

گزارش ماهانه کنترل کیفیت سیمان ممتازان کرمان

نوع سیمان : پرتلند تیب ۲



شماره مدرک : LA-F-023-02

تاریخ : اردیبهشت ۹۳ صفحه ۱ از ۴

| Chemical Compositions & Phases % | | | | | | | | | | | | | | | | | | Physical Test | | | | | | | | | | | | | | |
|----------------------------------|-------------|------------------|--------------------------------|--------------------------------|--------------|-------------|-----------------|------------------|-------------------|--------------|-------------|------------------|------------------|------------------|-------------------|-------------------------------------|-------------|---------------|------------------------------|--------------|-------------|------------------|----------------|--|-------------|--------------|--------------|--------------|-------------------------------------|-------------|-------------|----------|
| DAY | IR | SiO ₂ | Al ₂ O ₃ | Fe ₂ O ₃ | CaO | MgO | SO ₃ | K ₂ O | Na ₂ O | Cl | LOSS | C ₃ S | C ₂ S | C ₃ A | C ₄ AF | C ₄ AF+2C ₃ A | F.CaO | FINENESS | | SETTING TIME | | SOUNDNESS | | COMPRESSIVE STRENGTH (kg/cm ²) | | | | | BEND STRENGTH (kg/cm ²) | | | Lab.Code |
| | | | | | | | | | | | | | | | | | | Sieve 90 mic | Blaine (cm ² /gr) | INIT (min) | FINAL (min) | LEACHTELLER (mm) | Auto Clave (%) | 1 DAY | 2 DAYS | 3 DAYS | 7 DAYS | 28 DAYS | 2 DAYS | 7 DAYS | 28 DAYS | |
| 1 M | 0.38 | 20.26 | 4.40 | 3.72 | 62.93 | 1.68 | 2.71 | 0.62 | 0.74 | 0.021 | 1.87 | 59.6 | 13.1 | 5.4 | 11.3 | 22.1 | 1.95 | 1.6 | 2950 | 120 | 165 | 1.4 | 0.21 | - | 218 | 268 | 347 | 464 | 38 | 55 | 73 | 42 |
| 2 S | 0.49 | 20.22 | 4.44 | 3.71 | 62.40 | 1.68 | 2.64 | 0.62 | 0.74 | 0.022 | 1.77 | 57.7 | 14.4 | 5.5 | 11.3 | 22.3 | 1.80 | 1.6 | 3080 | 125 | 170 | 1.2 | 0.17 | - | 239 | 297 | 372 | 458 | 43 | 60 | 73 | 43 |
| 3 S | 0.38 | 20.37 | 4.49 | 3.82 | 63.31 | 1.68 | 2.73 | 0.62 | 0.74 | 0.023 | 1.69 | 59.5 | 13.5 | 5.4 | 11.6 | 22.5 | 1.90 | 1.4 | 3050 | 125 | 170 | 1.3 | 0.17 | - | 232 | 284 | 373 | 460 | 42 | 58 | 70 | 45 |
| 4 S | 0.59 | 20.68 | 4.61 | 3.81 | 63.12 | 1.71 | 2.59 | 0.60 | 0.75 | 0.023 | 1.75 | 56.0 | 17.1 | 5.8 | 11.6 | 23.1 | 1.70 | 1.8 | 2980 | 120 | 165 | 1.2 | 0.14 | - | 227 | 281 | 355 | 459 | 42 | 56 | 72 | 47 |
| 4 M | 0.46 | 20.54 | 4.72 | 4.18 | 63.22 | 1.72 | 2.69 | 0.62 | 0.74 | 0.021 | 1.60 | 55.9 | 16.7 | 5.4 | 12.7 | 23.6 | 1.80 | 1.7 | 3050 | 120 | 165 | 1.3 | 0.17 | - | 229 | 279 | 353 | 456 | 41 | 60 | 71 | 48 |
