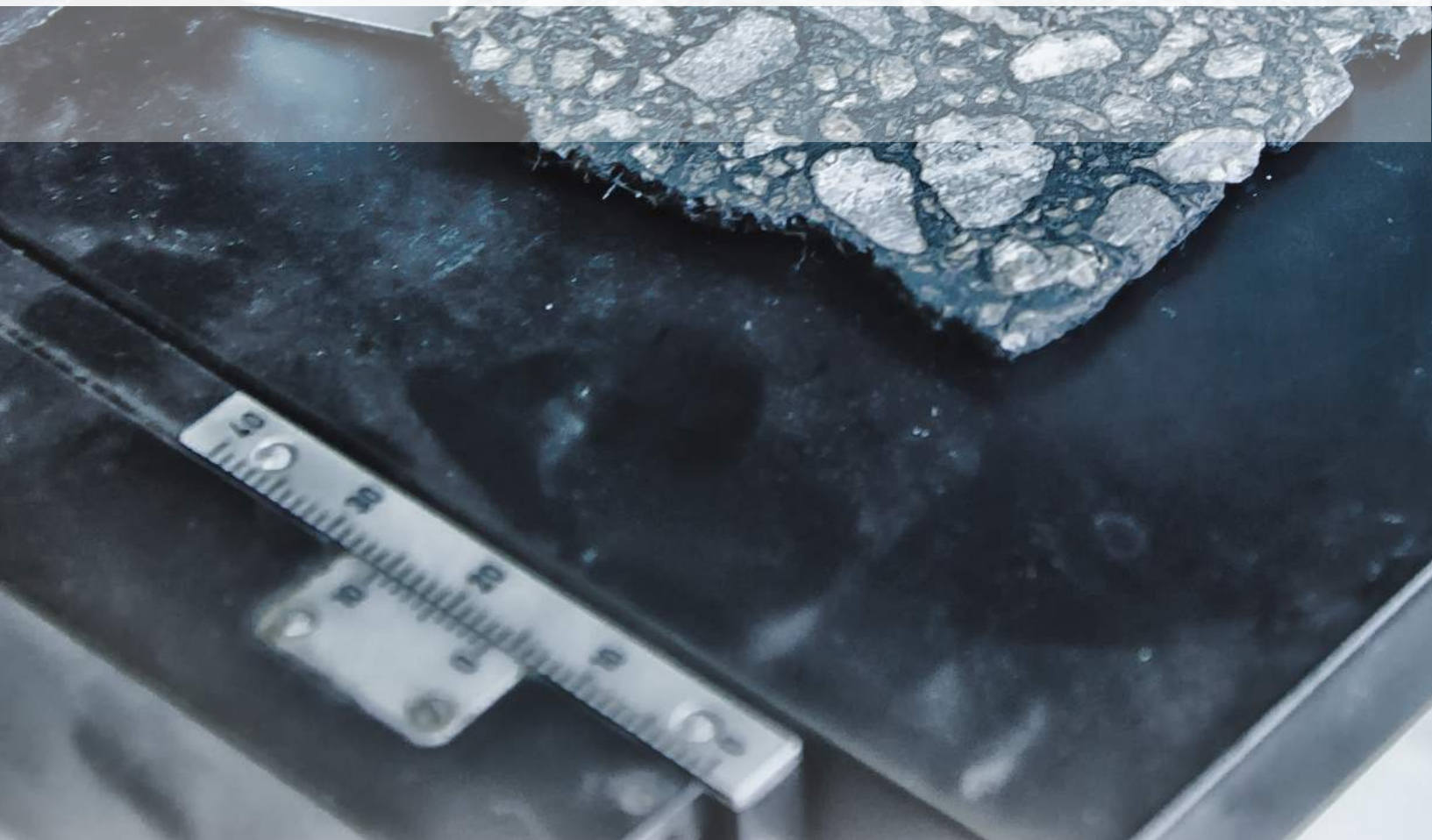




ticemlabs





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ticemlabs was established in 2010
by Istanbul Technical University Academicians.

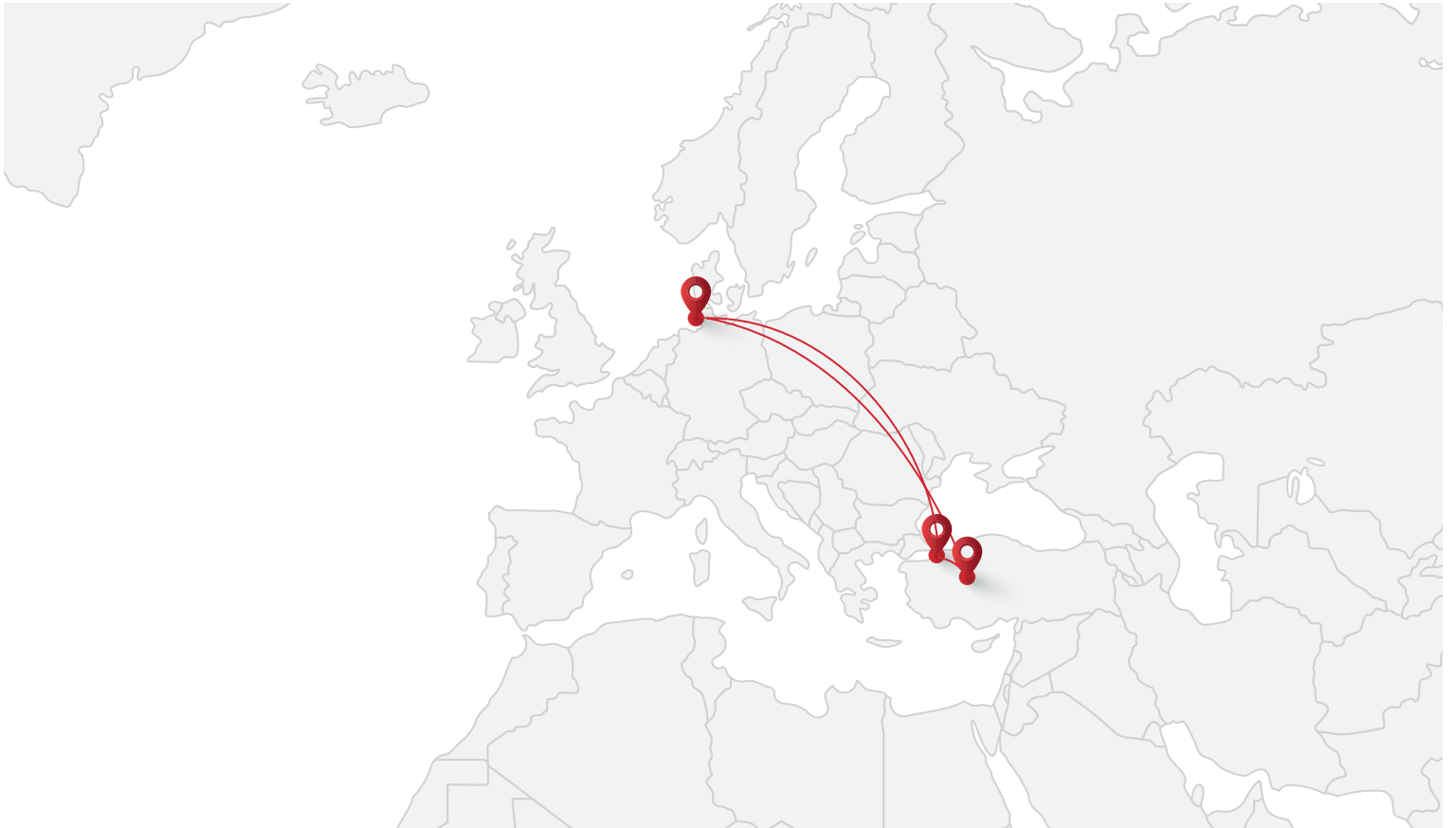
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ticemlabs, is a company that directs the sector in the field of building materials in a very short time and attracts attention with its continuously developing and innovative aspect. In order to increase the level of building materials in our country to the level of developed countries, the university transfers its knowledge to the industry and works hard to establish the university-industry bridge in a sound manner.

