

**KAUNAS UNIVERSITY OF TECHNOLOGY  
BUILDING MATERIALS AND STRUCTURES RESEARCH CENTRE  
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 (where applicable)
<b>CONCRETE TECHNOLOGY LABORATORY</b> , Studentų st. 48, Kaunas			
<b>1. Aggregates</b>			
Sand, gravel, crushed stone, mixtures, primers	Sampling procedures	LST EN 932-1:2001, 8.7 ch.; 8.8 ch.	From a stationary (not movable) conveyor belt, from packaging, from the bucket conveyor, bucket loader or greifer, from heaps, from wagons, trucks and ships
	Determination of particle size distribution. Sieving method.	LST EN 933-1:2012	Washing and sieving or dry sieving method
	Determination of particle shape: flakiness index	LST EN 933-3:2012	Sieving on bar sieves
	Determination of particle shape: shape index	LST EN 933-4:2008	Measuring with special gauge
	Loose bulk density and voids	LST EN 1097-3:2002 except the Annex A	After dried the aggregate, the dry aggregate poured into standard measuring forms, determination of the weight by weighing and determination of loose bulk density and voids by calculation
	Particle density and water absorption	LST EN 1097-6:2013 7 ch.; 8 ch.; 9 ch. LST 1361.7:1995	Wire basket method, pycnometer method
	Freezing and thawing resistance (weight loss)	<i>LST EN 1367-1:2007</i>	Determination of mass loss after cyclic freezing and thawing
	Determination of thermal properties and resistance to atmospheric effects. Magnesium sulphate method	LST EN 1367-2:2010	Assessment of environmental impact on properties
	Resistance to fragmentation by the Los Angeles method	<i>LST EN 1097-2:2020 5 ch.</i>	The Los Angeles method
	Percentage of crushed and broken surfaces in coarse aggregate particles	LST EN 933-5:2002/A1:2005 LST EN 933-5:2002	Method of weighing the selected (sorted) particles
	Determination of the number of sinks. Relative number of shells in large aggregates	LST EN 933-7:2002	Method of weighing the selected (sorted) particles
	Determination of strength by scalability. Determination of weak particle content.	LST 1476.7:1997 6 ch., 7ch.	Determination of mechanical strength

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	Determination of compressive strength in a cylinder	LST EN 13055:2016, Annex C	Determination of mechanical strength
	Contamination of aggregates with reactive rocks and determination of deformations	LST 1974:2012 Annex M.1	Determination of expansion deformations
	Laboratory test methods to determine control density and water content. Proctor compaction	LST EN 13286-2:2010 7.1 ch., 7.2 ch., 7.4 ch., 7.5 ch., LST EN 13286-2:2010/AC:2013	Proctor compaction method
	Determination of water permeability at constant pressure	LST EN ISO 17892-11:2019	Using a cylindrical permeameter meter and at a constant pressure
<b>2. Mortars</b>			
Construction mortars and their mixtures (excluding lime)	Sampling and preparation procedures	LST EN 1015-2:2001, LST EN 1015-2:2001/A1:2007 LST EN 934-6:2019	Combined and local sampling, preparation of samples according to the instructions of the standards
	Determination of density	LST EN 1015-10:2002, LST EN 1015-10:2002/P:2004, LST EN 1015-10:2002/A1:2007	Determination of density by evaluation of dimensions and mass
	Determination of consistency of fresh mortar (spreading method)	LST EN 1015-3:2002, LST EN 1015-3:2002/A1:2004, LST EN 1015-3:2002/P:2004, LST EN 1015-3:2002/A2:2007	Determination of consistency in the assessment of spreading
	Compressive strength and bending strength	LST EN 1015-11:2020 LST EN 12190:2002 7 p. LST EN 13892-2:2003	Determination of strength by evaluation of mechanical loads
	Determination of resistance to frost	LST L 1413.11:2005	Cyclic freezing and thawing test method
	Determination of adhesion strength	LST EN 1542:2000 LST EN 1015-12:2016	Determination of adhesion strength under mechanical loads
	Determination of bulk density	LST EN 1015-6:2002, except 7.2.1 ch. LST EN 1015-6:2002/A1:2007, LST EN 1015-6:2002/P:2004	Determination of density by evaluation of dimensions and mass
	Determination of moisture and water absorption	LST 1413.10:1997, LST 1413.10:1997/P:2020	Change in moisture and mass of absorbed water
<b>3. Concrete</b>			
Concrete mixtures and concretes	Sampling procedures	LST EN 12350-1:2019, LST EN 1008:2003 5 ch.	Aggregate or local sampling
	Preparation and hardening of samples	LST EN 12390-2:2019	Preparation of test specimens
	Determination of compressive strength	LST EN 12390-3:2019	Assessment of resistance to mechanical impact
	Determination of density	<i>LST EN 12390-7:2019</i> <i>LST EN 12390-7:2019/AC:2021</i>	Determination of density by evaluation of dimensions and mass
	Determination of tensile strength	LST EN 12390-6:2010	Assessment of resistance to mechanical cracking