| 5 M | 0.44 | 20.46 | 4.52 | 3.75 | 63.02 | 1.72 | 2.65 | 0.61 | 0.75 | 0.023 | 1.70 | 57.8 | 15.1 | 5.6 | 11.4 | 22.7 | 1.50 | 1.6 | 3050 | 125 | 170 | 1.2 | 0.17 | - | 227 | 274 | 354 | 461 | 39 | 58 | 72 | 50 |
| 6 M | 0.39 | 20.33 | 4.44 | 3.73 | 63.05 | 1.77 | 2.78 | 0.63 | 0.75 | 0.022 | 1.72 | 59.1 | 13.7 | 5.5 | 11.4 | 22.3 | 1.65 | 1.4 | 3050 | 120 | 165 | 1.1 | 0.14 | - | 211 | 254 | 347 | 465 | 37 | 58 | 71 | 51 |
| 7 M | 0.47 | 20.17 | 4.35 | 3.64 | 61.90 | 1.71 | 2.76 | 0.62 | 0.74 | 0.020 | 2.04 | 56.4 | 15.3 | 5.4 | 11.1 | 21.8 | 1.75 | 1.3 | 3080 | 125 | 170 | 1.2 | 0.17 | - | 245 | 298 | 389 | 481 | 40 | 61 | 74 | 52 |
| 8 S | 0.41 | 20.22 | 4.43 | 3.73 | 62.57 | 1.73 | 2.78 | 0.62 | 0.75 | 0.022 | 2.00 | 58.0 | 14.2 | 5.4 | 11.4 | 22.2 | 1.65 | 1.6 | 3010 | 120 | 165 | 1.1 | 0.17 | - | 237 | 345 | 411 | 497 | 45 | 61 | 80 | 53 |
| 8 M | 0.44 | 20.27 | 4.41 | 3.74 | 62.75 | 1.75 | 2.84 | 0.61 | 0.74 | 0.021 | 1.12 | 58.3 | 14.1 | 5.4 | 11.4 | 22.1 | 1.62 | 1.5 | 3010 | 125 | 170 | 1.2 | 0.14 | - | 223 | 289 | 375 | 478 | 41 | 58 | 74 | 54 |
| 9 M | 0.44 | 20.20 | 4.41 | 3.74 | 63.03 | 1.69 | 2.91 | 0.62 | 0.74 | 0.021 | 1.92 | 59.8 | 12.8 | 5.4 | 11.4 | 22.1 | 1.65 | 1.6 | 3010 | 115 | 160 | 1.1 | 0.14 | - | 226 | 286 | 366 | 482 | 37 | 59 | 70 | 56 |
| 10 S | 0.45 | 20.25 | 4.41 | 3.75 | 63.07 | 1.66 | 2.78 | 0.61 | 0.73 | 0.025 | 1.54 | 59.9 | 12.8 | 5.3 | 11.4 | 22.1 | 1.65 | 1.6 | 3010 | 110 | 160 | 1.2 | 0.14 | - | 228 | 269 | 358 | 471 | 38 | 55 | 73 | 57 |
| 10 M | 0.48 | 20.23 | 4.40 | 3.72 | 62.65 | 1.70 | 2.78 | 0.61 | 0.73 | 0.021 | 1.76 | 58.5 | 13.9 | 5.4 | 11.3 | 22.1 | 1.90 | 1.4 | 2980 | 120 | 165 | 1.4 | 0.20 | - | 225 | 263 | 353 | 462 | 39 | 57 | 74 | 58 |
| 11 S | 0.36 | 20.32 | 4.47 | 3.74 | 63.00 | 1.69 | 2.86 | 0.60 | 0.74 | 0.021 | 1.90 | 58.5 | 14.1 | 5.5 | 11.4 | 22.4 | 1.70 | 1.5 | 3050 | 115 | 165 | 1.3 | 0.14 | - | 208 | 258 | 351 | 460 | 39 | 57 | 70 | 59 |
| 11 M | 0.40 | 20.27 | 4.46 | 3.74 | 63.06 | 1.64 | 2.82 | 0.61 | 0.73 | 0.021 | 1.86 | 59.3 | 13.4 | 5.5 | 11.4 | 22.4 | 1.65 | 1.4 | 3010 | 120 | 165 | 1.2 | 0.14 | - | 212 | 262 | 358 | 472 | 40 | 60 | 75 | 60 |
