

**KAUNAS UNIVERSITY OF TECHNOLOGY
BUILDING MATERIALS AND STRUCTURES RESEARCH CENTRE**

Studentų g. 48, Radvilėnų pl. 19, Kaunas

**SCOPE OF ACCREDITATION
FLEXIBLE***

Name of test / sample object	Test / trial components, parameters or characteristics	Mark, section, item of the method document (where applicable)	Method type, principle and/or used equipment (where applicable))
CONCRETE TECHNOLOGY LABORATORY, Studentų g. 48, Kaunas			
1. Aggregates			
Sand, gravel, crushed stone, mixtures, primers	Sampling	LST EN 932-1:2001	From the bunker, from the piles
	Granulometric composition	LST EN 933-1:2012	Washing and sieving or dry sieving
	Flakiness index	LST EN 933-3:2012	Sieving through bar sieves
	Shape index	LST EN 933-4:2008	Measurement with a special gauge
	Bulk density and voids	LST EN 1097-3:2002, except the Annex A	Weighing method, counting method
	Particle density and water absorption	LST EN 1097-6:2022	Wire basket method for aggregate particles from 31.5 mm to 63 mm; pycnometer method for filler particles from 4 mm to 31.5 mm and for filler particles from 0.063 mm to 4 mm
	Resistance to freezing and thawing (loss of mass)	LST EN 1367-1:2007	Determination of mass loss after cyclic freezing and thawing
	MS value	LST EN 1367-2:2010	Magnesium sulfate method
	Los Angeles coefficient LA	LST EN 1097-2:2020	The Los Angeles Method
	Relative amount of crushed particles	LST EN 933-5:2023	Weighing of selected (sorted) particles
	Number of shells (SC)	LST EN 933-7:2002	By selecting shells and shell fragments from coarse aggregates and determining the mass ratio
	Resistance to splitting (C_a)	LST EN 13055:2016 Annex C	Determination of mechanical resistance under compression in a cylinder
	Amount of reactive rocks (copper and flint)	LST 1974:2012 M Annex, M.1 p.	Dissolving reactive rocks in a 10% NaOH solution
	Laboratory test methods to determine density and water content	LST EN 13286-2:2010 + AC:2013	Proctor mold (C) with a 15.0 kg hammer (C)
	Water permeability	LST EN ISO 17892-11:2019	Determination with a cylindrical rigid wall permeability meter under conditions of constant hydrostatic pressure

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	Resistance of freezing and thawing in the presence of salt (mass loss)	LST EN 1367-6:2008	Determination of mass loss after cyclic freezing and thawing in salt solution
2. Mortars			
Construction mortars and their mixtures (excluding lime)	Sampling and preparation	LST EN 1015-2:2001 + A1:2007 LST EN 934-6:2019	Collection of a composite sample and preparation of a composite test sample from it; Production of mortars from dry components and water
	Density	LST EN 1015-10:2002+P:2004+A1:2007	Determining density by measuring dimensions and mass
	Bending and compressive strength	LST EN 1015-11:2020, LST EN 12190:2002, LST EN 13892-2:2003	Bending and/or crushing the specimens until disintegration
	Freezing resistance (compressive strength and/or change in mass)	LST L 1413.11:2005	Determination of compressive strength and/or mass change after cyclic freezing and thawing
	Adhesion strength	LST EN 1542:2000 LST EN 1015-12:2016	Determination of adhesion strength under mechanical loads
	Bulk density	LST EN 1015-6:2002+P:2004+A1:2007, except 7.2.1 p.	Determining density by measuring dimensions and mass
	Moisture; Water soak	LST 1413-10:2024	Determination of moisture and water absorption during drying
3. Concrete mixtures			
Concrete mixtures	Sampling	LST EN 12350-1:2019	Local and composite sampling
	Fluency	LST EN 12350-2:2019	Evaluation of compacted concrete mix consistency by concrete shrinkage distance after cone removal
	Spread t_{500} duration	LST EN 12350-8:2019	Scatter measurement using a standard cone
	Vebe time	LST EN 12350-3:2019	A method for determining the consistency of a concrete mixture using Vebe time
	Compactibility	LST EN 12350-4:2019	Method for determining the consistency of the concrete mixture by determining compaction
	Emissivity value	LST EN 12350-5:2019	Determination of the consistency of the concrete mixture by measuring the spread of the concrete mixture on a flat slab
	Density	LST EN 12350-6:2019	Weighing the compacted concrete mixture in a container of known volume and mass
	Air volume	LST EN 12350-7:2019+AC:2022	Pressure measurement method