Name of test / sample object	Test / trial components, parameters or characteristics	Mark, section, item of the method document (where applicable)	Method type, principle (where applicable)
	Determination of water penetration depth under pressure and water impermeability (W)	LST EN 12390-8:2019 LST 1974:2012, O Annex	Determination of water penetration depth under pressure
	Shrinkage deformations	LST EN 12390-16:2019	Determination of shrinkage deformations under drying conditions
	Coefficient of chloride migration	<i>LST EN 12390-18:2021</i>	Evaluation of increase of sodium chloride
	Determination of resistance to frost	LST 1428-17:2016 SS 13 72 44:2019	Method for determining the change in mass and compressive strength of cyclic cooling and thawing
	Determination of adhesion strength	LST EN 12636:2000 5.1.1 ch. LST EN 13892-8:2003	Determination of adhesion strength under mechanical loads
	Determination of slump. Determination of slump-flow.	LST EN 12350-2:2019 LST EN 12350-8:2019	Consistency determination by the method of slump and flow
	Determination of duration of compaction (Vebe)	LST EN 12350-3:2019	Determination of duration of compaction (Vebe)
	Determination of degree of compactability	LST EN 12350-4:2019	Determination of consistency by the compactability method
	Determination of flow	LST EN 12350-5:2019	Determination of consistency by the flow method
	Determination of density of concrete mix	LST EN 12350-6:2019	Weighing of the compacted mixture in a vessel of known volume and mass
	Determination of air content in concrete mix	LST EN 12350-7:2019	Pressure gauge meter method
	Determination of viscosity grade using a V-shaped funnel	LST EN 12350-9:2010	Determination of leakage time using a special V-shaped funnel
	Determination of permeability using an L-shaped box	LST EN 12350-10:2010	Determination of leakage using a special L-shaped box
	Sieve segregation test	LST EN 12350-11:2010	Determination of resistance to delamination by sieving
	Determination of leakage using a locking ring (J-ring)	LST EN 12350-12:2010	Determination of leakage using a special locking ring (J-ring)
	Determination of water absorption	LST EN 13369:2018, Annex F	Estimation of the mass of water absorbed
	Determination of moisture	LST EN ISO 12570:2000, LST EN ISO 12570:2000/A1:2013 LST EN ISO 12570:2000/A2:2018	Estimation of moisture content by change in mass
	Determination of abrasion according to the Bohme method	LST EN 1338:2003 Annex H LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 13892-3:2015	Determination of change in mass and volume after abrasion
	Determination of rebound number	<i>LST EN 12504-2:2021</i>	Evaluation of mechanical properties of surfaces under dynamic loading

