

Českomoravský cement, a.s.  
Mokrá 359  
664 04 Mokrá-Horákov

## Statistické hodnocení kvality cementu dle EN 197-1

**Cement: CEM III/B 32,5 L - LH/SR**

Období: Od: **01.10.2021**

Závod: **Mokrá**

Do: **31.10.2021**

### Mechanické a fyzikální vlastnosti

| Datum         | Měrný povrch         | Normální konzistence | Počátek tuhnutí | Konec tuhnutí | Objemová stálost | Pevnost v tlaku |             | Pevnost v ohybu |            |
|---------------|----------------------|----------------------|-----------------|---------------|------------------|-----------------|-------------|-----------------|------------|
|               |                      |                      |                 |               |                  | 7 dní           | 28 dní      | 7 dní           | 28 dní     |
| Jednotka      | [m <sup>2</sup> /kg] | [%]                  | [min]           | [min]         | [mm]             | [MPa]           | [MPa]       | [MPa]           | [MPa]      |
| 03.10.2021    | 491                  | 31.2                 | 246             | 340           | 1.0              | 17.5            | 45.5        | 4.1             | 8.9        |
| 05.10.2021    | 472                  | 31.4                 | 234             | 346           | 1.0              | 20.3            | 44.9        | 4.5             | 7.6        |
| 11.10.2021    | 480                  | 32.2                 | 272             | 358           | 0.5              | 19.0            | 46.7        | 4.9             | 8.6        |
| 14.10.2021    | 509                  | 32.2                 | 260             | 347           | 0.5              | 16.9            | 43.3        | 4.2             | 8.2        |
| 17.10.2021    | 493                  | 31.8                 | 255             | 333           | 0.0              | 17.5            | 45.1        | 4.4             | 8.6        |
| 19.10.2021    | 488                  | 30.4                 | 249             | 335           | 1.0              | 20.4            | 49.8        | 5.5             | 9.1        |
| 26.10.2021    | 501                  | 32.2                 | 279             | 367           | 1.0              | 19.2            | 43.8        | 4.4             | 8.8        |
| 28.10.2021    | 498                  | 32.0                 | 275             | 350           | 0.5              | 21.6            | 47.1        | 5.2             | 7.9        |
| ---           | ---                  | ---                  | ---             | ---           | ---              | ---             | ---         | ---             | ---        |
| ---           | ---                  | ---                  | ---             | ---           | ---              | ---             | ---         | ---             | ---        |
| <b>Průměr</b> | <b>492</b>           | <b>31.7</b>          | <b>259</b>      | <b>347</b>    | <b>0.7</b>       | <b>19.0</b>     | <b>45.8</b> | <b>4.6</b>      | <b>8.4</b> |
| Max           | 509                  | 32.2                 | 279             | 367           | 1.0              | 21.6            | 49.8        | 5.5             | 9.1        |
| Min           | 472                  | 30.4                 | 234             | 333           | 0.0              | 16.9            | 43.3        | 4.1             | 7.6        |
| Std           | 11                   | 0.6                  | 15              | 11            | 0.3              | 1.5             | 1.9         | 0.5             | 0.5        |
| Četnost       | 8                    | 8                    | 8               | 8             | 8                | 8               | 8           | 8               | 8          |
| Norma-min     |                      |                      | 75              |               |                  | 12.0            | 32.5        |                 |            |
| Norma-max     |                      |                      |                 |               | 10               |                 | 52.5        |                 |            |