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	Flow time	LST EN 12350-9:2010	Determining the flow time using a special V-shaped funnel
	Permeability ratio	LST EN 12350-10:2010	Determination of permeability using a special L-shaped box
	Delaminated part	LST EN 12350-11:2010	Determination of resistance to delamination by sieving
	Permeability; Spreading; Flow time	LST EN 12350-12:2010	Determination of permeability, spread and flow time using a special blocking ring
	Setting time	LST EN 480-2:2007	Determination of the binding duration (beginning and end) with the Viko device
	Water separation	LST EN 480-4:2006	Determining the mass of released water
	Fiber content	LST EN 14721+A1:2007	Method B: determination of fiber content in fresh concrete
4. Hardened concrete			
The specimens of hardened concrete	Making and hardening of specimens for strength determination	LST EN 12390-2:2019	Form preparation and filling, concrete compaction, surface leveling, sample hardening and transportation
	Compressive strength	LST EN 12390-3:2019	Crushing of samples until disintegration; Maximum breaking load 3000 kN
	Density	LST EN 12390-7:2019+AC:2021	Determining density by measuring dimensions and mass
	Tensile strength	LST EN 12390-6:2024	Splitting samples to cracking; Maximum breaking load 3000 kN
	Depth of water penetration	LST EN 12390-8:2019	Measurement of water penetration depth after exposure to water pressure
	Waterproof	LST 1974:2012, O Annex	Measurement by increasing water pressure: 0.2; 0.4; 0.6; 0.8; 1.0; 1.2 MPa
	Shrinkage deformations	LST EN 12390-16:2019	Determination of shrinkage deformations under drying conditions
	Coefficient of chloride migration	LST EN 12390-18:2021+A1:2024	Assessment of the increase in sodium chloride
	Freezing resistance	LST 1428-17:2024; SS 13 72 44:2019	Determination of compressive strength and/or mass change after cyclic freezing and thawing
	Adhesion strength	LST EN 12636:2000; LST EN 13892-8:2003	Determining the adhesion of fresh concrete to the surface (glued liner method)
	Water absorption	LST EN 13369:2024, Annex F	Mass estimation by weighing soaked and dried samples to constant mass
	Moisture	LST EN ISO 12570:2000+A1:2013+A2:2018	Estimation of moisture content by change in mass

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	Volume loss	LST EN 1338:2003+AC:2006+P:2008, Annex H LST EN 13892-3:2015	Measurement of abrasion (wear resistance) by the Bohme method
	Rebound number	LST EN 12504-2:2021	Determination of rebound index using a sclerometer
	Carbonation depth	LST EN 14630:2007	Phenolphthalein method
	Fiber content	LST EN 14721+A1:2007	Determination of fiber content in hardened concrete
	Resistance to carbonization	LST EN 13295:2004	CO ₂ impact assessment
	Tensile strength in bending	LST EN 14651+A1:2007	Bending of specimens to failure
	Alkaline corrosion	ŠBK-1. Alkaline concrete corrosion determination methodology	Determining and visual assessment of expansion deformations
	Capillary absorption	LST EN 480-5:2006	Determination of water absorption by mass change
	Bending strength	LST EN 12390-5:2019	Bending of specimens to failure
	Freezing - thaw resistance	CEN/TS 12390-9:2016	Determination of mass loss and visual assessment of damage after freeze-thaw cycling. Reference method
5. Cement			
Cement specimens	Setting times	LST EN 196-3:2017, except 7 p.	Determining the duration (beginning and end) of bonding with the Viko device
	Compressive strength	LST EN 196-1:2016	Crushing of specimens until disintegration. Maximum breaking load 600 kN
6. Masonry products			
Ceramic (except refractory), silicate, concrete, autoclaved aerated concrete, natural stone masonry products	Dimensions	LST EN 772-16:2011	Measurement of geometric dimensions
	Capillary water absorption	LST EN 772-11:2011+P:2014	Measurement of the mass of water absorbed by the surface of aggregate concrete, autoclaved aerated concrete, artificial and natural stone masonry products over a specified period of time
	Initial rate of water absorption	LST EN 772-11:2011+P:2014	Measurement of the mass of water absorbed by the surface of ceramic masonry products within a specified time
	Compressive strength	LST EN 772-1:2011+A1:2015	Crushing the samples by grinding them or covering them with mortar until disintegration; Maximum breaking load 2500 kN
	Freezing resistance	LST 1428-17:2024	Determination of compressive strength and/or mass change after cyclic freezing and thawing

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7. Concrete elements for landscaping			
Paving blocks, tiles, road and lawn curbs, etc	Sampling	LST EN 1338:2003+AC:2006+P: 2008, Annex B LST EN 1339:2003+AC:2006, Annex B LST EN 1340:2003+AC:2006 Annex B	A random selection of typical products
	Dimensions, visual features	LST EN 1338:2003+AC:2006+P: 2008, Annex C and J LST EN 1339:2003+AC:2006, Annex C and J LST EN 1340:2003+AC:2006, Annex C and J	Geometric assessment of dimensions; Visual assessment
	Flexural strength; Breaking load	LST EN 1339:2003+AC:2006, Annex F LST EN 1340:2003+AC:2006, Annex F	Bending of specimens until disintegration; Maximum breaking load 100 kN
	Split tensile strength; Breaking load	LST EN 1338:2003+AC:2006+P: 2008, Annex F	Splitting samples to disintegration; Maximum breaking load 600 kN
	Water absorption	LST EN 1338:2003+AC:2006, Annex E LST EN 1339:2003+AC:2006, Annex E LST EN 1340:2003+AC:2006, Annex E	Mass estimation by weighing soaked and dried samples to constant mass
	Volume loss	LST EN 1338:2003+AC:2006+P: 2008, Annex H LST EN 1339:2003+AC:2006, Annex H LST EN 1340:2003+AC:2006, Annex H	Measurement of abrasion (wear resistance) by the Bohme method