Name of test / sample object	Test / trial components, parameters or characteristics	Mark, section, item of the method document (where applicable)	Method type, principle (where applicable)
	Determination of carbonation depth by the phenolphthalein method	LST EN 14630:2007	Determination of the color change corresponding to the change in pH medium
	Determination of fiber content in fresh and hardened concrete	LST EN 14721+A1:2007	Evaluation of fiber mass in samples
	Determination of resistance to carbonation	LST EN 13295:2004	CO <sub>2</sub> impact assessment
	Measurement of tensile bending strength	LST EN 14651+A1:2007	Evaluation of resistance to mechanical bending
	Determination of alkaline corrosion in concrete	ŠBK-1 2016. Method for determination of alkaline concrete corrosion.	Determination of expansion deformations and visual evaluation
	Determination of setting time	LST EN 480-2:2007	Determining the depth of needle penetration
	Determination of water separation	LST EN 480-4:2006	Determination of the mass of water separated
	Determination of capillary absorption	LST EN 480-5:2006	Determination of water absorption by change in mass
<b>4. Cement</b>			
	Determination of setting times	LST EN 196-3:2017, except 7 ch.	Determining the depth of needle penetration
	Determination of compressive strength	LST EN 196-1:2016	Assessment of resistance to mechanical impact
<b>5. Masonry products</b>			
Ceramic (except refractory), silicate, concrete, autoclaved aerated concrete, natural stone masonry products	Sampling procedures	LST EN 771-1:2011+A1:2015 LST EN 771-2:2011+A1:2015 LST EN 771-3:2011+A1:2015 LST EN 771-4:2011+A1:2015 LST EN 771-6:2011+A1:2015	Combined and local sampling
	Determination of dimensions	LST EN 772-16:2011	Geometric measurement of dimensions
	Determination of the surface plane of masonry products	LST EN 772-20:2000/A1:2005	Determination of curvature or concavity
	Determination of relative voids area in masonry products (by embossing on paper)	LST EN 772-2:2000/A1:2005	Determination of the relative void area by embossing on paper
	Determination of net volume and voids content of ceramic masonry units by hydrostatic weighing	LST EN 772-3:2000	Determination of net volume and voids content of ceramic masonry units by hydrostatic weighing
	Determination of net and apparent (gross) dry density of masonry products (excluding natural stone)	LST EN 772-13:2003	Method of measuring mass and volume
	Determination of the capillary water absorption rate of aggregate concrete, autoclaved aerated concrete, artificial and natural stone masonry products and the initial water absorption rate of ceramic masonry products	LST EN 772-11:2011/P:2014	Water absorption mass test method for single surface immersion

Name of test / sample object	Test / trial components, parameters or characteristics	Mark, section, item of the method document (where applicable)	Method type, principle (where applicable)
	Determination of compressive strength	LST EN 772-1:2011+A1:2015 7.2.4 ch., 7.2.5 ch., 7.3.2 ch., 7.3.2 a) ch., 7.3.3 a) ch., 7.3.3 b) ch., 7.3.4 ch., 7.3.5 ch.	Evaluation of resistance to mechanical compression
	Determination of frost resistance by volume freezing and thawing	LST 1428-17:2016	Evaluation of the change in mass and compressive strength after cyclic freezing and thawing
<b>6. Concrete elements for landscaping</b>			
Paving blocks, tiles, road and lawn curbs, etc.	Sampling procedures	LST 1551:1999 5, 6, 7 table., LST 1551:1999/1K:2001 LST EN 1338:2003, 7 table LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 1339:2003/AC:2006 LST EN 1340:2003, B annex, B1 annex. LST EN 1340:2003/AC:2006	Combined and local sampling
	Dimensional measurement, inspection of visual features	LST EN 1338:2003, C annex and J annex LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 1339:2003, annex C, J LST EN 1339:2003/AC:2006 LST EN 1340:2003, annex C, J LST EN 1340:2003/AC:2006	Geometric evaluation of dimensions. Visual assessment
	Determination of compressive and / or bending strength	LST 1551.1:1999, LST 1551:1999/1K:2002 LST EN 1339:2003, annex F LST EN 1339:2003/AC:2006 LST EN 1340:2003, annex F LST EN 1340:2003/AC:2006	Evaluation of compressive or bending strength
	Tensile strength at break	LST EN 1338:2003, annex F LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008	Evaluation of resistance to mechanical cracking
	Determination of water absorption	LST EN 1338:2003, annex E LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 1339:2003, annex E LST EN 1339:2003/AC:2006 LST EN 1340:2003, annex E LST EN 1340:2003/AC:2006	Determination of water mass absorption value
	Determination of abrasion according to the Bohme method	LST EN 1338:2003 annex H LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 1339:2003, annex H LST EN 1339:2003/AC:2006 LST EN 1340:2003, annex H LST EN 1340:2003/AC:2006	Determination of change in mass and volume after abrasion

