

## Statistické hodnocení kvality cementu dle EN 197-1

**Cement: CEM II/A-LL 52,5 R**

Období: Od: **01.12.2024**

Závod: **Mokrá**

Do: **31.12.2024**

### Mechanické a fyzikální vlastnosti

| Datum         | Měrný povrch<br>[ m <sup>2</sup> /kg ] | Normální<br>konzistence<br>[ % ] | Počátek tuhnutí<br>[ min ] | Konec tuhnutí<br>[ min ] | Objemová<br>stálost<br>[ mm ] | Pevnost v tlaku |             | Pevnost v ohybu |            |
|---------------|----------------------------------------|----------------------------------|----------------------------|--------------------------|-------------------------------|-----------------|-------------|-----------------|------------|
|               |                                        |                                  |                            |                          |                               | 2 dny           | 28 dní      | 2 dny           | 28 dní     |
| Jednotka      | [ m <sup>2</sup> /kg ]                 | [ % ]                            | [ min ]                    | [ min ]                  | [ mm ]                        | [ MPa ]         | [ MPa ]     | [ MPa ]         | [ MPa ]    |
| 02.12.2024    | 590                                    | 31,8                             | 156                        | 233                      | 0,5                           | 38,8            | 64,3        | 7,1             | 8,9        |
| 04.12.2024    | 586                                    | 31,6                             | 183                        | 260                      | 1,0                           | 36,5            | 63,1        | 6,9             | 8,2        |
| 09.12.2024    | 568                                    | 31,6                             | 191                        | 279                      | 0,5                           | 36,8            | 65,0        | 6,9             | 8,9        |
| 10.12.2024    | 582                                    | 31,8                             | 170                        | 243                      | 0,5                           | 37,4            | 62,3        | 6,7             | 8,6        |
| 16.12.2024    | 576                                    | 31,0                             | 156                        | 259                      | 0,5                           | 36,8            | 64,4        | 6,9             | 9,0        |
| 18.12.2024    | 576                                    | 31,8                             | 186                        | 265                      | 0,5                           | 37,0            | 62,5        | 6,9             | 8,3        |
| ---           | ---                                    | ---                              | ---                        | ---                      | ---                           | ---             | ---         | ---             | ---        |
| ---           | ---                                    | ---                              | ---                        | ---                      | ---                           | ---             | ---         | ---             | ---        |
| ---           | ---                                    | ---                              | ---                        | ---                      | ---                           | ---             | ---         | ---             | ---        |
| ---           | ---                                    | ---                              | ---                        | ---                      | ---                           | ---             | ---         | ---             | ---        |
| ---           | ---                                    | ---                              | ---                        | ---                      | ---                           | ---             | ---         | ---             | ---        |
| <b>Průměr</b> | <b>580</b>                             | <b>31,6</b>                      | <b>174</b>                 | <b>257</b>               | <b>0,6</b>                    | <b>37,2</b>     | <b>63,6</b> | <b>6,9</b>      | <b>8,7</b> |
| Max           | 590                                    | 31,8                             | 191                        | 279                      | 1,0                           | 38,8            | 65,0        | 7,1             | 9,0        |
| Min           | 568                                    | 31,0                             | 156                        | 233                      | 0,5                           | 36,5            | 62,3        | 6,7             | 8,2        |
| Std           | 7                                      | 0,3                              | 14                         | 15                       | 0,2                           | 0,7             | 1,0         | 0,1             | 0,3        |
| Četnost       | 6                                      | 6                                | 6                          | 6                        | 6                             | 6               | 6           | 6               | 6          |
| Norma-min     |                                        |                                  | 45                         |                          |                               | 30,0            | 52,5        |                 |            |
| Norma-max     |                                        |                                  |                            |                          | 10                            |                 | -           |                 |            |