| 12 M | 0.41 | 20.36 | 4.45 | 3.70 | 63.00 | 1.64 | 2.70 | 0.62 | 0.74 | 0.021 | 1.74 | 58.9 | 14.0 | 5.5 | 11.3 | 22.3 | 1.55 | 1.9 | 3050 | 125 | 170 | 1.0 | 0.11 | - | 226 | 285 | 379 | 483 | 42 | 61 | 79 | 62 |
| 13 M | 0.43 | 20.27 | 4.47 | 3.73 | 63.15 | 1.67 | 2.89 | 0.63 | 0.74 | 0.021 | 1.64 | 59.4 | 13.3 | 5.5 | 11.4 | 22.4 | 1.47 | 1.7 | 3050 | 125 | 175 | 0.9 | 0.11 | - | 229 | 289 | 374 | 482 | 43 | 58 | 77 | 63 |
| 15 S | 0.33 | 20.19 | 4.46 | 3.73 | 62.74 | 1.66 | 2.79 | 0.63 | 0.73 | 0.021 | 1.62 | 58.7 | 13.6 | 5.5 | 11.4 | 22.4 | 1.65 | 1.6 | 3010 | 120 | 165 | 1.2 | 0.14 | - | 212 | 272 | 358 | 461 | 40 | 58 | 74 | 66 |
| 16 S | 0.45 | 20.41 | 4.48 | 3.83 | 63.17 | 1.70 | 2.76 | 0.61 | 0.74 | 0.021 | 1.62 | 58.6 | 14.3 | 5.4 | 11.7 | 22.4 | 1.70 | 1.6 | 3110 | 120 | 165 | 1.3 | 0.17 | - | 221 | 278 | 377 | 464 | 42 | 62 | 76 | 68 |
| 17 M | 0.21 | 20.50 | 4.59 | 4.07 | 62.72 | 1.68 | 2.60 | 0.62 | 0.73 | 0.019 | 1.30 | 55.5 | 16.9 | 5.3 | 12.4 | 22.9 | 1.40 | 1.3 | 3080 | 120 | 165 | 1.0 | 0.11 | - | 205 | 265 | 369 | 476 | 41 | 55 | 78 | 71 |
| 18 M | 0.28 | 20.32 | 4.46 | 3.77 | 62.56 | 1.66 | 2.60 | 0.61 | 0.73 | 0.020 | 1.56 | 57.5 | 14.9 | 5.4 | 11.5 | 22.4 | 1.43 | 1.6 | 2980 | 115 | 165 | 0.9 | 0.11 | - | 209 | 266 | 364 | 461 | 36 | 57 | 72 | 73 |
| 19 M | 0.32 | 20.32 | 4.47 | 3.73 | 62.83 | 1.69 | 2.74 | 0.62 | 0.73 | 0.021 | 1.52 | 58.2 | 14.4 | 5.5 | 11.4 | 22.4 | 1.65 | 1.3 | 3080 | 120 | 165 | 1.2 | 0.14 | - | 221 | 283 | 378 | 477 | 37 | 58 | 76 | 75 |
| 20 M | 0.33 | 20.48 | 4.53 | 3.79 | 63.21 | 1.70 | 2.77 | 0.60 | 0.74 | 0.021 | 1.71 | 57.9 | 15.0 | 5.6 | 11.5 | 22.7 | 1.63 | 1.7 | 3010 | 125 | 175 | 1.2 | 0.14 | - | 226 | 288 | 377 | 483 | 41 | 62 | 74 | 76 |
| 23 M | 0.61 | 20.18 | 4.51 | 3.72 | 63.00 | 1.64 | 2.81 | 0.61 | 0.74 | 0.022 | 2.27 | 59.5 | 13.0 | 5.7 | 11.3 | 22.6 | 1.83 | 1.3 | 3170 | 125 | 170 | 1.4 | 0.17 | - | 219 | 278 | 358 | 468 | 41 | 61 | 77 | 82 |
| 24 M | 0.59 | 20.21 | 4.83 | 3.71 | 62.89 | 1.63 | 2.93 | 0.62 | 0.74 | 0.021 | 1.91 | 56.3 | 15.5 | 6.5 | 11.3 | 24.3 | 1.75 | 1.9 | 3110 | 125 | 170 | 1.3 | 0.17 | - | 228 | 280 | 364 | 481 | 41 | 56 | 70 | 84 |
| 25 M | 0.57 | 20.19 | 4.51 | 3.75 | 62.96 | 1.64 | 2.84 | 0.61 | 0.75 | 0.021 | 1.89 | 59.1 | 13.3 | 5.6 | 11.4 | 22.6 | 1.75 | 1.8 | 3080 | 125 | 175 | 1.2 | 0.17 | - | 220 | 283 | 371 | 476 | 40 | 59 | 74 | 86 |