Well-trained and professional staff who took professional and technical practices can contribute for the development of quality system according to the latest technologies in order to maintain a high quality services which is supported and funded by ticemlabs B.V. National / international standard methods and validated internal methods are applied by qualified personnel which have vowed to comply with legal policies. Traceability of the standards in accordance with the national and international systems is attained; personnel proficiency comparison activities and measurement uncertainty statistics are carried out in order to secure the quality of test results.

Customer samples are tested in a sincere manner and according to the requirements given; actions which contribute to create complaints are prevented. The test results are provided as promised to the customer; trust, equality, impartiality and confidentiality principles and cooperation in accordance with customers are preserved in order to provide continuous improvement.

In this context, it has been ensured that the Quality Manual, Procedures, Instructions and other documents created in the Quality Management System are read, understood and used effectively by all concerned personnel in order to forestall and prevent negative factors affecting the certainty of test results. The top management of our laboratory has committed to implement and continuously improve the Quality Management System in accordance with the ISO / IEC 17025 standard, customer requirements and legal requirements with the contribution of all personnel.



ISTANBUL LAB

ITU Ayazaga Campus Kuzey Yolu ARI 1
Teknokent No:17 Maslak / Istanbul / TURKEY

ANKARA LAB

Emirgazi District No:35/MA
Kahramankazan /Ankara /TURKEY

NETHERLANDS LAB

Jennerstraat 9H, 6718
XS Ede / Netherlands



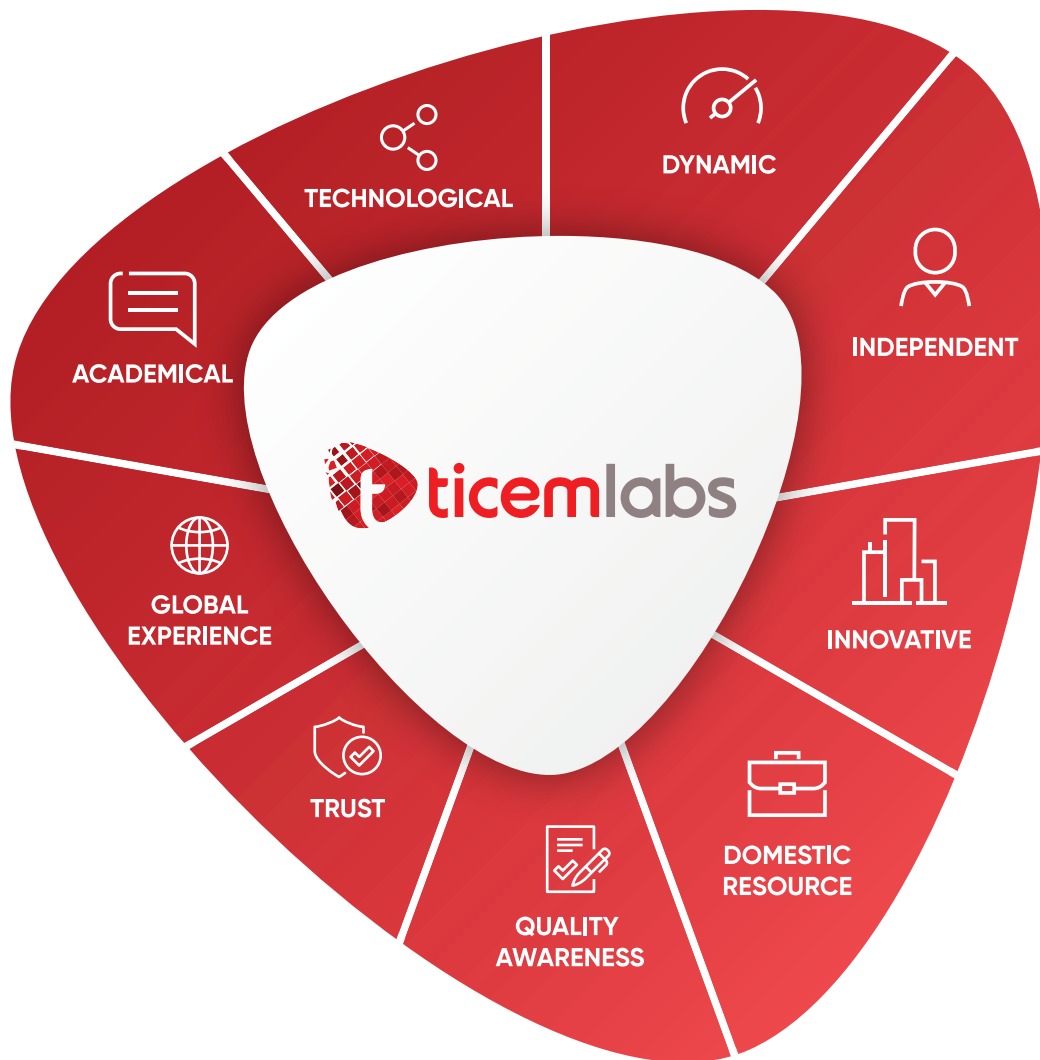
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Safety, Quality, Expert Staff

ticemlabs which was established in 2010 by engineers and academicians who are experts in their fields, continues its services by prioritizing the trust relationship which is one of the most important elements in the building material sector.

”





- ✓ ticemlabs determines the innovations required for the material development work of the material producers and plays a major role in opening the door of business opportunities to its customers in line with these innovations.
- ✓ ticemlabs, which considers people's desire for a more comfortable life, proposes improvements and innovations in this direction to the producers.
- ✓ IAS (International Accreditation Service) , which is one of the leading accreditation organizations in the World, approved ticemlabs, develops and enlarges the scope of the laboratory day by day and demonstrates once again that it is assertive in its sector.
- ✓ ticemlabs provides creative solutions for producers and consumers by interpreting the materials from the university-industry framework thanks to the academicians and engineers who are experts in their fields.
- ✓ ticemlabs ensures that the developed products or systems can easily appear in the international market with its accreditations and approved reports.
- ✓ ticemlabs, which accelerates the development phase of the products with the reports it publishes, brings the time to market to the forefront and plays a major role in reaching the new solutions in a safe and secure manner.