### 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 síranů<br>(jako SO <sub>3</sub> ) | Na <sub>2</sub> O ekv. | Obsah Cl     | Ztráta žháním | Nerostný<br>zbytek | Vodorozpuštěný<br>chrom (Cr <sup>6+</sup> ) | C <sub>3</sub> A ve slínku |
|---------------|------------------|--------------------------------|--------------------------------|--------------|-------------|------------------|-------------------|-----------------------------------------|------------------------|--------------|---------------|--------------------|---------------------------------------------|----------------------------|
| Jednotka      | [ % ]            | [ % ]                          | [ % ]                          | [ % ]        | [ % ]       | [ % ]            | [ % ]             | [ % ]                                   | [ % ]                  | [ % ]        | [ % ]         | [ % ]              | [ ppm ]                                     | [ % ]                      |
| 02.12.2024    | 18,08            | 4,59                           | 2,95                           | 62,55        | 1,39        | 0,71             | 0,11              | 3,05                                    | 0,58                   | 0,063        | ---           | ---                | ---                                         | 7,47                       |
| 04.12.2024    | 18,02            | 4,58                           | 2,94                           | 62,23        | 1,41        | 0,71             | 0,11              | 3,03                                    | 0,58                   | 0,062        | ---           | ---                | ---                                         | 7,53                       |
| 09.12.2024    | 17,87            | 4,57                           | 2,94                           | 62,79        | 1,43        | 0,72             | 0,09              | 3,09                                    | 0,56                   | 0,039        | ---           | ---                | ---                                         | 7,40                       |
| 10.12.2024    | 17,96            | 4,59                           | 2,96                           | 62,79        | 1,40        | 0,74             | 0,10              | 3,03                                    | 0,59                   | 0,046        | ---           | ---                | ---                                         | 7,53                       |
| 16.12.2024    | 18,16            | 4,64                           | 2,90                           | 61,99        | 1,53        | 0,71             | 0,10              | 2,94                                    | 0,57                   | 0,042        | ---           | ---                | ---                                         | 7,53                       |
| 18.12.2024    | 18,01            | 4,60                           | 2,92                           | 62,26        | 1,50        | 0,77             | 0,11              | 3,07                                    | 0,62                   | 0,051        | ---           | ---                | ---                                         | 7,53                       |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                     | ---                    | ---          | ---           | ---                | ---                                         | ---                        |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                     | ---                    | ---          | ---           | ---                | ---                                         | ---                        |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                     | ---                    | ---          | ---           | ---                | ---                                         | ---                        |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                     | ---                    | ---          | ---           | ---                | ---                                         | ---                        |
| ---           | ---              | ---                            | ---                            | ---          | ---         | ---              | ---               | ---                                     | ---                    | ---          | ---           | ---                | ---                                         | ---                        |
| <b>Průměr</b> | <b>18,02</b>     | <b>4,60</b>                    | <b>2,94</b>                    | <b>62,44</b> | <b>1,44</b> | <b>0,73</b>      | <b>0,10</b>       | <b>3,03</b>                             | <b>0,58</b>            | <b>0,050</b> | <b>---</b>    | <b>---</b>         | <b>---</b>                                  | <b>7,50</b>                |
| Max           | 18,16            | 4,64                           | 2,96                           | 62,79        | 1,53        | 0,77             | 0,11              | 3,09                                    | 0,62                   | 0,063        | ---           | ---                | ---                                         | 7,53                       |
| Min           | 17,87            | 4,57                           | 2,90                           | 61,99        | 1,39        | 0,71             | 0,09              | 2,94                                    | 0,56                   | 0,039        | ---           | ---                | ---                                         | 7,40                       |
| Std           | 0,09             | 0,02                           | 0,02                           | 0,30         | 0,05        | 0,02             | 0,01              | 0,05                                    | 0,02                   | 0,009        | ---           | ---                | ---                                         | 0,05                       |
| Četnost       | 6                | 6                              | 6                              | 6            | 6           | 6                | 6                 | 6                                       | 6                      | 6            | 0             | 0                  | 0                                           | 6                          |
| Norma-min     |                  |                                |                                |              |             |                  |                   |                                         |                        |              |               |                    |                                             |                            |
| Norma-max     |                  |                                |                                |              |             |                  |                   | 4,0                                     |                        | 0,10         |               |                    |                                             |                            |

V Mokré dne : 10.02.2025

Ing. Vojtěch Smutný - vedoucí útvaru řízení jakosti

Technická podpora prodeje:  
e-mail: [technicka.podpora@heidelbergmaterials.com](mailto:technicka.podpora@heidelbergmaterials.com)  
tel: +420 544 122 544



 **Heidelberg  
Materials**  
Heidelberg Materials CZ, a.s.  
Mokrá 359, 664 04 Mokrá-Horákov  
IČ: 26209578, DIČ: CZ26209578