| 26 S | 0.46 | 20.08 | 4.46 | 3.71 | 62.43 | 1.63 | 2.84 | 0.62 | 0.75 | 0.021 | 1.83 | 58.2 | 13.7 | 5.5 | 11.3 | 22.4 | 1.70 | 1.8 | 3110 | 115 | 160 | 1.2 | 0.14 | - | 225 | 284 | 382 | 474 | 39 | 57 | 74 | 87 |
| 26 M | 0.50 | 20.08 | 4.47 | 3.73 | 62.67 | 1.61 | 2.74 | 0.61 | 0.75 | 0.021 | 1.99 | 59.3 | 12.8 | 5.5 | 11.4 | 22.4 | 1.67 | 1.7 | 3080 | 125 | 170 | 1.1 | 0.14 | - | 214 | 279 | 362 | 468 | 38 | 56 | 72 | 88 |
| 28 S | 0.36 | 20.13 | 4.50 | 3.74 | 62.81 | 1.60 | 2.79 | 0.62 | 0.74 | 0.021 | 1.91 | 59.2 | 13.1 | 5.6 | 11.4 | 22.6 | 1.65 | 1.6 | 3110 | 120 | 165 | 1.2 | 0.14 | - | 232 | 290 | 373 | 465 | 42 | 58 | 78 | 90 |
| 29 S | 0.44 | 20.19 | 4.54 | 3.76 | 63.13 | 1.61 | 2.89 | 0.62 | 0.74 | 0.022 | 1.82 | 59.4 | 13.0 | 5.7 | 11.4 | 22.8 | 1.65 | 1.7 | 3080 | 120 | 165 | 1.2 | 0.14 | - | 235 | 292 | 387 | 485 | 43 | 63 | 75 | 92 |
| 29 M | 0.36 | 20.22 | 4.51 | 3.84 | 63.47 | 1.63 | 2.92 | 0.61 | 0.75 | 0.023 | 1.79 | 60.6 | 12.3 | 5.5 | 11.7 | 22.6 | 1.40 | 1.8 | 3050 | 125 | 175 | 1 | 0.11 | - | 228 | 281 | 369 | 471 | 41 | 58 | 71 | 93 |
| 30 M | 0.42 | 20.10 | 4.45 | 3.74 | 62.76 | 1.57 | 2.92 | 0.62 | 0.74 | 0.021 | 1.92 | 59.2 | 13.0 | 5.5 | 11.4 | 22.3 | 1.68 | 1.8 | 3080 | 120 | 165 | 1.2 | 0.14 | - | 228 | 297 | 377 | 471 | 40 | 63 | 76 | 95 |
| 31 M | 0.50 | 20.18 | 4.51 | 3.77 | 63.30 | 1.59 | 2.80 | 0.63 | 0.75 | 0.023 | 1.81 | 60.7 | 12.1 | 5.6 | 11.5 | 22.6 | 1.70 | 1.7 | 3050 | 125 | 175 | 1.2 | 0.17 | - | 230 | 285 | 373 | 489 | 43 | 59 | 72 | 97 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Avg | 0.43 | 20.28 | 4.49 | 3.77 | 62.91 | 1.67 | 2.78 | 0.62 | 0.74 | 0.021 | 1.76 | 58.5 | 14.0 | 5.5 | 11.5 | 22.5 | 1.67 | 1.6 | 3050 | 121 | 167 | 1.2 | 0.15 | - | 224 | 281 | 368 | 472 | 40 | 59 | 74 | - |
| Min | 0.21 | 20.08 | 4.35 | 3.64 | 61.90 | 1.57 | 2.59 | 0.60 | 0.73 | 0.019 | 1.12 | 55.5 | 12.1 | 5.3 | 11.1 | 21.8 | 1.40 | 1.3 | 2950 | 110 | 160 | 0.9 | 0.11 | - | 205 | 254 | 347 | 456 | 36 | 55 | 70 | - |
| Max | 0.61 | 20.68 | 4.83 | 4.18 | 63.47 | 1.77 | 2.93 | 0.63 | 0.75 | 0.025 | 2.27 | 60.7 | 17.1 | 6.5 | 12.7 | 24.3 | 1.95 | 1.9 | 3170 | 125 | 175 | 1.4 | 0.21 | - | 245 | 345 | 411 | 497 | 45 | 63 | 80 | - |
| S.D | 0.09 | 0.14 | 0.09 | 0.10 | 0.31 | 0.05 | 0.09 | 0.01 | 0.01 | 0.001 | 0.21 | 1.31 | 1.25 | 0.21 | 0.31 | 0.47 | 0.13 | 0.18 | 47.40 | 3.96 | 4.35 | 0.13 | 0.02 | - | 9.29 | 16.06 | 13.64 | 10.32 | 2.12 | 2.26 | 2.73 | - |