“

General Tests

ticemlabs has a wide archive of information and documentation about national or international standards and regulations and provides a wide range of reliable services with its know-how.

”



ACOUSTIC TESTS

Nowadays, studies on the negative effects of noise pollution on people and life have increased awareness on this issue. The building owners give importance to the comfort of their buildings in terms of acoustic qualities. Therefore, the effect of building materials on acoustic insulation and its measurement become more and more important.

ticemlabs provides technical services for the determination of sound reduction indexes of building materials and systems and the development of the features of these systems with its high-tech measuring systems, its expert team and the measuring rooms in accordance with EN 10140-2 standard.

The Experiments Made

- ✓ Determination of sound transmission loss value
- ✓ Determination of sound absorption coefficient
- ✓ Determination of sound intensity
- ✓ Vibration tests



What Is Tested?

- ✓ Sidings
- ✓ Partition wall materials
- ✓ Gypsum or cement based sheets
- ✓ Mill-mixed plaster and mortars
- ✓ Door, window and its profiles
- ✓ Sandwich panels
- ✓ Noise shields
- ✓ EPS
- ✓ XPS
- ✓ Glass wool
- ✓ Stone wool
- ✓ Wood wool
- ✓ Rubber
- ✓ Vinyl
- ✓ Fibrous materials
- ✓ Ceiling floors
- ✓ Wallcoverings





DURABILITY TESTS

The most important factor determining the life of the structures is the durability of the materials that make up the structure. Experiments of building materials to measure time-dependent performance losses under ambient conditions, determine the durability of these materials. In this context, the environmental effects on the material are simulated and tested in laboratory in accordance with the relevant standards and intended use. These tests can be performed not only on the material these tests also can be performed for determining the performance of systems formed by the combination of more than one material. ticemlabs test the durability of materials in freezing, thawing, moisture, UV, acidic, basic environments in accordance with the directives of the relevant standard of the process is carried out by cycle tests.

The Experiments Made

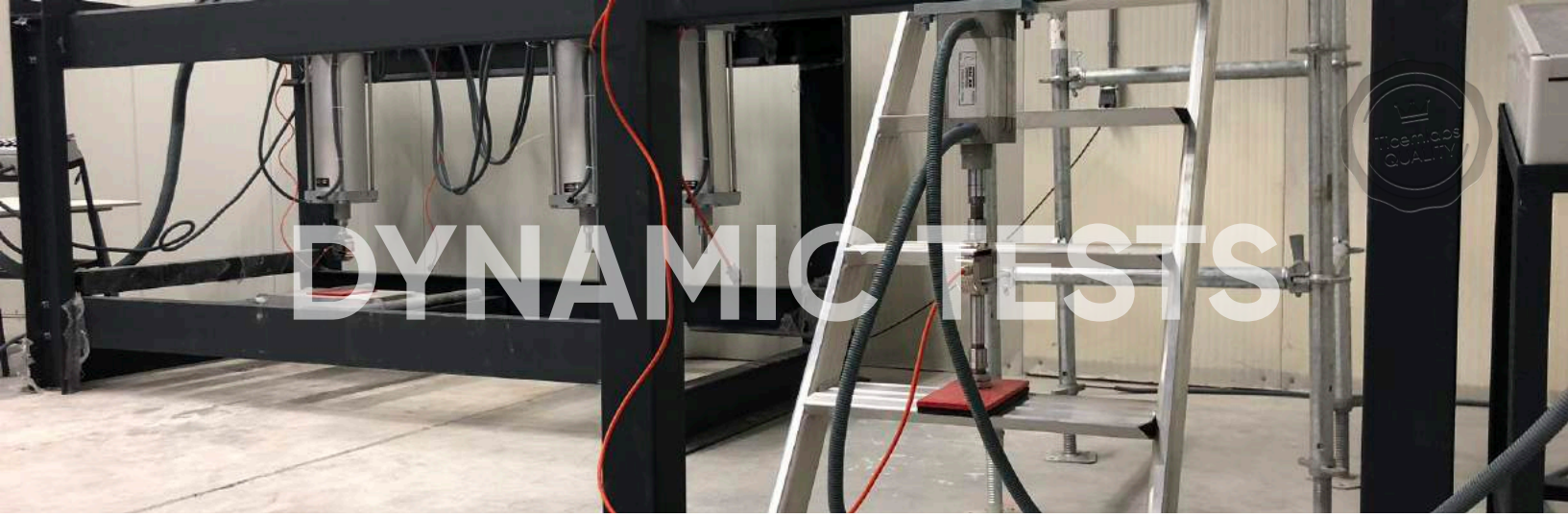
- ✓ Sulphate attack tests
- ✓ Reaction to fire test
- ✓ Thermal ageing test
- ✓ Water absorption test
- ✓ Gloss determination
- ✓ Temperature/humidity effect tests
- ✓ Freeze-thaw resistance tests
- ✓ Chlorine permeability test
- ✓ Expansion-shrinkage test
- ✓ Surface cleanability tests
- ✓ Acid and salt effect tests
- ✓ Pressurised/unpressurised permeability tests
- ✓ Determination of water vapor permeability
- ✓ ASR tests
- ✓ Capillarity test
- ✓ Unit weight test
- ✓ Shrinkage test
- ✓ Creep test
- ✓ Carbonation tests
- ✓ Abrasion tests



What Is Tested?

- ✓ Sidings
- ✓ Partition wall materials
- ✓ Gypsum or cement based sheets
- ✓ Mill-mixed plaster and mortars
- ✓ Door, window and its profiles
- ✓ Sandwich panels
- ✓ Noise shields
- ✓ Thermal insulating boards
- ✓ Chemical anchors
- ✓ Concrete
- ✓ Steel
- ✓ Wood
- ✓ Stone
- ✓ Aggregate
- ✓ Paint
- ✓ Sheetings
- ✓ Glass
- ✓ Polymer





Dynamic tests are experiments to determine the behavior of building materials and systems under repeated load effects. Dynamic tests are carried out intensively on the structural elements under the effect of repeated loads depending on the purpose and place of use. ticemlabs test mechanical and chemical dowels, temporary work equipments exposed to repetitive loads of wind, dynamic materials such as bridges, viaducts, airports, railways, with high technology, frequency and load controlled systems and reports with expert staff.

The Experiments Made

- ✓ Load tests
- ✓ Bearing capacity tests
- ✓ Vibration tests



What Is Tested?

