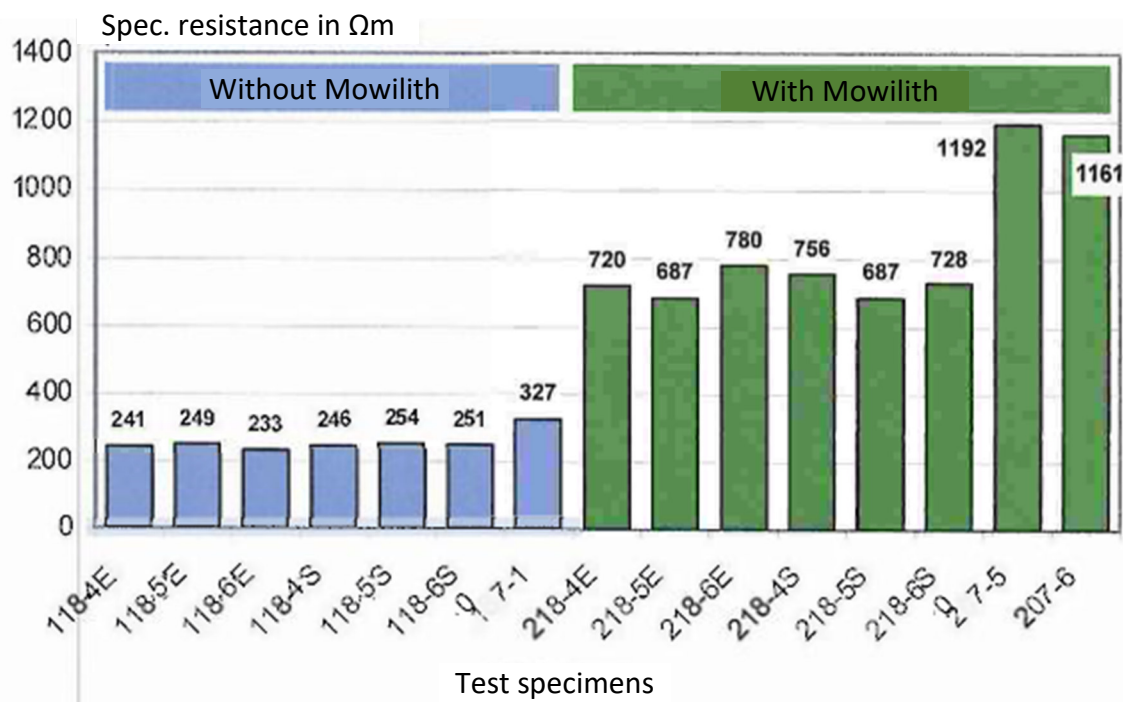


Figure 4: Specific Electrolytic Resistance Values

