

113.2 - Portland Cement Clinkers (solid form)

These SRMs provide certified values for the abundance of major phases in cement clinkers, i.e., the percentages of alite (C_3S), belite (C_2S), aluminate (C_3A), and ferrite ($C_2(A,F)$). NOTE: In cement chemist notation, C=CaO, S=SiO₂, A=Al₂O₃ and F=Fe₂O₃.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

| | | | |
|----------------|-------------------------|-------------------------|-------------------------|
| | 2686b | 2687a | 2688 |
| Description >> | Portland Cement Clinker | Portland Cement Clinker | Portland Cement Clinker |
| Unit Size >> | 50 g | 5 vials x 8 g | 3 vials x 10 g |

| Component (mass fraction, in %) | | | |
|---------------------------------|----------|-----------|----------|
| Alite (C_3S) | 64.82 | 57.88 | 64.95 |
| Alkali Sulfates | | | |
| Aluminate (C_3A) | 3.76 | 9.56 | 4.99 |
| Aluminum oxide | (4.18) | (5.470) | (4.90) |
| Aphthitalite | | (0.16) | |
| Arcanite | (0.20) | (0.68) | |
| Belite (C_2S) | 16.68 | 24.70 | 17.45 |
| Calcium oxide | (63.97) | (66.172) | (66.50) |
| Chlorine | (0.0019) | | |
| Ferrite (C_2AF) | 10.42 | 6.27 | 12.20 |
| Free CaO | (0.53) | (0.51) | (0.2) |
| Iron oxide | (3.72) | (2.403) | (4.07) |
| Loss on Ignition at 1000 °C | | (0.49) | (0.21) |
| Magnesium oxide | (4.37) | (1.035) | (0.98) |
| Manganese trioxide | | (0.031) | (0.03) |
| Periclase | 3.31 | (0.25) | |
| Phosphorus pentoxide | | (0.524) | (0.08) |
| Potassium oxide | (0.45) | (0.702) | (0.35) |
| Silicon dioxide | (21.33) | (22.07) | (22.68) |
| Sodium oxide | (0.24) | (0.103) | (0.11) |
| Strontium oxide | | (0.090) | (0.13) |
| Sulfur trioxide | (0.04) | (0.695) | (0.31) |
| Titanium dioxide | (0.23) | (0.246) | (0.24) |
| Total | | | (100.60) |
| Zinc oxide | | (0.028) | |

- Certified values are normal font
- Non-certified or reference values are italicized
- Non-certified values in parentheses are for information only