- ✓ Chemical anchors
- ✓ Mechanical anchors
- ✓ Sidings
- ✓ Scaffoldings
- ✓ Waterproofing materials for under the railway
- ✓ Bridge seats





FIRE TESTS

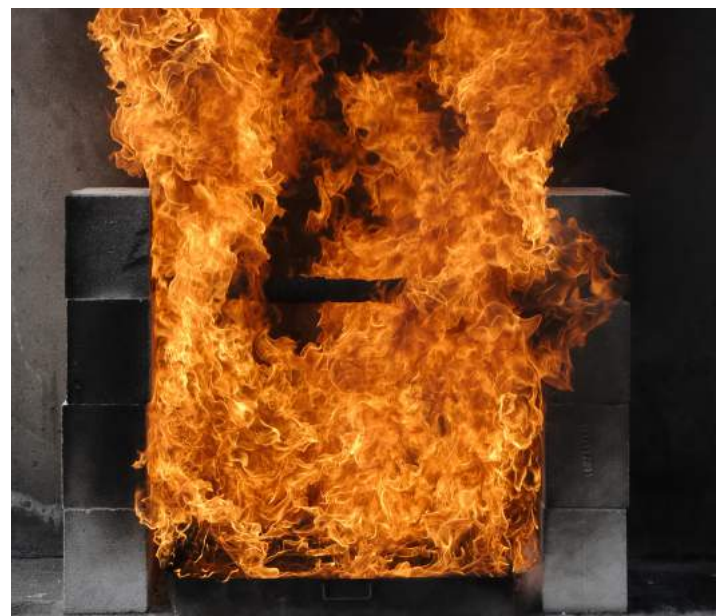


In fires occurring in buildings, the behavior of the materials used in the building under fire is extremely important in terms of life safety. With increasing awareness and legal requirements, the certifying of fire behavior of building materials has become a fundamental necessity.

ticemlabs, which works in the development and certification of construction materials, performs the tests and reports the experiments according to the national and international standards with its high technology equipments and expert staff.

The Experiments Made

- ✓ Non-combustibility test
- ✓ Calorific potential test
- ✓ Single-flame source test
- ✓ Flammability test



What Is Tested?

- ✓ Sidings
- ✓ Partition wall materials
- ✓ Gypsum or cement based sheets
- ✓ Mill-mixed plaster and mortars
- ✓ Door, window and its profiles
- ✓ Sandwich panels
- ✓ Noise shields
- ✓ Thermal insulating boards
- ✓ Insulation mortars
- ✓ Paints





IN-SITE TESTS

In-site tests are the tests of building materials and systems on site. In this context, the performance of the material in the place where the material is used is determined. In field tests, it is possible to test the systems in 1-1 scale besides the materials. The experiments like wind tests in facade coatings, water impermeability tests of glass, windows, doors and joinery, in-situ tensile tests of mechanical and chemical anchors, in-situ slip and flat-jack tests to determine the mechanical properties of masonry walls are conducted and reported according to required the national or international standards by ticemlabs' high technology equipments and expert staff.

The Experiments Made

- ✓ Sliding test in place
- ✓ Determination of elasticity modulus of the wall with Flat-Jack
- ✓ In-site tensile tests
- ✓ Water impermeability test of façade
- ✓ Wind load test
- ✓ Destructive / non-destructive tests to determine building performance
- ✓ Determination of the effect of fire on the building
- ✓ Determination of the damage rate in damaged buildings
- ✓ Dowel cutting / pull-out tests



What Is Tested?

- ✓ Sidings
- ✓ Mechanical anchors
- ✓ Chemical anchors
- ✓ Glass
- ✓ Window
- ✓ Masonry walls



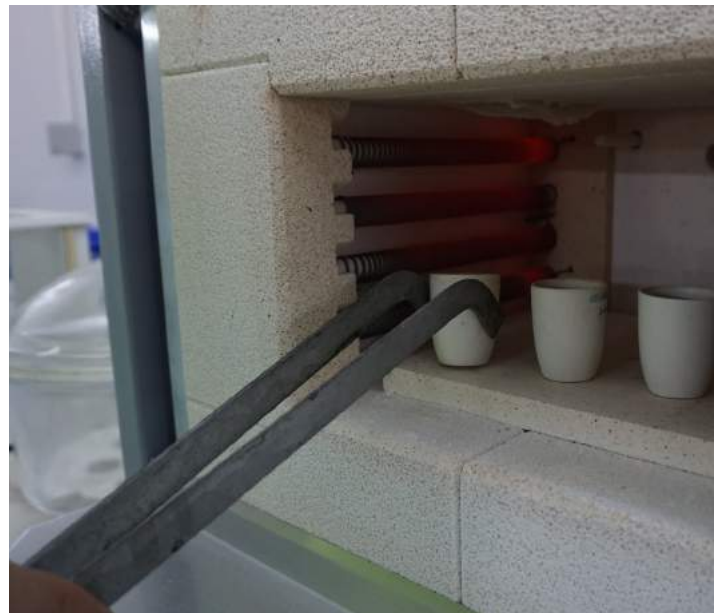
MATERIAL CHARACTERIZATION TESTS OF HISTORICAL BUILDINGS

ticemlabs determines the mechanical properties of the buildings by means of semi-destructive and nondestructive methods in the field or laboratory, in accordance with the texture and needs of the historical structures with its expert staff, technological facilities, for the purpose of preserving and strengthening the historical structures. It contributes to the restoration in accordance with the original characteristics of the structure by characterizing of the mortars belong to the historical building.

ticemlabs carries out all the experimental studies required by the historical buildings with its self-developed test systems, which are accepted academically by the architects and engineers consist of expert academicians at international scale.

The Experiments Made

- ✓ Material characterization
- ✓ Compression test
- ✓ Sliding test in-field
- ✓ Sliding test in-laboratory
- ✓ Determination of elasticity modulus of the wall with flat-jack
- ✓ Determination of elasticity modulus of the wall in laboratory
- ✓ Damage map of the bearing elements of wooden structures



What Is Tested?

- ✓ Brick
- ✓ Stone
- ✓ Wood
- ✓ Mortar
- ✓ Plaster
- ✓ Ceramic





MECHANICAL TESTS

Mechanical tests are experiments to determine the basic engineering properties of materials under static loads. In this context, the experiments like compression, tension, bending, determination of modulus of elasticity etc. are conducted and reported according to required the national or international standards by ticemlabs' high technology equipments and expert staff.

The Experiments Made


- ✓ Tension-compression tests
- ✓ Bending tests
- ✓ Impact tests
- ✓ Sliding tests
- ✓ Determination of elasticity module / shear module
- ✓ Fracture toughness test
- ✓ Schmidt test
- ✓ Splitting tests
- ✓ Ultrasound test
- ✓ Determination of fracture energy (Bonding)
- ✓ Determination of poisson's ratio
- ✓ Hardness tests (Rockwell, Brinell, Vickers, Micro-hardness)



What Is Tested?

- | | |
|----------------------------------|--------------------|
| ✓ Sidings | ✓ Chemical anchors |
| ✓ Partition wall materials | ✓ Concrete |
| ✓ Gypsum or cement based sheets | ✓ Steel |
| ✓ Mill-mixed plaster and mortars | ✓ Stone |
| ✓ Door, window and its profiles | ✓ Wood |
| ✓ Sandwich panels | ✓ Glass |
| ✓ Noise shields | ✓ Brick |
| ✓ Thermal insulating board | ✓ Tile |



A photograph showing several glass beakers on a metal rack inside a laboratory. The beakers contain white, granular material. A watermark for 'ticemlabs QUALITY' is visible in the top right corner.