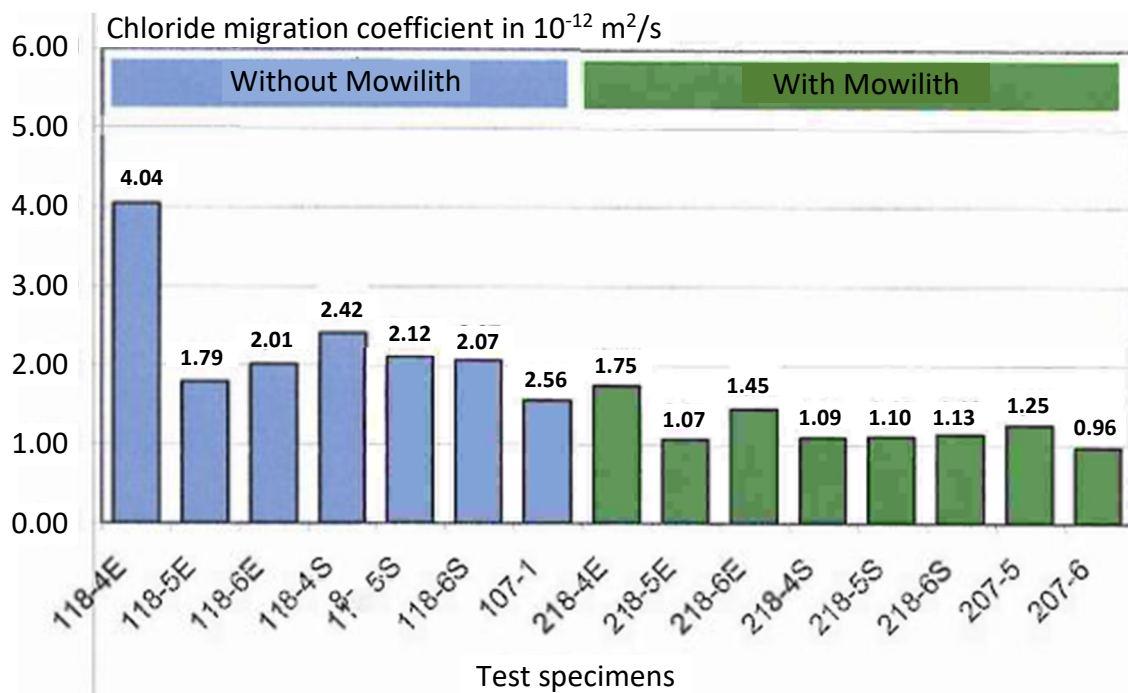
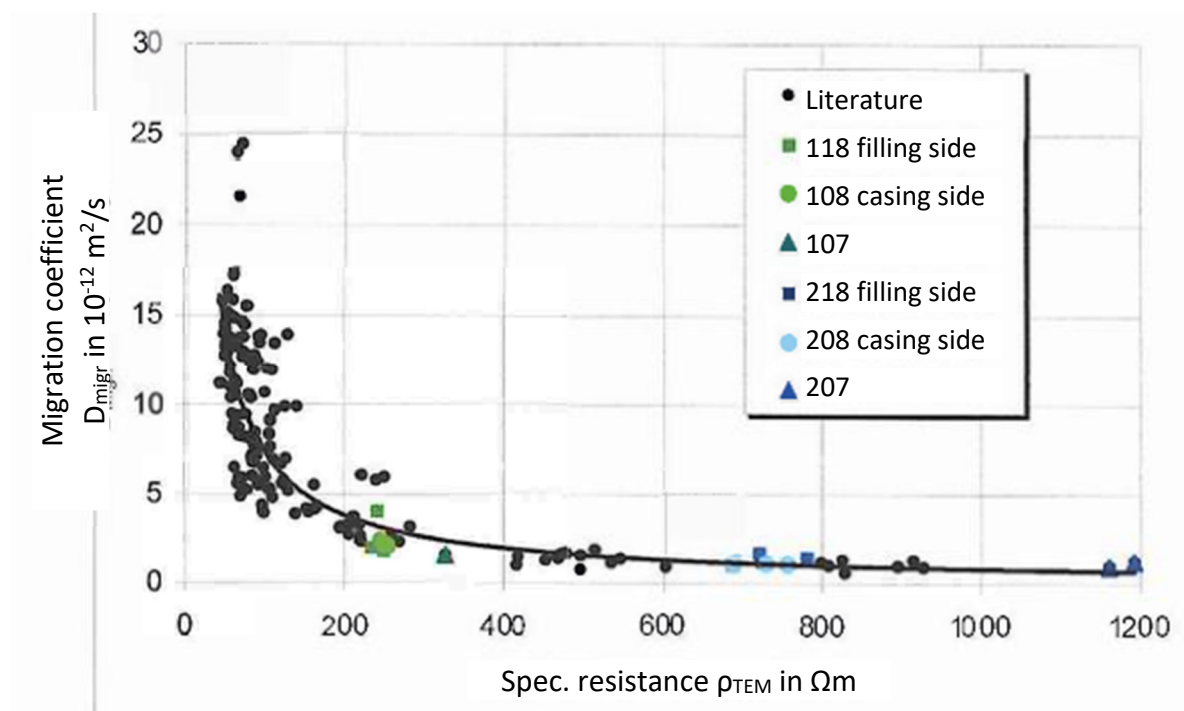


