

## Itecons

Entity / laboratory framework: Established on 11th January 2006, Itecons - Institute for Research and Technological Development for Construction, Energy, Environment and Sustainability, is a non-profit organization that acts as a dynamic interface of knowledge between the scientific community and industry, providing applied research, testing, consultancy and training in the fields of construction, energy, environment and sustainability.

It has at its disposal a multidisciplinary technical staff and modern technical facilities. Itecons has a Quality Management System in place that is certified by the Portuguese Certification Association – APCER (EN ISO 9001) and more than 250 tests accredited by the Portuguese Accreditation Institute - IPAC (NP EN ISO/IEC 17025). Within the framework of the Construction Products Regulation, it is able to assist manufacturers in affixing the CE marking, for a System 3 product, for a wide range of construction products.

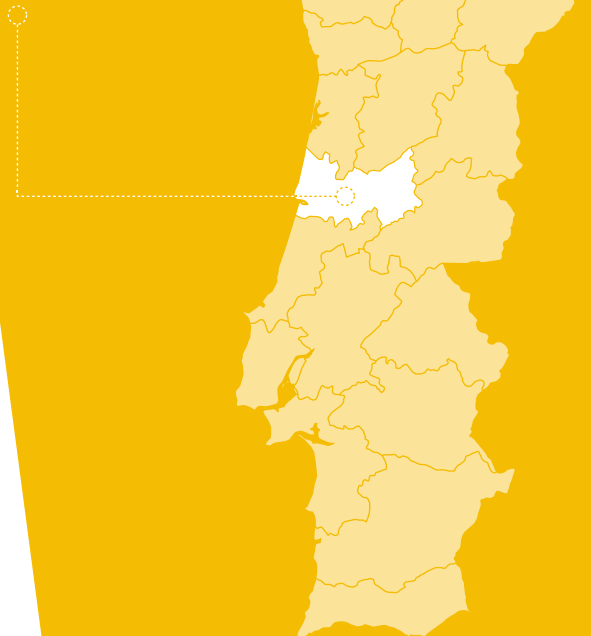
Itecons is also recognized as a CTI - Technology and Innovation Centre, developing and promoting research and innovation processes, with the objective of accelerating the integration of new processes, services or products based on scientific, technological and high added value knowledge, in companies and in the industry.

## List of available services for the natural stone industry

- Tests
- CE Marking ([www.accept.uc.pt](http://www.accept.uc.pt))
- Factory Production Control Implementation
- R&D Projects
- Vales (Research Opportunities, Industry 4.0, Commerce, Circular Economy)
- Project (support in the elaboration and / or analysis, review and optimization)
- Commissioning
- Life Cycle Assessment (LCA) Studies and Preparation of Environmental Product Declarations (EPD)
- Technical support, supervision and quality control in construction sites
- Training
- Organization of technical and scientific events (congresses, seminars, workshops,...)
- Measurement of airborne particles (PM10)
- Measurement of environmental noise














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## List of available tests on natural stone






European Tests		Reference Standard
Determination of frost resistance		EN 12371:2010
Determination of abrasion resistance		EN 14157:2017 (Método A)
Determination of real density and apparent density, and of total and open porosity		NP EN 1936:2008
Determination of water absorption at atmospheric pressure		NP EN 13755:2008
Determination of flexural strength under constant moment		EN 13161:2008
Determination of uniaxial compressive strength		NP EN 1926:2008
Determination of flexural strength under concentrated load		EN 12372:2022
Determination of the dynamic elastic modulus of elasticity (by measuring the fundamental resonance frequency)		NP EN 14146:2006 (Método 5.2)
Determination of slip resistance by means of the pendulum tester		NP EN 14231:2006
Determination of water absorption coefficient by capillarity		NP EN 1925:2000
Determination of Breaking Load At Dowel Hole		NP EN 13364:2006
Determination of resistance to salt crystallization		EN 12370:2020
Determination of resistance to ageing by thermal shock		EN 14066:2013
Determination of rupture energy		NP EN 14158:2005
Determination of sound speed propagation		NP EN 14579:2007


 Tests in the scope of accreditation of Itecons

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ASTM Tests		Reference Standard
Absorption and bulk specific gravity of dimension stone		ASTM C97/C97M-18
Compressive strength of dimension stone		ASTM C170/C170M-17
Flexural strength of dimension stone		ASTM C880/C880M-18
Modulus of rupture of dimension stone		ASTM C99/C99M-18
Abrasion resistance of dimension stone subjected to foot traffic		ASTM C1353/C1353M-20e1
Determination of the slip resistance by means of the Pendulum Tester		ASTM E303-93

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