PHYSICAL TESTS

The physical properties of the material are significant in defining the specific characteristics of the building materials. For this purpose, experiments such as water absorption, water vapor permeability, capillary water permeability, density, unit volume weight determination, porosity or compactness determination are carried out according to desired national or international standards and reported by ticemlabs expert staff.

The Experiments Made

- ✓ Determination of unit weight
- ✓ Determination of density
- ✓ Determination of specific weight
- ✓ Determination of porosity
- ✓ Determination of compactness
- ✓ Determination of water absorption and degree of saturation
- ✓ Determination of water permeability and capillarity
- ✓ Thermal expansion tests
- ✓ Thermal conductivity tests



What Is Tested?

- ✓ Sidings
- ✓ Partition wall materials
- ✓ Gypsum or cement based sheets
- ✓ Mill-mixed plaster and mortars
- ✓ Door, window and its profiles
- ✓ Sandwich panels
- ✓ Noise shields
- ✓ Thermal insulating board
- ✓ Chemical anchors





SYSTEM TESTS



System tests are the experiments in which multiple components are combined and carry the effects on them as a whole, are tested on a laboratory scale. Experiments are carried out according to the principles of the relevant national or international standards on the scale of the effects that the materials are exposed to on a real scale. In this context, wind tests on exterior wall cladding and temporary work equipment, water permeability tests, loading tests on formwork temporary work equipment can be carried out by ticemlabs.

The Experiments Made

- ✓ Under wind load (Compression/absorption)
- ✓ Under horizontal load
- ✓ Under vertical load
- ✓ Under impact effect

Structural system tests can be carried out.



What Is Tested?

- ✓ Façade systems
- ✓ Formwork scaffoldings
- ✓ Exterior scaffoldings
- ✓ Aluminium systems
- ✓ Steel systems
- ✓ Wedged/Bolted systems
- ✓ Welded systems
- ✓ Roof systems
- ✓ Scaffolds



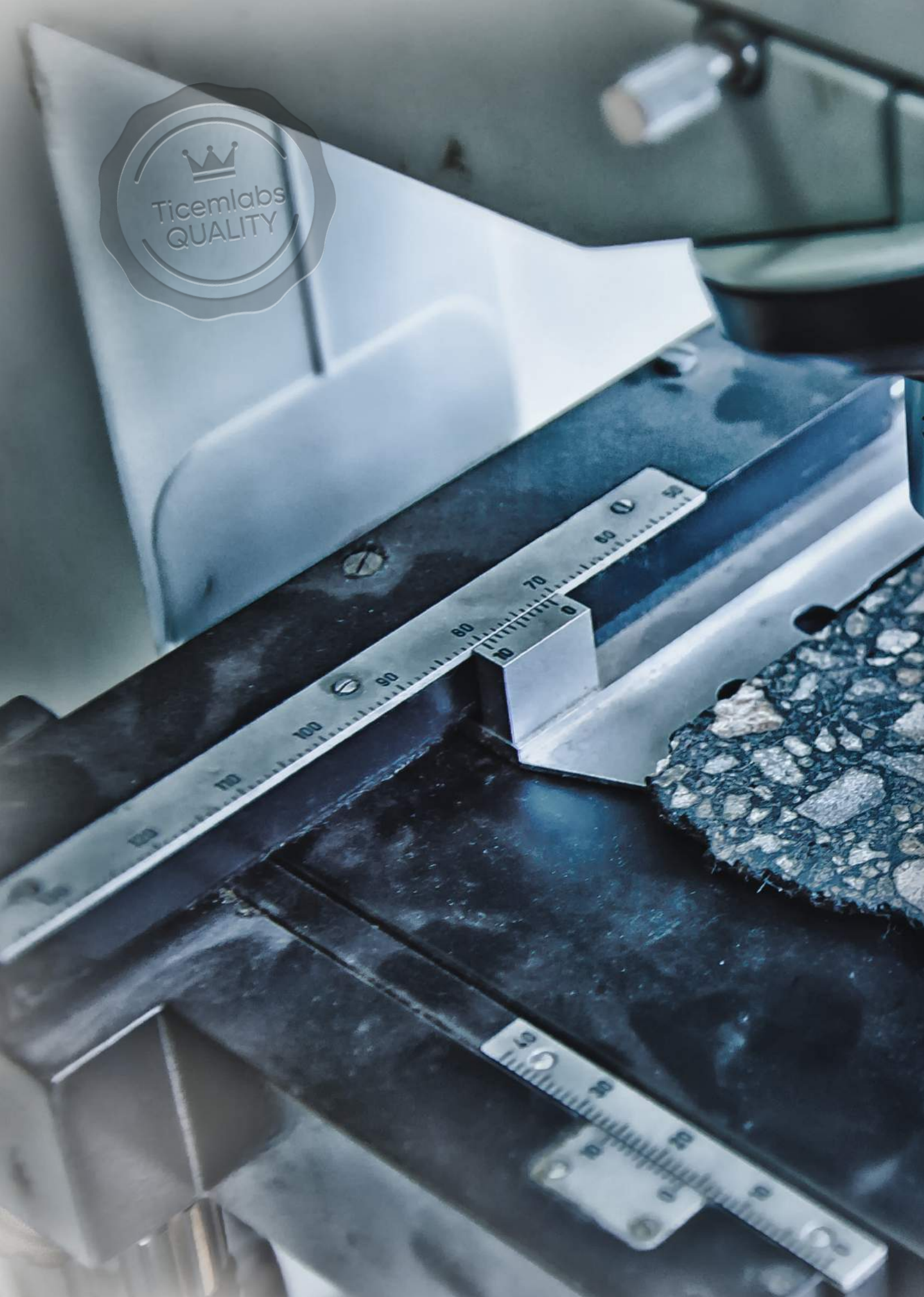


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Global, Academic, Reliable

ticemlabs plays a complementary role for new products and systems by combining the manufacturer and the consumer in a common denominator in the development of new materials or in improving the performance of the materials produced.

”





“

Product Tests

Thanks to the reports published by ticemlabs, it increases the added value of the materials tested and ensures that tested materials always one step ahead in the market.

”



CONCRETE TESTS

Concrete; is one of the most used materials in the world after water. Because of being economic, components are abundant in nature, high strength and durability, being low-cost, workability, fire resistance, low energy requirements in production, environmental friendly, engineering features that allow the construction of aesthetic structures and many more features, it is a non-alternative building element. However, like all construction elements, a number of tests are performed to ensure that it performs the necessary performance. ticemlabs conducts and reports concrete tests on the basis of relevant standards thanks to its experience and knowledge.

