



Kemalpasa Asfaltı No:44 Kemalpasa/İZMİR/TURKEY Zip Code:35177

Tel: +90 232 8770400

Fax +90 232 8770401

e-mail : [pigment@pigment.com.tr](mailto:pigment@pigment.com.tr)

Web : <http://www.pigment.com.tr>

## CERTIFICATE OF ANALYSIS

|                              |  |
|------------------------------|--|
| <b>Product name and code</b> | CEM I 42,5 R (Chrome free) portland cement |
| <b>Date of production</b>    | 14/02/2011                                 |

| Chemical Analysis              | Values of analysis (%) | Limit values according to TS EN 197-1 And CE |
|--------------------------------|------------------------|--|
| SiO <sub>2</sub>               | 19,49                  |  |
| Al <sub>2</sub> O <sub>3</sub> | 5,34                   |  |
| Fe <sub>2</sub> O <sub>3</sub> | 3,60                   |  |
| CaO                            | 63,01                  |  |
| MgO                            | 1,08                   |  |
| SO <sub>3</sub>                | 2,64                   | ≤%4,0  |
| Na <sub>2</sub> O              | 0,07                   |  |
| K <sub>2</sub> O               | 0,68                   |  |
| Cl <sup>-</sup>                | 0,0028                 | ≤%0,10                                       |
| Cr VI ppm                      | 0,00                   |  |
| L.O.I.                         | 3,60                   | ≤%5,0  |
| Insoluble residue              | 0,30                   | ≤%5,0  |
| Free Lime                      | 0,43                   |  |
| Gypsum                         | 4,22                   |  |
| Limestone                      | 4,97                   | ≤%5,0  |

| Physical Analysis                                 | Values of the analysis | Limit values according to TS EN 197-1 And CE |
|---|------------------------|--|
| Setting time initial (minutes)                    | 175                    | ≥60  |
| Setting time final (minutes)                      | 270                    |  |
| Soudness (mm)                                     | 1,0                    | ≤10  |
| Specific surface area Blaine(cm <sup>2</sup> /gr) | 3233                   |  |
| Comp.strength (N/mm <sup>2</sup> ) 2 days         | 25,0                   | ≥20  |
| Comp.strength (N/mm <sup>2</sup> ) 7 days         |                        |  |
| Comp.strength (N/mm <sup>2</sup> ) 28 days        | 51,0                   | ≥42,5 ; ≤62,5                                |

CEM I 42,5 R Cement comply with TS EN 197-1 standart.