S : Silo M : Mill

مدیر کارخانه :

مدیر کنترل کیفی و آزما :

گزارش ماهانه کنترل کیفیت سیمان ممتازان کرمان

نوع سیمان : پرتلند تپ ۵



شماره مدرک : LA-F-023-02

تاریخ : اردیبهشت ۹۳ صفحه ۲ از ۴

| Chemical Compositions & Phases % | | | | | | | | | | | | | | | | | | Physical Test | | | | | | | | | | | | | | | |
|----------------------------------|------|------------------|--------------------------------|--------------------------------|-------|------|-----------------|------------------|-------------------|-------|------|------------------|------------------|------------------|-------------------|-------------------------------------|-------|---------------|------------------------------|--------------|-------------|------------------|----------------|-------|--|--------|--------|---------|--------|-------------------------------------|---------|----|----------|
| DAY | IR | SiO ₂ | Al ₂ O ₃ | Fe ₂ O ₃ | CaO | MgO | SO ₃ | K ₂ O | Na ₂ O | Cl | LOSS | C ₃ S | C ₂ S | C ₃ A | C ₄ AF | C ₄ AF+2C ₃ A | F.CaO | FINENESS | | SETTING TIME | | SOUNDNESS | | | COMPRESSIVE STRENGTH (kg/cm ²) | | | | | BEND STRENGTH (kg/cm ²) | | | Lab.Code |
| | | | | | | | | | | | | | | | | | | Steve 90 mic | Blaine (cm ² /gr) | INIT (min) | FINAL (min) | LEACHELIE R (mm) | Auto Clave (%) | 1 DAY | 2 DAYS | 3 DAYS | 7 DAYS | 28 DAYS | 2 DAYS | 7 DAYS | 28 DAYS | | |
| 2 M | 0.38 | 20.62 | 4.66 | 5.51 | 63.21 | 1.81 | 2.08 | 0.51 | 0.65 | 0.013 | 1.14 | 55.5 | 17.2 | 3.0 | 16.8 | 22.8 | 1.47 | 0.5 | 3170 | 120 | 165 | 1.0 | 0.11 | - | 176 | 210 | 305 | 451 | 36 | 56 | 73 | 44 | |
| 3 M | 0.48 | 20.65 | 4.68 | 5.67 | 63.39 | 1.83 | 2.08 | 0.50 | 0.64 | 0.012 | 1.18 | 55.6 | 17.2 | 2.8 | 17.3 | 22.9 | 1.45 | 0.6 | 3110 | 120 | 165 | 0.9 | 0.07 | - | 169 | 217 | 306 | 453 | 35 | 51 | 79 | 46 | |
| 12 S | 0.21 | 20.69 | 4.64 | 5.59 | 63.52 | 1.81 | 2.07 | 0.52 | 0.64 | 0.013 | 0.99 | 56.3 | 16.9 | 2.8 | 17.0 | 22.7 | 1.50 | 1.3 | 3080 | 115 | 160 | 0.9 | 0.11 | - | 171 | 218 | 325 | 460 | 37 | 51 | 69 | 61 | |
| 15 M | 0.11 | 20.49 | 4.65 | 5.72 | 63.23 | 1.84 | 2.12 | 0.51 | 0.64 | 0.013 | 0.86 | 56.2 | 16.3 | 2.6 | 17.4 | 22.7 | 1.40 | 0.6 | 3080 | 125 | 170 | 1.2 | 0.17 | - | 170 | 205 | 315 | 452 | 35 | 57 | 74 | 67 | |
| 16 M | 0.53 | 20.75 | 4.64 | 5.52 | 63.49 | 1.80 | 2.12 | 0.50 | 0.64 | 0.013 | 1.20 | 55.7 | 17.5 | 3.0 | 16.8 | 22.7 | 1.30 | 0.6 | 3050 | 130 | 180 | 0.9 | 0.11 | - | 165 | 208 | 331 | 465 | 36 | 56 | 80 | 69 | |