The Experiments Made

- ✓ Slump test
- ✓ Ve-be test
- ✓ Determination of degree of compactibility
- ✓ Flow-table test
- ✓ Determination of density
- ✓ Determination of air content
- ✓ Slump flow test
- ✓ V funnel test
- ✓ L box test
- ✓ Sieve segregation test
- ✓ J-ring test
- ✓ Determination of compressive strength
- ✓ Determination of bending strength
- ✓ Determination of splitting tensile strength
- ✓ Determination of density of concrete
- ✓ Determination of freeze-thaw resistance
- ✓ Determination of chloride resistance
- ✓ Determination of elasticity modulus
- ✓ Determination of penetration depth of water



CONCRETE TESTS

Concrete Test Standards

- ✓ EN 12350-1: Testing fresh concrete - Part 1: Sampling
- ✓ EN 12350-2: Testing fresh concrete - Part 2: Slump-test
- ✓ EN 12350-3: Testing fresh concrete - Part 3: Vebe test
- ✓ EN 12350-4: Testing fresh concrete - Part 4: Degree of compactability
- ✓ EN 12350-5: Testing fresh concrete - Part 5: Flow table test
- ✓ EN 12350-6: Testing fresh concrete - Part 6: Density
- ✓ EN 12350-7: Testing fresh concrete - Part 7: Air content - Pressure methods
- ✓ EN 12350-8: Testing fresh concrete - Part 8: Self-compacting concrete - Slump-flow test
- ✓ EN 12350-9: Testing fresh concrete - Part 9: Self-compacting concrete - V-funnel test
- ✓ EN 12350-10: Testing fresh concrete - Part 10: Self-compacting concrete - L box test
- ✓ EN 12350-11: Testing fresh concrete - Part 11: Self-compacting concrete - Sieve segregation test
- ✓ EN 12350-12: Testing fresh concrete - Part 12: Self-compacting concrete - J -ring test
- ✓ EN 12390-1: Testing hardened concrete - Part 1: Shape, dimensions and other requirements for specimens and moulds
- ✓ EN 12390-2: Testing hardened concrete - Part 2: Making and curing specimens for strength tests
- ✓ EN 12390-3: Testing hardened concrete - Part 3: Compressive strength of test specimens
- ✓ EN 12390-4: Testing hardened concrete- Part 4: Compressive strength- Specification for testing machines
- ✓ EN 12390-5: Testing hardened concrete - Part 5: Flexural strength of test specimens
- ✓ EN 12390-6: Testing hardened concrete - Part 6: Tensile splitting strength of test specimens
- ✓ EN 12390-7: Testing hardened concrete - Part 7: Density of hardened concrete
- ✓ EN 12390-8: Testing hardened concrete - Part 8: Depth of penetration of water under pressure
- ✓ EN 12390-9: Testing hardened concrete - Part 9: Freeze-thaw resistance – Scaling
- ✓ EN12390-11: Testing hardened concrete - Determination of the chloride resistance of concrete, unidirectional diffusion
- ✓ EN 12390-13: Testing hardened concrete - Determination of secant modulus of elasticity in compression



DOWEL TESTS

Dowels are commonly used in the building materials industry to fix a material. Dowels which have different working principles according to their types can be classified as chemical or physical. ticemlabs tests the dowels which are subject to different test principles according to their field of application with the required equipment and expert staff in accordance with national or international standards.

The Experiments Made

- ✓ Pull-out test on crack-free concrete
- ✓ Pull-out test on cracked concrete
- ✓ Shear tests
- ✓ Torc tests
- ✓ Longitudinal loading tests

Anchor Test Standards

- ✓ EAD 330232-00-0601: Metal Anchors Used in Concrete - Part 1: General
 - ✓ EAD 330232-00-0601: Metal Anchors Used in Concrete - Part 2: Torc Controlled Expansion Anchor
 - ✓ EAD 330232-00-0601: Metal Anchors Used in Concrete - Part 3: Undercut Anchors
 - ✓ EAD 330232-00-0601: Metal Anchors Used in Concrete - Part 4: Deformation Controlled Expansion Anchors
 - ✓ EAD 330232-00-0601: Metal Anchors Used in Concrete - Part 5: Bonded Anchors
 - ✓ EAD 330232 and EOTA TR048: Metal Anchors Used in Concrete Annex A: Test Details, Annex B: Tests for Acceptable Service Conditions - Detailed Information
 - ✓ EN 1992-4: Metal Anchors Used in Concrete - Design Methods for Anchors
 - ✓ EOTA TR 049: Metal Anchors Used in Concrete - Annex E: Evaluation of Metal Anchors Under Seismic Load
 - ✓ EAD 330747-00-0601: Metal Anchors Used in Concrete - Part 6: Multi-use anchors for non-structural applications
- Standard Test Methods for Strength of Anchors in Concrete Elements ASTM E488 / E488M - 18:



FACADE TESTS



Nowadays, the facade features of buildings are extremely important in terms of livability. ticemlabs tests the properties of materials and systems used in facades such as permeability and durability, with its special equipment and professional staff.

The Experiments Made

- ✓ Water tightness test
- ✓ Air permeability test
- ✓ Waterproofing tests
- ✓ Resistance to wind load tests
- ✓ Impact tests
- ✓ Resistance to repeated opening and closing tests
- ✓ Load tests

Facade Test Standards

- ✓ EN 13051: Curtain walling - Watertightness - Site test
- ✓ EN 12153: Curtain walling - Air permeability - Test method
- ✓ EN 12155: Curtain walling - Watertightness - Laboratory test under static pressure
- ✓ EN 12179: Curtain walling - Resistance to wind load - Test method
- ✓ EN 13050: Curtain Walling - Watertightness - Laboratory test under dynamic condition of air pressure and water spray
- ✓ EN 14019: Curtain Walling - Impact resistance - Performance requirements
- ✓ EN 1026: Windows and doors - Air permeability - Test method
- ✓ EN 1027: Windows and doors - Water tightness - Test method
- ✓ EN 12211: Windows and doors - Resistance to wind load - Test method
- ✓ EN 13049: Windows - Soft and heavy body impact - Test method, safety requirements and classification
- ✓ EN 1191: Windows and doors - Resistance to repeated opening and closing - Test method
- ✓ EN 14608: Windows - Determination of resistance to racking
- ✓ EN 14609: Windows - Determination of the resistance to static torsion
- ✓ EN 947: Hinged or pivoted doors - Determination of the resistance to vertical load





