# Hellenic Accreditation System

Annex F1/14 to the Certificate No. **23**-6

# SCOPE of ACCREDITATION
of the
# Laboratories
of
# R&D and QUALITY DEPARTMENT
of
# TITAN Cement Company S.A.

| Tested materials/ Products | Types of test/ Properties to be measured | Applied standards/Techniques to be used |
|---|---|---|
| Physical Tests | | |
| Concrete | Testing fresh concrete .Part 2: Slump test | ELOT EN 12350-2:2019 |
| Aggregates | 1.Particle size distribution of aggregates | ELOT EN 933-1: 2012 |
| | 2.Tests for geometrical properties of aggregates Part 8: Assesement of fines – Sand equivalent test | ELOT EN 933-8: 2012+A1:2015 |
| | 3.Tests for geometrical properties of aggregates Part 9: Assessment of fines – Methylene Blue Test | ELOT EN 933-9:2009+A1:2013 |
| | 4.Tests for geometrical properties of aggregates Part 4: Determination of particle shape – Shape index | ELOT EN 933-4: 2008 |

| Tested materials/ Products | Types of test/ Properties to be measured | Applied standards/Techniques to be used |
|---|---|---|
| Aggregates(cont'd) | 5.Tests for geometrical properties of aggregates Part 3: Determination of particle shape – Flakiness index | ELOT EN 933-3: 2012 |
| Mechanical tests | | |
| Concrete | 1.Preparation curing, and compressive strength determination of concrete cubic specimens | ELOT EN 12390-2:2019 |
| | 2.Testing hardened concrete - Part 3: Compressive strength of test specimens (cubic specimens up to 150.2mm dimensions) | ELOT EN 12390-3:2019 |
| | 3.Vebe test | ELOT EN 12350-3:2019 |
| Chemical tests | | |
| Coal | Determination of total moisture | ISO 589:2008<br>Method A2 |
| Coke | Moisture determination | ISO 687:2010 |
| Coal/Coke | Determination of total sulfur | ISO 334:2013 |
| Solid mineral fuels | 1.Determination of ash content | ISO 1171:2010 |
| | 2.Determination of total carbon, hydrogen and nitrogen | ISO 29541:2010 |
| | 3.Determination of gross calorific value and calculation of net calorific value | ISO 1928:2020 |
| Raw meal | 1.$CO_2$ determination | In house method based on ELOT EN 196-2 :2013 §4 (M43) |
| | | In house method with the use of Differential Scanning calorimetry – Thermogravimetry (M45) |
| | 2.Determination of major elements | In house method based on ELOT EN 196-2:2013 §4 (M44) |
| | 3.Determination of total organic carbon (TOC) | In house method based on ELOT EN 13639:2017 §6 (M46) |
| Cement | 1.Determination of major elements | ELOT EN 196-2:2013 §4 |
| | 2.Determination of the water –soluble chromium(VI) | ELOT EN 196-10:2016 |
| Limestone | Determination of total organic carbon (TOC) | ELOT EN 13639:2017 |

Site of assessment: **Permanent laboratory premises, Kamari Plant, Elefsis**
Approved signatories: **Ioannis Giannakopoulos, Emmanouil Tzanis**

This Scope of Accreditation replaces the previous one dated 24.02.2020.
The Accreditation Certificate No. **23**-6, to ELOT EN ISO/IEC 17025:2017, is valid until 04.07.2021.

Athens, 14.05.2021

Spyridon Podaras
*Managing Director, ESYD*