Name of test / sample object	Test / trial components, parameters or characteristics	Mark, section, item of the method document (where applicable)	Method type, principle (where applicable)
	Determination of frost resistance	LST 1428-17:2016, LST EN 1338:2003, annex D LST EN 1338:2003/AC:2006 LST EN 1338:2003/P:2008 LST EN 1339:2003, annex D LST EN 1339:2003/AC:2006 LST EN 1340:2003, annex D LST EN 1340:2003/AC:2006	Determination of mass loss per unit area of the sample
<b>7. Natural stone</b>			
	Determination of uniaxial compressive strength	LST EN 1926:2007	Evaluation of uniaxial compressive strength
	Determination of water absorption at atmospheric pressure	LST EN 13755:2008	Determination of water absorption value at atmospheric pressure
<b>8. Concrete and reinforced concrete products</b>			
Products for the installation of foundations, various panels, beams, trusses, stairs, columns, wells, posts, sleepers	Sampling procedures	LST EN 12350-1:2019 LST EN 12504-1:2019 <i>LST EN 12504-1:2019/AC:2021</i>	Combined and local sampling
	Determination of compressive strength	LST EN 12390-3:2019	Evaluation of resistance to mechanical compression
	Determination of frost resistance	LST 1428-17:2016	Evaluation of the change in mass and compressive strength after cyclic freezing and thawing
	Determination of water penetration depth under pressure and water impermeability (W)	LST EN 12390-8:2019 LST 1974:2012, annex O	Determination of water penetration depth under pressure
	Determination of tensile strength	LST EN 12390-6:2010	Evaluation of resistance to mechanical cracking
	Rate of carbonation	<i>LST EN 12390-10:2019</i>	Determination of carbonation resistance of concrete at atmospheric carbon dioxide concentration
	Determination of water absorption	LST EN 13369:2018, annex F	Estimation of the mass of water absorbed
	Determination of density	LST EN 12390-7:2019 <i>LST EN 12390-7:2019/AC:2021</i>	Method of estimating geometrical parameters and mass
	Determination of abrasion according to the Bohme method	LST EN 13892-3:2015	Determination of change in mass and volume after abrasion
<b>CONSTRUCTION RESEARCH LABORATORY, Studentų st. 48, Kaunas</b>			
<b>9. Concrete and reinforced concrete constructions</b>			
Ceiling and roof panels, multi-purpose columns, stair elements, lintels other than composite and composite lintels, of	Measurement of geometrical dimensions	LST EN 13369:2018 annex H	Evaluation of the geometrical parameters of the sample
	Sampling of lintels	LST EN 845-2:2013+A1:2016 8.4 ch.	Combined and local sampling
	Determination of bending and shear resistance of lintels	LST EN 846-9:2016 8.6.1 ch. LST EN 846-9:2016 8.6.2 ch.	Evaluation of mechanical resistance to bending and shearing
	Determination of lintel stiffness	LST EN 846-11:2000 6 ch.	Measurement of the full length of the lintel convexity

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reinforced concrete sleepers	Sampling of sleepers and determination of product strength	LST EN 13230-2:2016 4.3 ch., 4.5.2 ch.	Combined and local sampling, evaluation of resistance to mechanical loads
	Determination of crack resistance of sleepers	<i>LST EN 13230-4:2016+A1:2020</i> 5.3 ch.	Evaluation of resistance to mechanical loads
<b>10. Natural and glued wood constructions</b>			
Natural and glued wood	Sampling procedures	LST EN 14080:2013	Combined and local sampling
	Determination of wood moisture	LST EN 13183-1:2003 LST EN 13183-1:2003/AC:2004, LST EN 13183-2:2003 LST EN 13183-2:2003/AC:2004	Evaluation of moisture by drying (to dry weight of the sample) and measurement of electrical resistance
	Determination of wood density	LST EN 408:2010+A1:2012 7 ch.	Estimation of density by geometric measurement and weighing
	Determination of bending strength of wood	LST EN 408:2010+A1:2012 19 ch.	Evaluation of resistance to mechanical bending
<b>LABORATORY OF POLYMERIC MATERIALS AND COMPOSITES, Radvilėnų st. 19, Kaunas</b>			
<b>11. Mineral aggregates and cement</b>			
Sand, gravel, crushed stone, mixtures, primers; cement	Determination of sulphates and sulfur content	LST EN 1744-1:2009+A1:2013 10.1 ch., 11.1 ch., 12 ch.	Washing, visual and extraction - filtration method
	Determination of chloride content	LST EN 1744-1:2009+A1:2013 7 ch.	Washing, visual and extraction - filtration method
	Determination of alkali content	LST EN 196-2:2013 4.5.19 ch.	Exposure to flame, visual assessment
	Determination of carbon dioxide content	LST EN 196-2:2013 4.5.17 ch.	The sample is exposed to phosphoric acid and the change in mass is recorded
	Determination of lightweight contamination	LST EN 1744-1:2009+A1:2013 14.2 ch.	Washing, visual and extraction - filtration method
	Determination of presence of humus	LST EN 1744-1:2009+A1:2013 15.1 ch.	Washing, visual and extraction - filtration method
	Determination of the Methylene Blue Index	LST EN 933-9:2009+A1:2013	Methylene blue method

One case of flexibility has been identified and applied to the whole field of accreditation - the application of new editions of normative documents describing test methods or replacing identical normative documents.

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