MACROSYNTHETIC AND STEEL FIBER TESTS

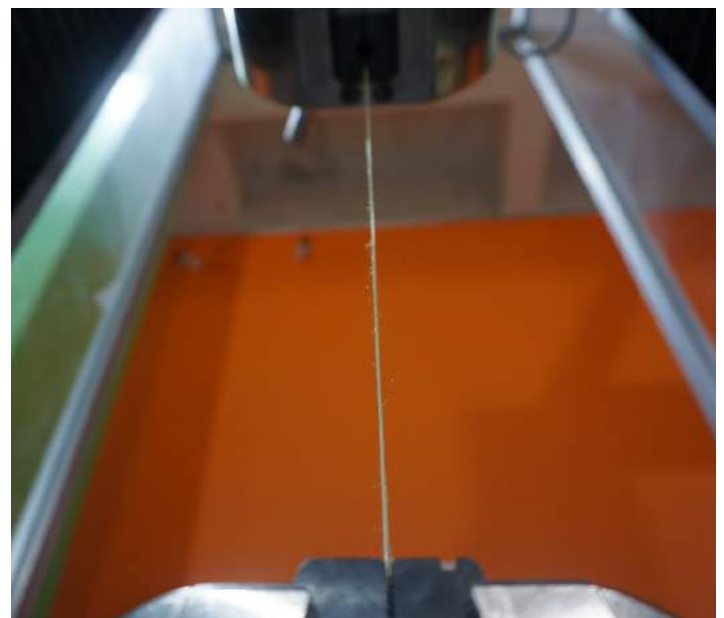
Designed to improve the performance, durability and aesthetic appearance of buildings and infrastructures throughout their lifespan, fibers are used in many different areas from floor systems to concrete and mortar admixtures, from insulation systems to cement based mortars, from ceramic adhesives to technical adhesives. ticelabs carries out all experiments on macrosynthetic or steel fibers based on national or international standards.

The Experiments Made

- ✓ Fire tests
- ✓ Tensile strength test
- ✓ Determination of elasticity of modulus
- ✓ Determination of bending strength
- ✓ Experiments carried out on EFNARC plates
- ✓ Determination of compressive strength

Macrosynthetic and Steel Fiber Test Standards

- ✓ ASTM E119: Standard Test Methods for Fire Tests of Building Construction and Materials
- ✓ EN 14488-3: Testing sprayed concrete - Flexural strengths (first peak, ultimate and residual) of fibre reinforced beam specimens
- ✓ EN 14488-5: Testing sprayed concrete - Determination of energy absorption capacity of fibre reinforced slab specimens
- ✓ EN 14488-7: Testing sprayed concrete - Fibre content of fibre reinforced concrete





MANHOLE TESTS

Manholes, which are frequently used in infrastructure works, are subjected to a series of tests to ensure that they perform the necessary performance. ticemlabs carries out all experiments on manholes based on national or international standards with its ready-to-use test systems and its expert team,

The Experiments Made

- ✓ Permanent deformation test
- ✓ Load bearing capacity test
- ✓ Tilt test
- ✓ Vertical pull-out test
- ✓ Determination of slip resistance without polish

Manhole Test Standards

- ✓ EN 124-1: Gully tops and manhole tops for vehicular and pedestrian areas - Definitions, classification, general principles of design, performance requirements and test methods
- ✓ EN 124-2: Gully tops and manhole tops for vehicular and pedestrian areas - Gully tops and manhole tops made of cast iron
- ✓ EN 124-3: Gully tops and manhole tops for vehicular and pedestrian areas - Gully tops and manhole tops made of steel or aluminium alloys
- ✓ EN 124-4: Gully tops and manhole tops for vehicular and pedestrian areas - Gully tops and manhole tops made of steel reinforced concrete
- ✓ EN 124-5: Gully tops and manhole tops for vehicular and pedestrian areas - Gully tops and manhole tops made of composite materials
- ✓ EN 124-6: Gully tops and manhole tops for vehicular and pedestrian areas - Gully tops and manhole tops made of polypropylene (PP), polyethylene (PE) or unplasticized poly(vinyl chloride) (PVC-U)



MILF-MIXED PLASTER AND MORTAR TESTS

Nowadays, building owners attach great importance to maximize the sustainability and performance of their buildings. In this respect, construction chemicals are used to contribute to these properties. Milf-mixed plasters and mortars used in the buildings are evaluated with a number of tests in order to achieve the desired performance in terms of their mechanical and physical properties. ticemlabs conducts the experiments of construction chemicals with its professional staff and advanced technology equipments based on accepted standards.

The Experiments Made

- ✓ Sieve analysis test
- ✓ Determination of consistence with flow-table
- ✓ Determination of unit volume / mass
- ✓ Determination of air space ratio
- ✓ Determination of workability and correction time
- ✓ Determination of compressive and bending strength
- ✓ Determination of bonding strength
- ✓ Determination of water absorption coefficient
- ✓ Determination of chloride content
- ✓ Determination of water vapor permeability

Milf-mixed Plaster and Mortar Test Standards

- ✓ EN 1015-1: Methods of test for mortar for masonry - Determination of particle size distribution (by sieve analysis)
- ✓ EN 1015-2: Methods of test for mortar for masonry - Bulk sampling of mortars and preparation of test mortars
- ✓ EN 1015-3: Methods of test for mortar for masonry - Determination of consistence of fresh mortar (by flow table)
- ✓ EN 1015-4: Methods of test for mortar for masonry - Determination of consistence of fresh mortar (by plunger penetration)
- ✓ EN 1015-6: Methods of test for mortar for masonry - Determination of bulk density of fresh mortar
- ✓ EN 1015-7: Methods of test for mortar for masonry - Determination of air content of fresh mortar
- ✓ EN 1015-9: Methods of test for mortar for masonry - Determination of workable life and correction time of fresh mortar
- ✓ EN 1015-10: Methods of test for mortar for masonry - Determination of dry bulk density of hardened mortar
- ✓ EN 1015-11: Methods of test for mortar for masonry - Determination of flexural and compressive strength of hardened mortar
- ✓ EN 1015-12: Methods of test for mortar for masonry - Determination of adhesive strength of hardened rendering and plastering mortars on substrates
- ✓ EN 1015-17: Methods of test for mortar for masonry - Determination of water-soluble chloride content of fresh mortars
- ✓ EN 1015-18: Methods of test for mortar for masonry - Determination of water absorption coefficient due to capillary action of hardened mortar
- ✓ EN 1015-19: Methods of test for mortar for masonry - Determination of water vapour permeability of hardened rendering and plastering mortars





RAISED FLOOR TESTS

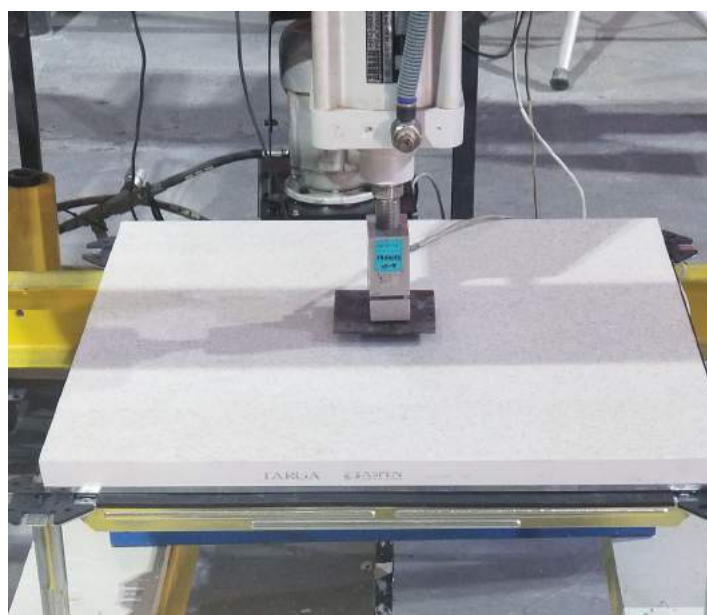
Nowadays, building owners attach great importance to visual adaptation along with technical competence of buildings. Raised floors, which are used to create the volume of service required for wiring heating and cooling systems in buildings, are also visually advantageous. ticemlabs can perform the required performance tests of the raised floors with advanced technology systems and report with its expert staff.