### Chemické vlastnosti

| Datum         | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | Fe <sub>2</sub> O <sub>3</sub> | CaO          | MgO         | K <sub>2</sub> O | Na <sub>2</sub> O | Obsah siranů (jako SO <sub>3</sub> ) | Na <sub>2</sub> O ekv. | Obsah Cl     | Ztráta žháním | Nerozpuštěný zbytek | Vodorozpuštěný chrom (Cr <sup>6+</sup> ) | C <sub>3</sub> A ve slínku |
|---------------|------------------|--------------------------------|--------------------------------|--------------|-------------|------------------|-------------------|--------------------------------------|------------------------|--------------|---------------|---------------------|--|----------------------------|
| Jednotka      | [%]              | [%]                            | [%]                            | [%]          | [%]         | [%]              | [%]               | [%]                                  | [%]                    | [%]          | [%]           | [%]                 | [ppm]                                    | [%]                        |
| 03.10.2021    | 31.14            | 6.61                           | 1.30                           | 47.57        | 5.81        | 0.64             | 0.26              | 2.05                                 | 0.68                   | 0.018        | ---           | ---                 | ---                                      | 6.83                       |
| 05.10.2021    | 29.52            | 6.56                           | 1.57                           | 48.60        | 5.44        | 0.68             | 0.26              | 2.10                                 | 0.71                   | 0.025        | ---           | ---                 | ---                                      | 6.83                       |
| 11.10.2021    | 30.27            | 6.96                           | 1.39                           | 47.25        | 6.26        | 0.67             | 0.28              | 2.13                                 | 0.72                   | 0.023        | 0.66          | 0.65                | ---                                      | 6.83                       |
| 14.10.2021    | 31.39            | 6.76                           | 1.29                           | 46.77        | 6.44        | 0.57             | 0.29              | 2.06                                 | 0.67                   | 0.023        | ---           | ---                 | ---                                      | 6.83                       |
| 17.10.2021    | 31.64            | 6.82                           | 1.32                           | 47.08        | 6.51        | 0.57             | 0.29              | 2.10                                 | 0.67                   | 0.025        | 0.65          | 0.29                | ---                                      | 6.83                       |
| 19.10.2021    | 31.04            | 6.64                           | 1.44                           | 46.62        | 5.87        | 0.57             | 0.31              | 2.05                                 | 0.69                   | 0.025        | ---           | ---                 | ---                                      | 6.83                       |
| 26.10.2021    | 31.02            | 6.62                           | 1.43                           | 46.58        | 5.87        | 0.57             | 0.31              | 2.04                                 | 0.69                   | 0.026        | ---           | ---                 | ---                                      | 6.55                       |
| 28.10.2021    | 30.26            | 6.77                           | 1.43                           | 47.61        | 5.98        | 0.65             | 0.27              | 2.10                                 | 0.70                   | 0.023        | ---           | ---                 | ---                                      | 6.55                       |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                  | ---                    | ---          | ---           | ---                 | ---                                      | ---                        |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                  | ---                    | ---          | ---           | ---                 | ---                                      | ---                        |
| <b>Průměr</b> | <b>30.79</b>     | <b>6.72</b>                    | <b>1.40</b>                    | <b>47.26</b> | <b>6.02</b> | <b>0.62</b>      | <b>0.28</b>       | <b>2.08</b>                          | <b>0.69</b>            | <b>0.023</b> | <b>0.66</b>   | <b>0.47</b>         | <b>---</b>                               | <b>6.76</b>                |
| Max           | 31.64            | 6.96                           | 1.57                           | 48.60        | 6.51        | 0.68             | 0.31              | 2.13                                 | 0.72                   | 0.026        | 0.66          | 0.65                | ---                                      | 6.83                       |
| Min           | 29.52            | 6.56                           | 1.29                           | 46.58        | 5.44        | 0.57             | 0.26              | 2.04                                 | 0.67                   | 0.018        | 0.65          | 0.29                | ---                                      | 6.55                       |
| Std           | 0.66             | 0.13                           | 0.09                           | 0.63         | 0.34        | 0.05             | 0.02              | 0.03                                 | 0.02                   | 0.002        | 0.00          | 0.18                | ---                                      | 0.12                       |
| Četnost       | 8                | 8                              | 8                              | 8            | 8           | 8                | 8                 | 8                                    | 8                      | 8            | 2             | 2                   | 0  | 8                          |
| Norma-min     |                  |                                |                                |              |             |                  |                   |                                      |                        |              |               |                     |  |                            |
| Norma-max     |                  |                                |                                |              |             |                  |                   | 4.0                                  |                        | 0.10         | 5.0           | 5.0                 |  |                            |

V Mokré dne : 10.12.2021

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