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	Freezing resistance	LST 1428-17:2024 LST EN 1338:2003+AC:2006+P:2008, Annex D LST EN 1339:2003+AC:2006, Annex D LST EN 1340:2003+AC:2006, Annex D	Determination of compressive strength and/or mass change after cyclic freezing and thawing
8. Natural stone			
Natural stone	Uniaxial compressive strength	LST EN 1926:2007	Crushing of specimens until disintegration Maximum breaking load 3000 kN
	Water absorption	LST EN 13755:2008	Determination of water absorption at atmospheric pressure
9. Concrete and reinforced concrete products			
Products for the installation of foundations, various panels, beams, trusses, stairs, columns, wells, posts, sleepers	Sampling	LST EN 12350-1:2019	Local and composite sampling
	Sampling	LST EN 12504-1:2019+AC:2021	Sampling (core drilling), core inspection and preparation
	Compressive strength	LST EN 12390-3:2019	Crushing of samples until disintegration; Maximum breaking load 3000 kN
	Freezing resistance	LST 1428-17:2024	Determination of compressive strength and/or mass change after cyclic freezing and thawing
	Depth of water penetration	LST EN 12390-8:2019	Measurement of water penetration depth after exposure to water pressure
	Waterproof	LST 1974:2012, Annex O	Measurement by increasing the water pressure: 0.2; 0.4; 0.6; 0.8; 1.0; 1.2 MPa
	Split tensile strength	LST EN 12390-6:2024	Splitting samples to disintegration; Maximum breaking load 600 kN
	Carbonation rate	LST EN 12390-10:2019	Determination of carbonation resistance of concrete at atmospheric carbon dioxide concentration
	Water absorption	LST EN 13369:2024, Annex F	Mass estimation by weighing soaked and dried samples to constant mass
	Density	LST EN 12390-7:2019+AC:2021	Determining density by measuring dimensions and mass
	Volume loss	LST EN 13892-3:2015	Measurement of abrasion (wear resistance) by the Bohme method
CONSTRUCTION RESEARCH LABORATORY, Studentų g. 48, 51367 Kaunas			
10. Concrete and reinforced concrete constructions			
Ceiling and roof panels, multi-purpose	Dimensions	LST EN 13369:2024 Annex G	Assessment of the geometric parameters of the specimen
	Bending moment test	LST EN 13230-2:2016	Bending moment estimation

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columns, stair elements, lintels other than composite and composite lintels, of reinforced concrete sleepers	Fatigue test	LST EN 13230-4:2016+A1:2020	Fatigue assessment by wedge
11. Natural and glued wood constructions			
Natural and glued wood	Moisture	LST EN 13183-1:2003+AC:2004 LST EN 13183-2:2003+AC:2004	Assessment of moisture by drying (up to completely dry sample weight) and electrical resistance measurement method
	Density	LST EN 408:2010+A1:2012 7 p.	Calculating ratio using measured mass and volume
	Bending strength	LST EN 408:2010+A1:2012 19 p.	4-point bending to disintegration
LABORATORY OF POLYMERIC MATERIALS AND COMPOSITES, Radvilėnų pl. 19, 50254 Kaunas			
12. Mineral aggregates and cement			
Sand, gravel, crushed stone, mixtures, primers; cement	Content of sulfate and sulfur	LST EN 1744-1:2009+A1:2013, 10.1 p., 11.1 p., 12 p.	Gravimetry
	Content of chloride	LST EN 1744-1:2009+A1:2013, 7 p.	Volhard method
	Content of alkali	LST EN 196-2:2025, 5.5.19 p.	Flame photometry
	Content of carbon dioxide	LST EN 196-2:2025, 5.5.17 p.	Gravimetry
	Content of light pollutants	LST EN 1744-1:2009+A1:2013, 14.2 p.	Gravimetry
	Content of organic impurities	LST EN 1744-1:2009+A1:2013, 15.1 p.	Visual method
	Methylene blue indicator	LST EN 933-9:2022	Methylene blue test

* One degree of flexibility is defined and applicable for the whole scope of accreditation:
1st degree of flexibility - application of the updated documents of test methods already covered by accreditation or superseding them or application of equivalent documents.

Actual accreditation scope is published on the website at <https://saf.ktu.edu/smktc/>