The Experiments Made

- ✓ Static load test in center
- ✓ Static load test at edge center
- ✓ Static load test on diagonal at 70 mm distance from foot edge
- ✓ Vertical load
- ✓ Permanent deformation test
- ✓ Impact test (Hard body)
- ✓ Impact test (Soft body)

Raised Floor Test Standards

- ✓ EN 12825: Raised access floors



SANDWICH PANEL TESTS

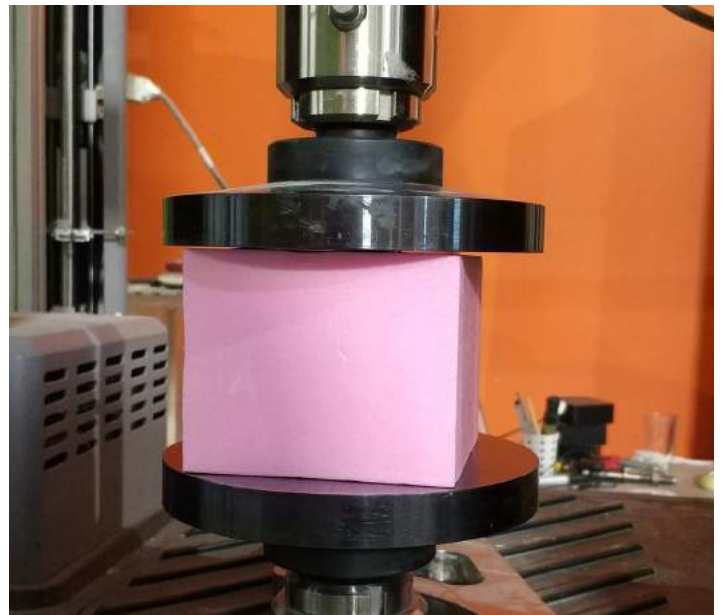
Sandwich panels used as coating material in roof, facade, interior partitions or cold storage; In addition to its fast installation, high insulation properties and high carrying capacity, it stands out in architectural preferences. Sandwich panels features like fill material, thickness etc. are separated from each other according to the desired performance. ticemlabs carries out the performance tests of sandwich panels under TSE supervision in accordance with the principles of the relevant standard.

The Experiments Made

- ✓ Determination of the shear strength and modulus of the filling material
- ✓ Determination of shear strength after long-term loading
- ✓ Determination of reduced shear strength
- ✓ Determination of bending moment capacity and stiffness
- ✓ Determination of creep / spread coefficient
- ✓ Determination of bending moment capacity through a central support
- ✓ Determination of adhesion between surfaces and pre-fabricated core material (Wedge test)

Sandwich Panel Test Standards

- ✓ EN 14509: Self-supporting double skin metal faced insulating panels - Factory made products - Specifications.





Structures designed with the existing design methods are not destroyed against earthquakes and there is no loss of life, but this performance is not sufficient for buildings such as hospitals, fire brigades, viaducts and transportation terminals. These structures should be ready for use after the earthquake immediately and be able to serve. Seismic isolator systems developed for this purpose are subjected to a number of tests to determine the desired performance before the application phase.

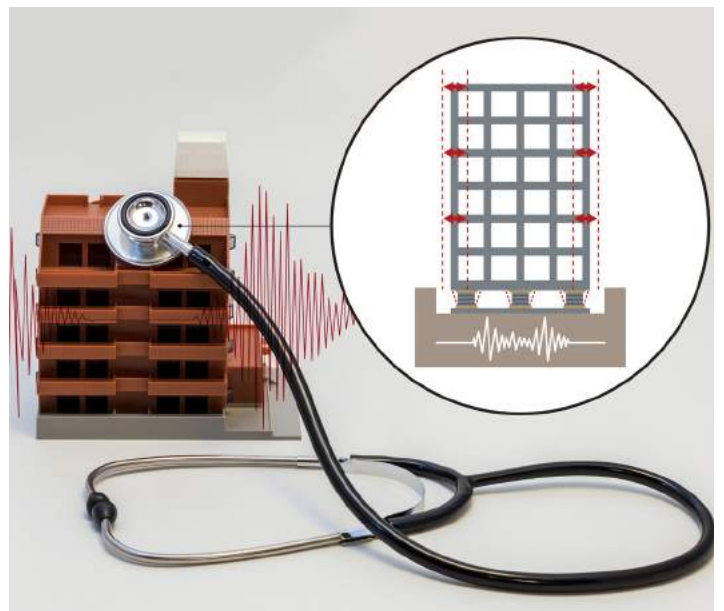
The Experiments Made

- ✓ Bearing capacity test
- ✓ Dynamic tests
- ✓ Friction resistance test
- ✓ Siesmic tests
- ✓ Preloading/Postloading tests
- ✓ Service test



Seismic Isolator Test Standards

- ✓ EN 15129: Anti-seismic devices





TEMPORARY WORK EQUIPMENTS TESTS

Temporary work equipment are used frequently in the construction area and intended to minimize the risk of accidents. In this context, ticemlabs is able to test and report the temporary work equipments under wind, horizontal, vertical or impact loads according to the required standards with its high-tech equipment and specialized team.

The Experiments Made

- ✓ Prop test
- ✓ Scaffolding bearing capacity tests
- ✓ Vibration test
- ✓ Wheel brake test
- ✓ Wheel vertical deformation test
- ✓ Stiffness test in completed tower scaffolding
- ✓ Temporary edge protection barrier loading tests

Temporary Work Equipments Test Standards

- ✓ EN 1004: Mobile access and working towers made of prefabricated elements - Materials, dimensions, design loads, safety and performance requirements
- ✓ EN 1065: Adjustable telescopic steel props - Product specifications, design and assessment by calculation and tests
- ✓ EN 13374: Temporary edge protection systems - Product specification - Test methods
- ✓ EN 12813: Temporary works equipment - Load bearing towers of prefabricated components - Particular methods of structural design
- ✓ EN 12810-1: Facade scaffolds made of prefabricated components - Product specifications
- ✓ EN 12810-2: Facade scaffolds made of prefabricated components - Particular methods of structural design
- ✓ EN 12811-1: Temporary works equipment - Scaffolds - Performance requirements and general design
- ✓ EN 12811-2: Temporary works equipment - Information on materials
- ✓ EN 12811-3: Temporary works equipment - Load testing
- ✓ EN 12811-4: Temporary works equipment - Protection fans for scaffolds - Performance requirements and product design





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