Figure 5: Chloride Migration Coefficients



**Figure 6:** Relationship between Spec. Resistance and Migration Coefficients

**Table 10:** Chloride Penetration Depths in Test Specimens without Mowilith after RCM (Rapid Chloride Migration Test)  
Measured with AgNO<sub>3</sub> Solution

| Test Specimen | Test Surface | Chloride Penetration Depth at Measuring Point |                  |      |          |     |      |     |      |     |                  |                    | Average Chloride Penetration Depth |
|---------------|--------------|-----------------------------------------------|------------------|------|----------|-----|------|-----|------|-----|------------------|--------------------|------------------------------------|
|               |              | 1                                             | 2                | 3    | 4        | 5   | 6    | 7   | 8    | 9   | 10               | 11                 |                                    |
| -             | -            | mm                                            |                  |      |          |     |      |     |      |     |                  |                    |                                    |
| 1             | 2            | 3                                             | 4                | 5    | 6        | 7   | 8    | 9   | 10   | 11  | 12               | 13                 | 14                                 |
| 118-4E        | left         | 48 <sup>1)</sup>                              | 36 <sup>1)</sup> | 10.5 | not det. | 9   | 9    | 10  | 12   | 11  | 11.5             | 48 <sup>1)</sup>   | 10.30                              |
|               | right        | 48 <sup>1)</sup>                              | 10               | 9.5  | not det. | 9   | 9.5  | 11  | 11.5 | 10  | 11               | 48 <sup>1)</sup>   |                                    |
| 118-5E        | left         | 12 <sup>1)</sup>                              | 7                | 7.5  | 7        | 9   | 5.5  | 7.5 | 5.5  | 6.5 | 13               | 15.5 <sup>1)</sup> | 7.97                               |
|               | right        | 13 <sup>1)</sup>                              | 6.5              | 8.5  | 7        | 7   | 8    | 9.5 | 7    | 9   | 12.5             | 13 <sup>1)</sup>   |                                    |
| 118-6E        | left         | 47 <sup>1)</sup>                              | 10               | 9.5  | 10       | 8   | 8.8  | 8   | 9    | 8   | 12.5             | 29 <sup>1)</sup>   | 9.08                               |
|               | right        | 47 <sup>1)</sup>                              | 10               | 8.5  | 10       | 6.5 | 9    | 8   | 9.5  | 9   | 20 <sup>1)</sup> | 29.5 <sup>1)</sup> |                                    |
| 118-4S        | left         | 18 <sup>1)</sup>                              | 13               | 16   | 7.5      | 10  | 16   | 8   | 15.5 | 10  | 33 <sup>1)</sup> | 48 <sup>1)</sup>   | 11.97                              |
|               | right        | 18 <sup>1)</sup>                              | 11.5             | 12   | 7.5      | 13  | 14   | 8   | 12.5 | 13  | 16               | 48 <sup>1)</sup>   |                                    |
| 118-5S        | left         | 47 <sup>1)</sup>                              | 47 <sup>1)</sup> | 9    | 13       | 13  | 12   | 8   | 9    | 8   | 47 <sup>1)</sup> | 47 <sup>1)</sup>   | 10.82                              |
|               | right        | 47 <sup>1)</sup>                              | 47 <sup>1)</sup> | 13   | 10.5     | 12  | 10.5 | 6   | 10   | 8   | 47 <sup>1)</sup> | 47 <sup>1)</sup>   |                                    |
| 118-6S        | left         | 48 <sup>1)</sup>                              | 48 <sup>1)</sup> | 12   | 12       | 12  | 10.5 | 9.5 | 8.0  | 7.0 | 48 <sup>1)</sup> | 48 <sup>1)</sup>   | 10.39                              |
|               | right        | 48 <sup>1)</sup>                              | 48 <sup>1)</sup> | 9.5  | 15       | 12  | 12   | 11  | 8    | 7   | 48 <sup>1)</sup> | 48 <sup>1)</sup>   |                                    |
| 107-1         | left         | 10 <sup>1)</sup>                              | 9                | 8.5  | 10       | 6.5 | 6    | 5   | 7.5  | 11  | 20 <sup>1)</sup> | 47 <sup>1)</sup>   | 7.91                               |
|               | right        | 11 <sup>1)</sup>                              | 7                | 6.5  | 9.5      | 5   | 7.5  | 6   | 9    | 9   | 11.5             | 47 <sup>1)</sup>   |                                    |

1) Values with a large edge inflow are not factored in  
not det.: not determinable