| 17 S | 0.30 | 20.53 | 4.61 | 5.83 | 62.79 | 1.81 | 2.07 | 0.51 | 0.64 | 0.013 | 0.99 | 54.4 | 17.8 | 2.4 | 17.7 | 22.4 | 1.38 | 0.8 | 3110 | 130 | 180 | 0.9 | 0.07 | - | 166 | 211 | 319 | 462 | 34 | 58 | 72 | 70 | |
| 21 S | 0.21 | 20.78 | 4.71 | 5.37 | 63.68 | 1.82 | 2.04 | 0.52 | 0.65 | 0.013 | 1.09 | 56.2 | 17.2 | 3.4 | 16.3 | 23.1 | 1.35 | 0.7 | 3140 | 125 | 175 | 0.9 | 0.11 | - | 177 | 217 | 326 | 465 | 38 | 60 | 79 | 77 | |
| 23 S | 0.45 | 20.53 | 4.61 | 5.52 | 62.96 | 1.79 | 2.12 | 0.51 | 0.64 | 0.012 | 1.08 | 55.4 | 17.1 | 2.9 | 16.8 | 22.6 | 1.33 | 0.8 | 3110 | 125 | 175 | 0.8 | 0.07 | - | 169 | 214 | 316 | 447 | 36 | 60 | 77 | 81 | |
| 27 M | 0.38 | 20.49 | 4.61 | 5.45 | 63.05 | 1.79 | 2.17 | 0.51 | 0.64 | 0.013 | 1.27 | 56.0 | 16.5 | 3.0 | 16.6 | 22.6 | 1.40 | 0.8 | 3110 | 130 | 185 | 1.0 | 0.11 | - | 171 | 218 | 321 | 446 | 34 | 57 | 71 | 89 | |
| 28 M | 0.29 | 20.50 | 4.62 | 5.61 | 63.07 | 1.79 | 2.19 | 0.51 | 0.64 | 0.013 | 1.36 | 55.7 | 16.8 | 2.8 | 17.1 | 22.6 | 1.38 | 0.9 | 3010 | 125 | 175 | 0.7 | 0.07 | - | 167 | 213 | 312 | 437 | 34 | 44 | 69 | 91 | |
| 31 S | 0.46 | 20.55 | 4.61 | 5.60 | 63.22 | 1.83 | 2.07 | 0.52 | 0.65 | 0.013 | 1.50 | 56.3 | 16.4 | 2.7 | 17.0 | 22.5 | 1.45 | 0.9 | 3080 | 135 | 185 | 0.9 | 0.11 | - | 171 | 216 | 326 | 455 | 37 | 60 | 74 | 96 | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Avg | 0.35 | 20.60 | 4.64 | 5.58 | 63.24 | 1.81 | 2.10 | 0.51 | 0.64 | 0.013 | 1.15 | 55.7 | 17.0 | 2.9 | 17.0 | 22.7 | 1.40 | 0.8 | 3095 | 125 | 174 | 0.9 | 0.10 | - | 170 | 213 | 318 | 454 | 36 | 55 | 74 | - | |
| Min | 0.11 | 20.49 | 4.61 | 5.37 | 62.79 | 1.79 | 2.04 | 0.50 | 0.64 | 0.012 | 0.86 | 54.4 | 16.3 | 2.4 | 16.3 | 22.4 | 1.30 | 0.5 | 3010 | 115 | 160 | 0.7 | 0.07 | - | 165 | 205 | 305 | 437 | 34 | 44 | 69 | - | |
| Max | 0.53 | 20.78 | 4.71 | 5.83 | 63.68 | 1.84 | 2.19 | 0.52 | 0.65 | 0.013 | 1.50 | 56.3 | 17.8 | 3.4 | 17.7 | 23.1 | 1.50 | 1.3 | 3170 | 135 | 185 | 1.2 | 0.17 | - | 177 | 218 | 331 | 465 | 38 | 60 | 80 | - | |
| S.D | 0.13 | 0.11 | 0.03 | 0.13 | 0.27 | 0.02 | 0.05 | 0.01 | 0.00 | 0.000 | 0.18 | 0.56 | 0.47 | 0.26 | 0.39 | 0.19 | 0.06 | 0.22 | 42.98 | 5.68 | 8.31 | 0.13 | 0.03 | - | 3.74 | 4.39 | 8.46 | 8.71 | 1.36 | 4.95 | 3.98 | - | |

