


اسمنت معتدل لمقاومة الكبريت - نوع 2

Moderate Sulphate Resisting Cement (MSRC)

Type of Cement : Type II
Standard : ASTM C-150-19
Week No. : 07/20
Sample Date : 12-18.02.2020 تاريخ العينة :
Issue Date : 21-Mar-20

| Parameters | Units | Results % | Specification | |
|---|--------------------------------|--------------------|---------------|-----------------------------|
| Chemical Test Results | | | | |
| Loss On Ignition | LOI | % | 2.97 | Max. 3.0 % |
| Silicon Dioxide | SiO ₂ | % | 20.16 | |
| Aluminium Oxide | Al ₂ O ₃ | % | 4.74 | Max. 6.0 % |
| Ferric Oxide | Fe ₂ O ₃ | % | 3.43 | Max. 6.0 % |
| Calcium Oxide | CaO | % | 63.15 | |
| Magnesium Oxide | MgO | % | 1.53 | Max. 6.0 % |
| Equivalent Alkali (Na ₂ O+0.658K ₂ O) | | % | 0.57 | Max. 0.60 % |
| Sulphur Trioxide | SO ₃ | % | 2.54 | Max 3.0 % |
| Chloride | Cl ⁻ | % | 0.027 | |
| Insoluble Residue | IR | % | 0.34 | Max. 1.50 % |
| Free Lime | Free CaO | % | 1.26 | |
| Cement Phases | | | | |
| Tri Calcium Silicate | C ₃ S | % | 54.74 | |
| Tri Calcium Aluminate | C ₃ A | % | 6.76 | Max. 8.0 % |
| C ₃ S+4.75C ₃ A | | % | 86.88 | Max. 100 % |
| Physical Test Results | | | | |
| Fineness (Specific Surface) | Blaines | m ² /kg | 358 | Min. 260 m ² /kg |
| +45 µm Residue | | % | 9.42 | |
| Specific Gravity | | | 3.15 | |
| Initial Setting Time | IST | Minutes | 175 | Min. 45 minutes |
| Final Setting Time | FST | Minutes | 215 | Max. 375 minutes |
| Soundness -Autoclave | Expansion | % | 0.10 | Max. 0.80 % |
| Air Content | | % | 2.74 | Max. 12.0 % |
| False Setting | | % | 93.0 | Min. 50.0 % |
| Heat of Hydration (KJ/kg) | | | | |
| 3 Days | | KJ/kg | 234.0 | Max. 335 KJ/kg |
| 7 Days | | KJ/kg | 272.0 | |
| Compressive Strength (MPa) | | | | |
| 3 Days | | MPa | 23.8 | Min. 10.0 |
| 7 Days | | MPa | 28.9 | Min.17.0 |
| 28 Days | | MPa | 37.2 | Min.28.0 |

We hereby certify that the above described PORTLAND CEMENT ,TYPE-II, at the time of consignment, meets the chemical and Physical requirements of ASTM C-150-19a.


Quality Control Manager
 (D. Balasubramanian)