S : Silo M : Mill

مدیر کارخانه : مدیر کنترل کیفی و آزمایشگاهها : رئیس آزمایشگاهها : کارشناس آزمایشگاه :

شماره مدرک : LA-F-023-02



تاریخ : اردیبهشت ۹۳ صفحه ۳ از ۴

گزارش ماهانه کنترل کیفیت سیمان ممتازان کرمان

نوع سیمان : پرتلند تپ ۴۲۵-۱

| Chemical Compositions & Phases % | | | | | | | | | | | | | | | | | Physical Test | | | | | | | | | | | | | | | |
|----------------------------------|------|------------------|--------------------------------|--------------------------------|-------|------|-----------------|------------------|-------------------|-------|------|------|------|------|------|-----------|---------------|--------------|------------------------------|--------------|-------------|------------------|----------------|--|--------|--------|--------|---------|-------------------------------------|--------|---------|----------|
| DAY | IR | SiO ₂ | Al ₂ O ₃ | Fe ₂ O ₃ | CaO | MgO | SO ₃ | K ₂ O | Na ₂ O | Cl | LOSS | C3S | C2S | C3A | C4AF | C4AF+2C3A | F.CaO | FINENESS | | SETTING TIME | | SOUNDNESS | | COMPRESSIVE STRENGTH (kg/cm ²) | | | | | BEND STRENGTH (kg/cm ²) | | | Lab.Code |
| | | | | | | | | | | | | | | | | | | Sieve 90 mic | Blaine (cm ² /gr) | INIT (min) | FINAL (min) | LEACHTELIER (mm) | Auto Clave (%) | 1 DAY | 2 DAYS | 3 DAYS | 7 DAYS | 28 DAYS | 2 DAYS | 7 DAYS | 28 DAYS | |
| 14 M | 0.46 | 20.32 | 4.50 | 3.77 | 63.01 | 1.68 | 2.65 | 0.62 | 0.73 | 0.021 | 1.61 | 58.9 | 13.8 | 5.5 | 11.5 | 22.6 | 1.61 | 1.6 | 3050 | 120 | 170 | 1.1 | 0.11 | - | 227 | 279 | 363 | 465 | 43 | 53 | 72 | 65 |
| 18 S | 0.33 | 20.33 | 4.48 | 3.80 | 62.94 | 1.68 | 2.74 | 0.61 | 0.74 | 0.020 | 1.53 | 58.4 | 14.2 | 5.4 | 11.6 | 22.4 | 1.50 | 1.6 | 2980 | 110 | 160 | 1.2 | 0.14 | - | 216 | 270 | 366 | 477 | 39 | 60 | 71 | 72 |
| 22 S | 0.28 | 20.29 | 4.49 | 3.73 | 62.63 | 1.67 | 2.76 | 0.62 | 0.73 | 0.021 | 1.43 | 57.4 | 14.9 | 5.6 | 11.4 | 22.5 | 1.50 | 1.9 | 2980 | 120 | 160 | 1.1 | 0.14 | - | 226 | 285 | 378 | 482 | 46 | 63 | 78 | 79 |
| 24 S | 0.53 | 20.13 | 4.50 | 3.69 | 62.65 | 1.63 | 2.87 | 0.62 | 0.74 | 0.021 | 1.75 | 58.4 | 13.7 | 5.7 | 11.2 | 22.6 | 1.7 | 1.7 | 3080 | 120 | 165 | 1.3 | 0.17 | - | 235 | 293 | 391 | 489 | 43 | 60 | 72 | 83 |
| 25 S | 0.63 | 20.17 | 4.51 | 3.71 | 62.62 | 1.65 | 2.84 | 0.63 | 0.75 | 0.021 | 1.9 | 57.9 | 14.1 | 5.7 | 11.3 | 22.6 | 1.58 | 1.8 | 3140 | 125 | 175 | 1.1 | 0.14 | - | 231 | 296 | 385 | 477 | 45 | 60 | 74 | 85 |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Avo | 0.45 | 20.25 | 4.50 | 3.74 | 62.77 | 1.66 | 2.77 | 0.62 | 0.74 | 0.021 | 1.64 | 58.2 | 14.1 | 5.6 | 11.4 | 22.6 | 1.58 | 1.7 | 3046 | 119 | 166 | 1.2 | 0.14 | - | 227 | 285 | 377 | 478 | 43 | 59 | 73 | - |
| Min | 0.28 | 20.13 | 4.48 | 3.69 | 62.62 | 1.63 | 2.65 | 0.61 | 0.73 | 0.020 | 1.43 | 57.4 | 13.7 | 5.4 | 11.2 | 22.4 | 1.50 | 1.6 | 2980 | 110 | 160 | 1.1 | 0.11 | - | 216 | 270 | 363 | 465 | 39 | 53 | 71 | - |
| Max | 0.63 | 20.33 | 4.51 | 3.80 | 63.01 | 1.68 | 2.87 | 0.63 | 0.75 | 0.021 | 1.90 | 58.9 | 14.9 | 5.7 | 11.6 | 22.6 | 1.70 | 1.9 | 3140 | 125 | 175 | 1.3 | 0.17 | - | 235 | 296 | 391 | 489 | 46 | 63 | 78 | - |
| S.D | 0.14 | 0.09 | 0.01 | 0.04 | 0.19 | 0.02 | 0.09 | 0.01 | 0.01 | 0.000 | 0.18 | 0.56 | 0.46 | 0.10 | 0.14 | 0.07 | 0.08 | 0.13 | 68.41 | 5.48 | 6.52 | 0.09 | 0.02 | - | 7.11 | 10.55 | 12.01 | 8.77 | 2.68 | 3.70 | 2.79 | - |

S : Silo M : Mill

مدیر کارخانه:

مدیر کنترل کیفی و آزمایشگاهها:

رئیس آزمایشگاهها:

کارشناس آزمایشگاه:

شماره مدرک : LA-F-023-02

تاریخ : اردیبهشت ۹۳ صفحه ۴ از ۴



گزارش ماهانه کنترل کیفیت سیمان ممتازان کرمان

نوع سیمان : پرتلند پوزولانی ویژه

| Chemical Compositions & Phases % | | | | | | | | | | | | | | | | | Physical Test | | | | | | | | | | | | | | | | | | |
|----------------------------------|----|------------------|--------------------------------|--------------------------------|-----|------|-----------------|------------------|-------------------|-------|------|-----|-----|-----|------|-----------|---------------|--------------|------------------------------|--------------|-------------|------------------|----------------|--|--------|--------|--------|---------|-------------------------------------|--------|---------|----------|---|---|---|
| DAY | IR | SiO ₂ | Al ₂ O ₃ | Fe ₂ O ₃ | CaO | MgO | SO ₃ | K ₂ O | Na ₂ O | Cl | LOSS | C3S | C2S | C3A | C4AF | C4AF+2C3A | F.CaO | FINENESS | | SETTING TIME | | SOUNDNESS | | COMPRESSIVE STRENGTH (kg/cm ²) | | | | | BEND STRENGTH (kg/cm ²) | | | Lab.Code | | | |
| | | | | | | | | | | | | | | | | | | Sieve 90 mic | Blaine (cm ² /gr) | INIT (min) | FINAL (min) | LEACHTELIER (mm) | Auto Clave (%) | 1 DAY | 2 DAYS | 3 DAYS | 7 DAYS | 28 DAYS | 2 DAYS | 7 DAYS | 28 DAYS | | | | |
| 1 | S | - | - | - | - | 1.64 | 2.14 | - | - | 0.023 | 1.87 | - | - | - | - | - | 1.85 | 1.0 | 3560 | 125 | 175 | 1.3 | 0.17 | - | 186 | 231 | 303 | 393 | 39 | 58 | 69 | 41 | | | |
| 5 | S | - | - | - | - | 1.63 | 2.12 | - | - | 0.023 | 1.71 | - | - | - | - | - | 1.60 | 1.0 | 3770 | 130 | 180 | 1.1 | 0.14 | - | 190 | 227 | 303 | 393 | 38 | 57 | 71 | 49 | | | |
| 9 | S | - | - | - | - | 1.64 | 2.10 | - | - | 0.022 | 1.90 | - | - | - | - | - | 1.80 | 0.9 | 3720 | 130 | 175 | 1.3 | 0.17 | - | 188 | 229 | 308 | 392 | 39 | 54 | 75 | 55 | | | |
| 14 | S | - | - | - | - | 1.64 | 2.10 | - | - | 0.023 | 1.83 | - | - | - | - | - | 1.42 | 1.2 | 3720 | 130 | 180 | 0.8 | 0.07 | - | 176 | 216 | 290 | 373 | 35 | 51 | 71 | 64 | | | |
| 19 | S | - | - | - | - | 1.61 | 2.19 | - | - | 0.020 | 1.94 | - | - | - | - | - | 1.60 | 0.9 | 3640 | 130 | 180 | 1.1 | 0.11 | - | 170 | 212 | 284 | 375 | 35 | 52 | 67 | 74 | | | |
| 21 | M | - | - | - | - | 1.64 | 2.22 | - | - | 0.022 | 1.79 | - | - | - | - | - | 1.50 | 1.6 | 3450 | 135 | 190 | 1.1 | 0.14 | - | 163 | 196 | 280 | 373 | 33 | 52 | 68 | 78 | | | |
| 22 | M | - | - | - | - | 1.62 | 2.12 | - | - | 0.022 | 1.77 | - | - | - | - | - | 1.45 | 1.2 | 3610 | 135 | 185 | 1 | 0.11 | - | 163 | 202 | 268 | 360 | 35 | 54 | 65 | 80 | | | |
| 30 | S | - | - | - | - | 1.66 | 2.41 | - | - | 0.023 | 1.77 | - | - | - | - | - | 1.60 | 1.7 | 3450 | 125 | 175 | 1.1 | 0.14 | - | 196 | 237 | 313 | 397 | 41 | 59 | 70 | 94 | | | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Avg | - | - | - | - | - | 1.64 | 2.18 | - | - | 0.022 | 1.82 | - | - | - | - | - | 1.60 | 1.2 | 3615 | 130 | 180 | 1.1 | 0.13 | - | 179 | 219 | 294 | 382 | 37 | 55 | 70 | - | - | | |
| Min | - | - | - | - | - | 1.61 | 2.10 | - | - | 0.020 | 1.71 | - | - | - | - | - | 1.42 | 0.9 | 3450 | 125 | 175 | 0.8 | 0.07 | - | 163 | 196 | 268 | 360 | 33 | 51 | 65 | - | - | | |
| Max | - | - | - | - | - | 1.66 | 2.41 | - | - | 0.023 | 1.94 | - | - | - | - | - | 1.85 | 1.7 | 3770 | 135 | 190 | 1.3 | 0.17 | - | 196 | 237 | 313 | 397 | 41 | 59 | 75 | - | - | | |
| S.D | - | - | - | - | - | 0.02 | 0.10 | - | - | 0.001 | 0.08 | - | - | - | - | - | 0.15 | 0.31 | 122.01 | 3.78 | 5.35 | 0.16 | 0.03 | - | 12.77 | 14.68 | 15.61 | 13.43 | 2.75 | 3.02 | 3.02 | - | - | | |

S : Silo M : Mill

مدیر کارخانه:

مدیر کنترل کیفی و آزمایشگاهها:

رئیس آزمایشگاهها:

کارشناس آزمایشگاه: