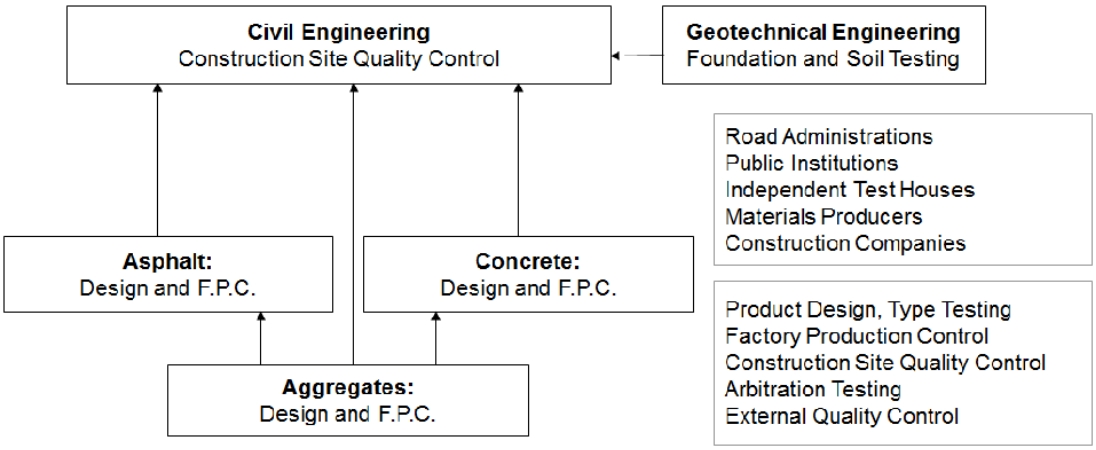
SUPPORTED STANDARDS BY 24.11.2017

Overview

LASTRADA is the standard laboratory software for the quality management of construction materials. Many thousand users work in more than 200 companies and worldwide in 19 countries with LASTRADA. These include producers and contractors as well as independent test houses and public authorities. LASTRADA integrates construction materials testing, quality management, mix design and all laboratory workflows in one system (LIMS).

LASTRADA offers testing modules for concrete, concrete products, cement, asphalt, aggregates, soil/geotechnical, geotextiles, drilling cores, and sealing products. The variety of supported standards and included functionality is unique.



The development of LASTRADA pursues the philosophy, that the entry of raw test data follows the actual laboratory workflow. This means that the dialogues are tailored to each context. All required calculations are carried out by LASTRADA. For each method, final results can also be registered alternatively.

LASTRADA supports a growing number of construction materials and geotechnical standards. Within the maintenance of LASTRADA we continuously add new standards.

Concrete

Concrete Product and FPC Standards

Product standards are not hard-coded in LASTRADA, but may be entered as master data. This means that material specifications of every national, regional or company-specific standard can be registered and used as basis for evaluations.

BRL-1801	Beoordelingsrichtlijn
BS EN 206-1	Concrete - Part 1: Specification, Performance, Production and Conformity
EN 206-1	Concrete - Part 1: Specification, Performance, Production and Conformity
EN 1008	Mixing Water for Concrete, Part: Waste water
DAfStb	German alkali standard
	German standard for steel fibre concrete
DIN 1045-1	Limits for Composition and Properties of Concrete (Tables F2.1-2)
DIN 1045-2	Concrete Structures, Reinforced Concrete and Prestressed Concrete, Part 2: Concrete - Specification, Production and Conformity
DIN 1045-3	Concrete, reinforced and prestressed concrete structures, Part 3: Execution of structures
DNA EN 206-1	Document National d'Application luxembourgeois constitue l'application de la norme européenne EN 206 Béton
NEN EN 206-1	Beton – Deel 1: Specificatie, Eigenschappen, Vervaardiging en
NEN 8005	Nederlandse Aanvulling NEN-EN 206-1: Beton–Deel 1: Specificatie, Eigenschappen,Vervaardiging en Conformiteit (Tabel E)
NS EN 206-1	Betong - Del 1: Spesifikasjon, egenskaper, fremstilling og samsvar
SN EN 206-1	Concrete - Part 1: Specification, Performance, Production and Conformity (Table NA.3-4)
SN EN 206-9	Concrete - Part 9: Additional Rules for Self-compacting Concrete (SCC)
SS-EN 206-1	Betong – Del 1: Fordringar, egenskaper, tillverkning och överensstämmelse
ZTV ING	Additional technical conditions for engineering structures
ZTV K 96	Additional technical conditions for engineering structures

Fresh Concrete Test Standards

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
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 12350-11	Testing fresh concrete - Part 11: Self-compacting concrete - Sieve segregation test

Hardened Concrete Test Standards

A module for custom test methods allows users to support tests which are not yet implemented in LASTRADA.

EN 12390	Compressive Strength; Water permeability; Flexural strength; Tensile splitting strength; E-Module / Dynamic modulus
ASTM C 39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C 78	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C 293	Flexural Strength of Concrete (Using Simple Beam with Centre-Point Loading)
ASTM C 642	Water absorption and volume of permeable voids including sample preparation

ASTM C 948	Dry and Wet Bulk Density, Water Absorption, and Apparent Porosity of Thin Sections of Glass-Fibre Reinforced Concrete
ASTM C 1202	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
BS 1881-120	Compressive strength, density and visual examination and preparation, of drilled concrete cores
BS 1881-122	Determination of Water Absorption
BS 1881-124	Determination of Chloride Content
	Determination of Sulphate Content
BS 1881-208	Recommendations for the Determination of the Initial Surface Absorption of Concrete
	Initial surface absorption test (ISAT)
DIN 1048	Water permeability
SIA 162/1	Freeze/thaw cycle performance
SIA 262/1-A	Hydraulic conductivity/porosity
SIA 262/1-B	Chloride resistance
SIA 262/1-C	Freeze/De-icing Salt Resistance
SIA 262/1-D	Sulphate resistance
SIA 262/1-F	Shrinkage
SIA 262/1-F	Swell
SIA MB 2042	Alkali-aggregate reaction (AAR)
BAW	Alkali-silica-reaction
BAW	Chloride migration
BAW	Freeze/De-icing Salt Resistance
BAW	Freeze-Thaw Resistance
BAW	Heat of hydration
BAW	Carbonatisation
BAW	Mercury intrusion porosimetry
BAW	Shrinkage/Swell
BAW	Water absorption
NT BUILD 492	Chloride Migration

Test Standard for Concrete Structures

EN 12504-2	Testing concrete in structures - Part 2: Non-destructive testing - Determination of rebound number

Standards for Concrete Products

EN 1338	Concrete paving blocks - Requirements and test methods
EN 1339	Concrete paving flags - Requirements and test methods
EN 1340	Concrete kerb units - Requirements and test methods

Cement

Cement Product Standards

Product standards are not hard-coded in LASTRADA, but may be entered as master data. This means that material specifications of every national, regional or company-specific standard can be registered and used as basis for evaluations.

EN 197-1	Cement – Part 1: Composition, specifications and conformity criteria for common cements
EN 197-2	Cement – Part 2: Conformity evaluation

Cement Test Standards

EN 196-1	Methods of testing cement – Part 1: Determination of strength
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch. 4.4. 1 Loss on Ignition
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch. 4.4. 1.4 Loss on Ignition (corrected)
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch. 4.4. 2 Determination of Sulfate
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch.4.4. 3 Determination of residue insoluble
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch.4.4. 5 Determination of Sulfide
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch. 4.5 Main Constituents
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch. 4.5.16 Chloride
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch.4.5.19 Alkali reactivity (Reference method)
EN 196-2	Methods of testing cement – Part 2: Chemical analysis of cement Ch.5 Chemical X-ray fluorescence analysis
EN 196-3	Methods of testing cement – Part 3: Determination of setting time and soundness
EN 196-5	Methods of testing cement – Part 5 Pozzolanicity test for pozzolanic cement
EN 196-6	Methods of testing cement – Part 6: Determination of fineness; Determination of density (Annex NC)
EN 196-9	Methods of testing cement – Part 9: Heat of Hydration, Methylene Blue Analysis, Available Lime
EN 196-10	Methods of testing cement. Determination of the water soluble chromium (VI) content of cement
EN 413-2	Masonary Cement - Air Content and Water Retention
EN 933	Tests for geometrical properties of aggregates. Determination of particle size distribution. Sieving method
EN 4551	Methods of test for mortar and screed. Chemical analysis and physical testing cement content
EN 1015	Methods of test for mortar for masonry - Determination of air content of fresh mortar
EN 12485	Determination of Carbon Dioxide
EN 13639	Determination of total organic carbon in limestone
ASTM C150	Tricalcium Aluminate
ASTM C150	Tetracalcium Aluminoferrite
ASTM C150	Dicalcium Silicate
ASTM C150	Tricalcium Silicate
ASTM C359	Standard Test Method for Early Stiffening of Hydraulic Cement (Mortar Method)

Asphalt

Asphalt Product Standards

Product standards are not hard-coded in LASTRADA, but may be entered as master data. This means that material specifications of every national, regional or company-specific standard can be registered and used as basis for evaluations.

EN 13108-1	Bituminous mixtures - Material specifications, Part 1: Asphalt Concrete
EN 13108-2	Bituminous mixtures - Material specifications, Part 2: Asphalt Concrete for very thin layers
EN 13108-3	Bituminous mixtures - Material specifications, Part 3: Soft Asphalt
EN 13108-4	Bituminous mixtures - Material specifications, Part 4: Hot Rolled Asphalt
EN 13108-5	Bituminous mixtures - Material specifications, Part 5: Stone Mastic Asphalt
EN 13108-6	Bituminous mixtures - Material specifications, Part 6: Mastic Asphalt
EN 13108-7	Bituminous mixtures - Material specifications, Part 7: Porous Asphalt
EN 13108-8	Bituminous mixtures - Material specifications, Part 8: Reclaimed Asphalt
TL Asphalt-StB 07	Technical delivery conditions for asphalt for use in road construction
TL AG-StB 09	Technical delivery conditions for reclaimed asphalt for use in road construction
ZTV Asphalt-StB 07	Additional technical conditions for road construction with asphalt
FGSV - M TA	Bulletin for warm mix asphalt (German society for road construction research)

Asphalt FPC Standards

EN 13108-20	Bituminous mixtures - Material specifications - Part 20: Type testing
EN 13108-21	Bituminous mixtures - Material specifications - Part 21: Factory production control
FGSV - M WA	Bulletin for reclaimed asphalt (German society for road construction research)

Asphalt Test Standards

A module for custom test methods allows users to support tests which are not yet implemented in LASTRADA.

EN 12697-1	Bituminous mixtures - Test methods for hot mix asphalt - Part 1: Soluble binder content
EN 12697-2	Bituminous mixtures - Test methods for hot mix asphalt - Part 2: Determination of particle size distribution
EN 12697-3	Bituminous mixtures - Test methods for hot mix asphalt - Part 3: Bitumen recovery: Rotary evaporator
EN 12697-4	Bituminous mixtures - Test methods for hot mix asphalt - Part 4: Bitumen recovery: Fractionating column
EN 12697-5	Bituminous mixtures - Test methods for hot mix asphalt - Part 5: Determination of the maximum density
EN 12697-6	Bituminous mixtures - Test methods for hot mix asphalt - Part 6: Determination of bulk density of bituminous specimens
EN 12697-8	Bituminous mixtures - Test methods for hot mix asphalt - Part 8: Determination of void characteristics of bituminous specimens
EN 12697-10	Bituminous mixtures - Test methods for hot mix asphalt - Part 10: Compactability
EN 12697-11	Bituminous mixtures - Test methods for hot mix asphalt - Part 11: Determination of the affinity between aggregate and bitumen
EN 12697-12	Bituminous mixtures - Test methods for hot mix asphalt - Part 12: Determination of the water sensitivity of bituminous specimens
EN 12697-13	Bituminous mixtures - Test methods for hot mix asphalt - Part 13: Temperature measurement
EN 12697-14	Bituminous mixtures - Test methods for hot mix asphalt - Part 14: Water content
EN 12697-16	Bituminous mixtures - Test methods for hot mix asphalt - Part 16: Abrasion by studded tyres
EN 12697-17	Bituminous mixtures - Test methods for hot mix asphalt - Part 17: Particle loss of porous asphalt specimen
EN 12697-18	Bituminous mixtures - Test methods for hot mix asphalt - Part 18: Binder drainage
EN 12697-19	Bituminous mixtures - Test methods for hot mix asphalt - Part 19: Permeability of specimen
EN 12697-20	Bituminous mixtures - Test methods for hot mix asphalt - Part 20: Indentation using cube or Marshall specimens
EN 12697-21	Bituminous mixtures - Test methods for hot mix asphalt - Part 21: Indentation using plate specimens
EN 12697-22	Bituminous mixtures - Test methods for hot mix asphalt - Part 22: Wheel tracking

EN 12697-23	Bituminous mixtures - Test methods for hot mix asphalt - Part 23: Determination of the indirect tensile strength of bituminous specimens
EN 12697-25	Bituminous mixtures - Test methods for hot mix asphalt - Part 25: Cyclic compression test
EN 12697-27	Bituminous mixtures - Test methods for hot mix asphalt - Part 27: Sampling
EN 12697-28	Bituminous mixtures - Test methods for hot mix asphalt - Part 28: Preparation of samples for determining binder content, water content and grading
EN 12697-29	Bituminous mixtures - Test method for hot mix asphalt - Part 29: Determination of the dimensions of a bituminous specimen
EN 12697-30	Bituminous mixtures - Test methods for hot mix asphalt - Part 30: Specimen preparation by impact compactor
EN 12697-33	Bituminous mixtures - Test methods for hot mix asphalt - Part 33: Specimen prepared by roller compactor
EN 12697-34	Bituminous mixtures - Test methods for hot mix asphalt - Part 34: Marshall test
EN 12697-35	Bituminous mixtures - Test methods for hot mix asphalt - Part 35: Laboratory mixing
EN 12697-36	Bituminous mixtures - Test methods for hot mix asphalt - Part 36: Determination of the thickness of a bituminous pavement
EN 12697-37	Bituminous mixtures. Test methods for hot mix asphalt – Part 37: Hot sand test for the adhesivity of binder on precoated chippings for HRA
EN 12697-39	Bituminous mixtures - Test methods for hot mix asphalt - Part 39: Binder content by ignition
EN 12697-45	Bituminous mixtures - Test methods for hot mix asphalt - Part 45: Binder drainage, Schellenberg method
ASTM D 1075	Effect of Water on Cohesion of Bituminous Mixtures
ASTM D 1461	Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D 1188	Bulk Specific Gravity of Compacted Hot Mix Asphalt
ASTM D 2041	Maximum Specific Gravity of Hot Mix Asphalt Paving Mixtures
ASTM D 2172	Quantitative Extraction of Asphalt Binder from HMA
ASTM D 2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D 2950	Density of Bituminous Concrete In Place by Nuclear Methods
ASTM D 3203	Percent Air Voids in Bituminous Paving Mixtures
ASTM D 4867	Moisture Induced Damage of HMA (Tensile Strength Ratio)
ASTM D 5444	Mechanical Analysis of HMA
ASTM D 5404	Recovery of Asphalt from Solution by Rotavapor Apparatus
ASTM D 6307	Asphalt Content by Ignition Method
ASTM D 6390	Draindown Characteristics of HMA
ASTM D 6925	Hot Mix Asphalt Superpave Gyratory Compactor
ASTM D 6927	Marshall Stability and Flow of Hot Mix Asphalt
ASTM D 6931	Indirect Tensile Strength (IDT)
ASTM D 6752	Bulk Specific Gravity Using Vacuum Sealing Method
ASHTOO R35	Superpave Volumetric Design for Hot Mix Asphalt (HMA)
ASHTOO T324	Hamburg Wheel Track Test
ASHTOO T329	Moisture Content of HMA by Oven
ASHTOO T195	Determining Degree of Particle Coating of Asphalt Mixtures
ASHTOO T209	Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)
TP Asphalt- Part 1	Technical testing standard of asphalt for use in road construction - Part 1: Binder content
TP Asphalt- Part 2	Technical testing standard of asphalt for use in road construction - Part 2: Particle size distribution
TP Asphalt- Part 3	Technical testing standard of asphalt for use in road construction - Part 3: Bitumen recovery
TP Asphalt- Part 5	Technical testing standard of asphalt for use in road construction - Part 5: Maximum density
TP Asphalt- Part 6	Technical testing standard of asphalt for use in road construction - Part 6: Bulk density
TP Asphalt- Part 8	Technical testing standard of asphalt for use in road construction - Part 8: Void characteristics
TP Asphalt- Part 11	Technical testing standard of asphalt for use in road construction - Part 11: Affinity between aggregate and bitumen
TP Asphalt- Part 12	Technical testing standard of asphalt for use in road construction - Part 12: Water sensitivity
TP Asphalt- Part 13	Technical testing standard of asphalt for use in road construction - Part 13: Temperature measurement

TP Asphalt- Part 14	Technical testing standard of asphalt for use in road construction - Part 14: Water content
TP Asphalt- Part 17	Technical testing standard of asphalt for use in road construction - Part 17: Particle loss
TP Asphalt- Part 18	Technical testing standard of asphalt for use in road construction - Part 18: Binder drainage
TP Asphalt- Part 20	Technical testing standard of asphalt for use in road construction - Part 20: Indentation
TP Asphalt- Part 22	Technical testing standard of asphalt for use in road construction - Part 22: Wheel tracking
TP Asphalt- Part 23	Technical testing standard of asphalt for use in road construction - Part 23: Indirect tensile strength
TP Asphalt- Part 27	Technical testing standard of asphalt for use in road construction - Part 27: Sampling
TP Asphalt- Part 28	Technical testing standard of asphalt for use in road construction - Part 28: Preparation of samples
TP Asphalt- Part 29	Technical testing standard of asphalt for use in road construction - Part 29: Dimensions
TP Asphalt- Part 30	Technical testing standard of asphalt for use in road construction - Part 30: Specimen preparation
TP Asphalt- Part 33	Technical testing standard of asphalt for use in road construction - Part 33: Specimen prepared by roller compactor
TP Asphalt- Part 34	Technical testing standard of asphalt for use in road construction - Part 34: Marshall test
TP Asphalt- Part 35	Technical testing standard of asphalt for use in road construction - Part 35: Laboratory mixing
TP Asphalt- Part 80	Technical testing standard of asphalt for use in road construction - Part 80: Shear test
DIN 1996	Testing of bituminous materials for road building and related purposes; generalities, subject index and statements for the evaluation of tests
PAH	Polycyclic aromatic hydrocarbons (PAH 16)

Bituminous Products

Bitumen Product and FPC Standards

Product standards are not hard-coded in LASTRADA, but may be entered as master data. This means that material specifications of every national, regional or company-specific standard can be registered and used as basis for evaluations.

EN 12591	Bitumen and bituminous binders - Specifications for paving grade bitumen
EN 13808	Bitumen and bituminous binders - Framework for specifying cationic bituminous emulsions
EN 13924	Bitumen and bituminous binders - Specification framework for special paving grade bitumen
EN 14023	Bitumen and bituminous binders - Specification framework for polymer modified bitumens
EN 14733	Bitumen and bituminous binders - Bituminous emulsions, fluxed and cut-back bitumen factory production control
ASTM D 6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D 2397	Standard specification for cationic emulsified bitumen
TL Bitumen StB07	Technical delivery conditions for bitumen for use in road construction

Bitumen Test Standards

EN 1425	Bitumen and bituminous binders - Characterization of perceptible properties
EN 1426	Bitumen and bituminous binders - Determination of needle penetration
EN 1427	Bitumen and bituminous binders - Determination of softening point - Ring and Ball method
EN 1429	Bitumen and bituminous binders - Determination of residue on sieving of bituminous emulsions, and determination of storage stability by sieving
EN 1431	Bitumen and bituminous binders - Determination of residual binder and oil distillate from bitumen emulsions by distillation
EN 12592	Bitumen and bituminous binders - Determination of solubility
EN 12593	Bitumen and bituminous binders - Determination of the Fraass breaking point
EN 12595	Bitumen and bituminous binders - Determination of kinematic viscosity
EN 12596	Bitumen and bituminous binders - Determination of dynamic viscosity by vacuum capillary
EN 12607	Bitumen and bituminous binders - Determination of the resistance to hardening under the influence of heat and air
EN 12846	Bitumen and bituminous binders - Determination of efflux time by the efflux viscometer

EN 13074	Bitumen and bituminous binders - Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders
EN 13075-1	Bitumen and bituminous binders - Determination of breaking behaviour
EN 13398	Bitumen and bituminous binders - Determination of the elastic recovery of modified bitumen
EN 13399	Bitumen and bituminous binders - Determination of storage stability for modified binders
EN 13589	Bitumen and bituminous binders - Determination of the tensile properties of modified bitumen by the force ductility method
EN 13614	Bitumen and bituminous binders - Determination of adhesivity of bituminous emulsions by water immersion test
EN 14770	Bitumen and bituminous binders - Determination of complex shear modulus and phase angle - Dynamic Shear Rheometer (DSR)
EN 14771	Bitumen and bituminous binders - Determination of the flexural creep stiffness - Bending Beam Rheometer (BBR)
ASTM D 5	Penetration of Bituminous Materials
ASTM D 36	Softening Point of Bitumen (Ring and Ball)
ASTM D 70	Specific Gravity of Asphalt Cement
ASTM D 92	Flash Point by Cleveland Open Cup
ASTM D 95	Water in Petroleum Products and Bituminous Materials
ASTM D 113	Ductility of Bituminous Materials
ASTM D 139	Float Test for Bituminous Materials
ASTM D 2042	Solubility of Asphalt Materials in Trichloroethylene
ASTM D 2170	Kinematic Viscosity of Asphalts
ASTM D 2171	Viscosity by Vacuum Capillary
ASTM D 2872	Rolling Thin¬Film Oven Test
ASTM D 4402	Viscosity of Asphalt Binder Using Rotational Viscometer
ASTM D 6084	Elastic Recovery Test
ASTM D 6521	Pressurized Aging Vessel (PAV)
ASTM D 6648	Bending Beam Rheometer (BBR)
ASTM D 6723	Direct Tension (DT)
ASTM D 7175	Dynamic Shear Rheometer (DSR)
ASTM D 7405	Multiple Stress Creep and Recovery (MSCR)
AASHTO R29	Grading or Verifying Performance Grade
AASHTO T300	Force Ductility Test of Bituminous Materials
DIN 52013	Bitumen and bituminous binders - Determination of ductility
ISO 3838	Crude petroleum and liquid or solid petroleum products -- Determination of density or relative density
AL MSCR (FGSV)	Multiple stress creep and recovery test of Asphalt Binder (MSCR)

Aggregates

Product Standards

Product standards are not hard-coded in LASTRADA, but may be entered as master data. This means that material specifications of every national, regional or company-specific standard can be registered and used as basis for evaluations.

EN 12620	Aggregates for Concrete
EN 13043	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
EN 13055-1	Lightweight aggregates - Part 1: Lightweight aggregates for concrete, mortar and grout

EN 13055-2	Lightweight aggregates - Part 2: Lightweight aggregates for bituminous mixtures and surface treatments and for unbound and bound applications
EN 13139	Aggregates for mortar
EN 13242	Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction
EN 13285	Unbound mixtures
EN 13383	Armourstone
EN 13450	Aggregates for railway ballast
TL Gestein 04	Technical Delivery Conditions for Aggregates for use in Road Construction
TL SoB	Technical Delivery Conditions for Aggregates and Soils in the Installation of Unbound Layers in Road Constructions
BN 918061	Railway ballast (DB AG standard)
BN 918062	Aggregates (DB AG standard)
NVN 6240	Dutch Norm
QCS 2010	Qatar Construction Specification

Test Standards

EN 196-6	Determination of fineness (Blaine) (filler test)
EN 196-21	Calcium carbonate content (filler test)
EN 459-2	Calcium hydroxide content (filler test)
EN 932-3	Tests for general properties of aggregates - Part 3: Procedure and terminology for simplified petrographic description
EN 933-1	Tests for geometrical properties of aggregates - Part 1: Determination of particle size distribution - Sieving method
EN 933-3	Tests for geometrical properties of aggregates - Part 3: Determination of particle shape - Flakiness index
EN 933-4	Tests for geometrical properties of aggregates - Part 4: Determination of particle shape - Shape index
EN 933-5	Tests for geometrical properties of aggregates - Part 5: Determination of percentage of crushed and broken surfaces in coarse aggregate particles
EN 933-6	Tests for geometrical properties of aggregates - Part 6: Assessment of surface characteristics - Flow coefficient of aggregates
EN 933-7	Tests for geometrical properties of aggregates - Part 7: Determination of shell content - Percentage of shells in coarse aggregates
EN 933-8	Tests for geometrical properties of aggregates - Part 8: Assessment of fines - Sand equivalent test
EN 933-9	Tests for geometrical properties of aggregates - Part 9: Assessment of fines - Methylene blue test
EN 933-10	Tests for geometrical properties of aggregates - Part 10: Assessment of fines - Grading of fillers (air jet sieving)
EN 933-11	Tests for geometrical properties of aggregates - Part 11: Classification test for the constituents of coarse recycled aggregate
EN 1097-1	Tests for mechanical and physical properties of aggregates - Part 1: Determination of the resistance to wear (micro-Deval)
EN 1097-2	Tests for mechanical and physical properties of aggregates - Part 2: Methods for the determination of resistance to fragmentation
EN 1097-3	Tests for mechanical and physical properties of aggregates - Part 3: Determination of loose bulk density and voids
EN 1097-4	Tests for mechanical and physical properties of aggregates - Part 4: Determination of the voids of dry compacted filler
EN 1097-5	Tests for mechanical and physical properties of aggregates - Part 5: Determination of the water content by drying in a ventilated oven
EN 1097-6	Tests for mechanical and physical properties of aggregates - Part 6: Determination of particle density and water absorption
EN 1097-7	Tests for mechanical and physical properties of aggregates - Part 7: Determination of the particle density of filler (Pyknometer method)
EN 1097-8	Tests for mechanical and physical properties of aggregates - Part 8: Determination of the polished stone value
EN 1097-9	Tests for mechanical and physical properties of aggregates - Part 9: Determination of the resistance to wear by abrasion from studded tyres - Nordic test
EN 1367-1	Tests for thermal and weathering properties of aggregates - Part 1: Determination of resistance to freezing and thawing
EN 1367-2	Tests for thermal and weathering properties of aggregates - Part 2: Magnesium sulfate test
EN 1367-3	Tests for thermal and weathering properties of aggregates - Part 3: Boiling test for "Sonnenbrand basalt"
EN 1367-4	Tests for thermal and weathering properties of aggregates - Part 4: Determination of drying shrinkage
EN 1367-5	Tests for thermal and weathering properties of aggregates - Part 5: Determination of resistance to thermal shock

EN 1367-6	Tests for thermal and weathering properties of aggregates. - Part 5: Determination of resistance to freezing and thawing in the presence of salt (NaCl)
EN 1744-1	Tests for chemical properties of aggregates - Part 1: Chemical analysis
EN 1744-5	Tests for chemical properties of aggregates – Part 5: Determination of acid soluble chloride salts
EN 1926	Natural stone test methods - Determination of compressive strength
EN 12370	Natural stone test methods - Determination of resistance to salt crystallisation
EN 12697-11	Bituminous mixtures - Test methods for hot mix asphalt - Part 11: Determination of the affinity between aggregate and bitumen (Part A)
EN 13179-1	Tests for filler aggregate used in bituminous mixtures - Part 1: Delta ring and ball test
EN 13179-2	Tests for filler aggregate used in bituminous mixtures - Part 2: Bitumen number
EN 13286-47	Unbound and hydraulically bound mixtures - Part 47: Test method for the determination of California bearing ratio, immediate bearing index and linear swelling
ASTM C 29	Bulk Density and Voids in Aggregate
ASTM C 40	Organic Impurities in Fine Aggregates for Concrete
ASTM C 88-99	Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate
ASTM C 117	Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 123	Standard Test Method for Lightweight Particles in Aggregate
ASTM C 127	Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C 128	Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
ASTM C 131	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 142	Clay lumps and friable particles content
ASTM C 289	Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)
ASTM C 535	Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 566	Moisture Content of Aggregate by Oven Drying
ASTM C 1252	Uncompacted Void Content of Fine Aggregate
ASTM D 546	Sieve Analysis of Mineral Filler
ASTM D 1883	California Bearing Ratio of Laboratory-Compacted Soils
ASTM D 2216	Determination of Water Content of Soil and Rock by Mass
ASTM D 2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2938	Unconfined Compressive Strength of Intact Rock Core
ASTM D 2967	Determination of Tensile Splitting Strength of Rock
ASTM D 3967	Splitting Tensile Strength of Intact Rock Core Specimens
ASTM D 4644	Slake Durability Test
ASTM D 4791	Flat, Elongated, or Flat and Elongated Particles
ASTM D 5731	Determination of the Point Load Strength Index of Rock
ASTM D 5821	Fractured Particles in Coarse Aggregate
AASHTO T195	Determining Degree of Particle Coating of Asphalt Mixtures
AASHTO T209	Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)
BS 812-2	Methods of determination of density
BS 812-103	Sieve Analysis
BS 812-105.1	Determination of Particle Shape - Flakiness Index (FI)
BS 812-105.2	Determination of Particle Shape - Elongation Index of Coarse Aggregate
BS 812-106	Determination of Shell Content in Coarse Aggregate
BS 812-109	Determination of Moisture Content
BS 812-110	Determination of Aggregate Crushing Value (ACV)
BS 812-111	Determination of Ten Per Cent Fines Value (TFV)

BS 812-112	Determination of Aggregate Impact Value (AIV)
BS 812-117	Determination of Water-Soluble Chloride Salts
BS 812-118	Determination of Sulphate Content
BS 1377-1	Soils for civil engineering purposes — Part 1: Particle Size Distribution
BS 1377-2	Soils for civil engineering purposes — Part 2: Classification tests
BS 1377-3	Soils for civil engineering purposes — Part 3: Chemical and electro-chemical tests
BS 1377-4	Soils for civil engineering purposes — Part 4: Compaction related tests
BS EN 1367-2	Tests for thermal and weathering properties of aggregates - Part 2: Magnesium sulfate test (Annex B)
BS EN 1367-4	Tests for thermal and weathering properties of aggregates - Part 4: Determination of drying shrinkage
Alkali standard	German alkali standard
DIN 52101	Density determination with Pycnometer
DIN 52102	Density determination with Pycnometer
DIN 52110	Determination of bulk density
DIN 52111	Crystallisation test with sodium sulphate
DIN 52115	Impact test (ballast) after freezing and thawing/ thermal shock / boiling
SN 670 321a	California bearing ratio
TP Min-Stb	Determination of the voids content on dry compacted filler (Rigden)
TP Gestein	Technical Testing Standards for Aggregates in Road Construction
CIRIA SP 683	Drop Test
CML 1-97	Immersed Rotational Test
NBM B11 205	Static Compressive Strength of Aggregates

Soil / Geotechnical

EN 13286-2	Proctor Test
EN 13286-47	California Bearing Ratio
EN ISO 14688-1	Soil Profiles
EN ISO/TS 17892-4	Sieving and Sedimentation incl. Fineness Delta-G in accordance with RVS 8S.05.11
EN ISO/TS 17892-11	Water Permeability
EN 22476	Dynamic Probing
ASTM D 698	Proctor Test
ASTM D 1557-07	Proctor Test
DIN 4094-3	Dynamic Probing
DIN EN ISO/TS 17892-11	Water Permeability
DIN 18122	Atterberg Tests
DIN 18123	Sieving and Sedimentation
DIN 18125	Dichte
DIN 18127	Proctor Test
DIN 18130	Water Permeability
DIN 18134	Plate Bearing Test
DIN 18196	Soil Groups
BS 1377-2	Sieving and Sedimentation, Atterberg Tests, Density
BS 1377-3	Water Soluble Sulphate Content, Acid Soluble Sulphate Content, Acid Soluble Chloride Content, Organic Matter Content
BS 1377-4	Proctor Test (Test 3.5 & 3.6), California Bearing Ratio
BS 1377-9	In-situ density
SN 670 317a & b	Plate Bearing Test
SN 670 816b	Sieving and Sedimentation
NF P94-117-1	Plate Bearing Test
TP BF-StB-B8.3	Plate Bearing Test
ASTM D 1883	California Bearing Ratio
TP BF-StB	California Bearing Ratio
SN 670 004-2b	Soil Groups
SN 670 321a	California Bearing Ratio
DIN 4022	Soil Profiles
DIN 4023	Soil Profiles
USCS	Soil Groups
ASTM D421	Dry Preparation of Samples
ASTM D 854	Specific Gravity of Soils
ASTM D 1140	Amount of Material Finer than a No. 200 (75µm) Sieve
ASTM D 1556 -07	Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D 1883	California Bearing Ratio of Laboratory-Compacted Soils
ASTM D 2167	Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2216	Moisture Content of Soils
ASTM D 2419	Sand Equivalent Test
ASTM D 2487	Classification of Soils (Unified System)
ASTM D 4318	Atterberg Tests

Geotextiles

EN ISO 9863-1	Determination of thickness at specified pressures (Method A)
EN ISO 9864	Determination of mass per unit area
EN ISO 10319	Wide-width tensile test
EN ISO 10320	Identification on site
EN ISO 11058	Determination of water permeability characteristics normal to the plane, without load
EN ISO 12236	Static puncture test (CBR test)
EN ISO 12956	Determination of the characteristic opening size
EN ISO 12958	Determination of water flow capacity in their plane
EN ISO 13426-2	Strength of internal structural junctions
EN ISO 13427	Abrasion damage
EN ISO 13433	Dynamic perforation test
EN 12224	Determination of the resistance to weathering
EN 12225	Determination of the microbiological resistance by a soil burial test
EN 14030	Determination of the resistance to acid and alkaline liquids
RPG	Determination of the mechanical filter efficiency compared to silty soils and fine-graded soils
RPG	Hydraulic filter efficiency
DIN 18130	Water permeability in the condition as received (TX DE ST U0)
DIN 18130	Water permeability after the turbulence test

Drilling Cores

A module for custom test methods allows users to support tests which are not yet implemented in LASTRADA.

BAW	Compressive Strength
BAW	Tensile Strength
BAW	Tensile Splitting Strength
BAW	Static Modulus of Elasticity
BAW	Shear Strength
BAW	Water Penetration Depth
BAW	Water Absorption at Atmospheric Pressure
BAW	Water Absorption under Vacuum and at 150 bar
BAW	Freeze Test
BAW	Freeze-Thaw Test
BAW	Chemical Analysis
BAW	Visual Inspection (Concrete)
BAW	Visual Inspection (Masonry)
BAW	Compressive Strength + Water Absorption at Atmospheric Pressure
BAW	Tensile Splitting Strength + Water Absorption at Atmospheric Pressure

Sealing Products/Systems

EN 1542	Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off
EN 1766	Products and systems for the protection and repair of concrete structures - Test methods - Reference concretes for testing (Chapter 7.2)
EN 13892-8	Methods of test for screes materials – Part 8: Determination of bond strength
SIA 281/3	Bitumen jointing: Measurement of bond strength by pull-off
ZTV-ING	Additional technical conditions for engineering structures (Part 3, Chapter 4)

Chemical Tests

Water

APHA 9222 D	Faecal Coliforms
APHA 2130 B	Turbidity
APHA 2320 B	Total Alkalinity (CaCO3)
APHA 2320 B	Bicarbonate (HCO3)
APHA 2320 B	Carbonate (CO3)
APHA 2320 B	Total Alkalinity (CaCO3)
APHA 2510 B	Electrical Conductivity @ 25°C
APHA 2540 C	Total Dissolved Solids (TDS)
APHA 2540 C	Total Dissolved Solids (TDS)
APHA 2540 D	Total Suspended Solids (TSS)
APHA 3500 Mg B	Magnesium (Mg)
APHA 3500-Ca B	Calcium (Ca)
APHA 4110B / 4500	Nitrate (NO3)
APHA 4500 / 4110 B	Sulphate (SO4)
APHA 4500 Cl G	Residual Chlorine
APHA 4500- F-D	Fluoride
APHA 4500- NH3 B/C/F	Ammonia (NH3-N)
APHA 4500 NH3 F	Free Ammonia (NH3-N), Total Ammonia (NH3-N+NH4-N), Ammonium (NH4)
APHA 4500 P B - D	Total Phosphorus (P), Phosphate Phosphorus
APHA 4500 P D	Reactive Phosphorus and Orthophosphate (PO4)
APHA 4500 S2-F	Sulphide
APHA 4500-Cl- B	Salinity
APHA 4500-Cl G	Free Chlorine (site), Volhard's Chloride (Cl)
APHA 4500-H	pH
APHA 4500-NO2 B / 4110 B	Nitrite (NO2)
APHA 4500-Norg B / C	Total Kjeldahl Nitrogen (TKN)
APHA 4500-OC	Dissolved Oxygen (DO)
APHA 5210B / 4500-OC	Biochemical Oxygen Demand (BOD), Biochemical Oxygen Demand (BOD)@20d, Biochemical Oxygen Demand (BOD)@5d
APHA 5220 D	Chemical Oxygen Demand (COD)
APHA 5310B	Total Organic Carbon (TOC)
APHA 5330C	Phenols
APHA 5540 C	Surfactants
APHA 9223 B	E- Coli
APHA 9223 B	Total Coliforms
APHA 9230 D	Enterococcus
APHA 9230 D	Streptococcus
BS EN 16266: 2008	Pseudomonas Aeruginosa
DIN 38405-07	Cyanide
GC - MS	Dioxin
HACH BART	Iron Reducing Bacteria (cfu/ml), Slime Forming Bacteria, Sulphate Reducing Bacteria (cfu/ml)
High Resolution Gamma Spectrometry:	Ac-228 *, Gross Alpha (as Am-241), Gross Beta (as K-40), Ra - 226
SMWW - 4110 B	Bromide
SMWW - 4110 D	Bromate
SMWW - 4500-Cl G	Free Chlorine (Cl2)
SMWW- 10200 H	Chlorophyll a
SMWW- 2530 B	Floating Particles
Test - 2110	Appearance
Test - 2150A	Odour
Test - 2320 B	Hydroxide (OH-)
Test - 2340 C	Total Hardness (CaCO3)
Test - 4500 CO2 C	Free Carbon Dioxide (CO2)

Test - 4500- S2- D	Hydrogen Sulphide as H2S
Test - 4500-Cl G	Total Chlorine as Cl2
Test - 9215 D	Heterotrophic Plate Count
Test - 2120 C	Colour
USEPA 1664 A / B	Heavy Fractions
USEPA 1664 A/B / 5520 B	Oil & Grease
USEPA 1664 B	n-Hexane Extractable Material
USEPA 3005 A / 6010 C	Uranium (U); Boron (B); Lithium (Li); Molybdenum (Mo); Strontium (Sr); Tin (Sn); Zinc (Zn); Aluminium (Al); Manganese (Mn); Zinc (Zn)
USEPA 3005A/ 6010C/ 7062	Arsenic (As)
USEPA 3005A	Hydride Mercury (Hg); Phosphorous (P); Lead (Pb); Cadmium (Cd); Copper (Cu); Iron (Fe); Lead (Pb); Nickel (Ni); Silica (SiO2); Vanadium (V); Barium (Ba); Chromium (Cr); Potassium (K); Silver (Ag); Sodium (Na); Hydride Selenium (Se); Phosphate (PO4)
USEPA 3060A/7196A	Chromium Hexavalant (Cr+6)
USEPA 3510 C / 8270 D	Acenaphthylene
USEPA 3510 C	Benzo (b) fluoranthene; Benzo (g,h,i) perylene; Benzo (k) fluoranthene
USEPA 3510	4-Chloro-3-methylphenol; 2,4-Dichlorophenol; 2-Chlorophenol
USEPA 3510/3550 C/8270 D	2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene 2-Methylnaphthalene; 2-Nitroaniline; 2-Nitrophenol; 3,3-Dichlorobenzidine; 3-Nitroaniline; 4,6-Dinitro-2-methylphenol; 4-Bromophenyl-phenylether; 4-Chloroaniline; 4-Chlorophenyl-phenylether; 4-Chlorotoluene; 4-Nitroaniline; 4-Nitrophenol; Anthracene; Benzo (a) anthracene; Bis(2-Chloroethoxy)methane; Bis(2-Chloroethyl)ether; Bis(2-Chloroisopropyl)ether; Bis(2-Ethylhexyl)phthalate; Butylbenzylphthalate;
USEPA 3510/3550	1,4-Dichlorobenzene; 1,3-Dichlorobenzene
USEPA 3510/3550C/ 8041/8270D	Pentachlorophenol
USEPA 3510/3550C/8270D	Dibenzofuran; Diethylphthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Indeno (1,2,3-cd) pyrene; Isophorone; Nitrobenzene; N-nitrosodi-n-propylamine; N-nitrosodiphenylamine; o-Cresol; p-Cresol
USEPA 3510/8270 D	1,2,4-Trichlorobenzene
USEPA 3510/8270/8081	Aldrin; Heptachlor epoxide (isomer B)
USEPA 3510/8270/8081/8121	b-BHC
USEPA 3510/3550C/8270D/9065	Phenols
USEPA 3010A/ 6010C/7470	Hydride Mercury (Hg)
USEPA3010A/3050B/ 6010C	Phosphorous (P)
USEPA 3010A/6010C	Lead (Pb); Cadmium (Cd); Copper (Cu); Iron (Fe); Lead (Pb); Nickel (Ni); Silica (SiO2); Vanadium (V);
USEPA 3050B/6010C	Barium (Ba); Chromium (Cr); Potassium (K); Silver (Ag); Sodium (Na); Hydride Selenium (Se)
USEPA 3550/ 5030/5035/8121/8260C	1,4-Dichlorobenzene
USEPA 3550/ 5030/5035/8260C/8121	1,3-Dichlorobenzene
USEPA 3550 C/ 8010/8270 D	4-Chloro-3-methylphenol; 2,4-Dichlorophenol; 2-Chlorophenol
USEPA 3510C/ 8081/8270/GCMS	p,p-DDT
USEPA 3510C/ 8270/8081/GCMS	Heptachlor
USEPA 3510C/ 8270/8081/GCMS	p,p-DDE
USEPA 3510C/3550/ 5030/8121/8260C	Hexachlorobutadiene
USEPA 3510C/3550/8041	2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol
USEPA 3510C/3550/8082A	2,2,3,3,4,4,5,5,6-Nonachlorobiphenyl; 2,2,3,3,4,4,5-Heptachlorobiphenyl; 2,2,3,4,4,5,6-Heptachlorobiphenyl; 2,2,3,4,4,5-Hexachlorobiphenyl; 2,2,3,4,5,5,6-Heptachlorobiphenyl; 2,2,3,4,5,5-Hexachlorobiphenyl; 2,2,3,4,5-Pentachlorobiphenyl; 2,2,3,5,5,6-Hexachlorobiphenyl; 2,2,3,5-Tetrachlorobiphenyl; 2,2,4,4,5,5-Hexachlorobiphenyl; 2,2,4,5,5-Pentachlorobiphenyl; 2,2,5,5-Tetrachlorobiphenyl; 2,2,5-Trichlorobiphenyl; 2,3,3,4,6-Pentachlorobiphenyl; 2,3,4,4-Tetrachlorobiphenyl; 2,3-Dichlorobiphenyl; 2,4,5-Trichlorobiphenyl; 2-Chlorobiphenyl
USEPA 3510C/3550/8270D	Benzo (a) pyrene; Fluoranthene; Fluorene
USEPA 3510C/3550C/ 8121/8270D	Hexachloroethane
USEPA 3510C/3550C/8121	Hexachlorocyclopentadiene
USEPA 3510C/3550C/8270D	Carbazole; Chrysene; Dibenzo (a,h) anthracene; Phenanthrene; Pyrene
USEPA 3510C/5030/ 8121/8260C	1,2,3-Trichlorobenzene
USEPA 3510C/5030/8270D	Naphthalene
USEPA 3510C/8015C/8270D	Diesel Range Hydrocarbons (C10 - C28)

USEPA 3510C/8121	1,2,3,4-Tetrachlorobenzene; 1,2,3,5-Tetrachlorobenzene; 1,2,4,5-Tetrachlorobenzene; 1,2,4-Trichlorobenzene; 1,2-Dichlorobenzene; 1,3,5-Trichlorobenzene; 2-Chloronaphthalene; Benzal chloride; Benzo trichloride; Benzyl chloride; g-BHC; Pentachlorobenzene
USEPA 3510C/8121/8270D	Hexachlorobenzene
USEPA 3510C/8270/ 8081/8121/GCMS	a-BHC
USEPA 3510C/8270/ 8081/GCMS	d-BHC; Dieldrin; Endosulfan I; Endosulfan II; Endosulfan Sulfate; Endrin; Endrin aldehyde; p,p-DDD
USEPA 3510C/8270D	Acenaphthene
USEPA 3550 /8270 D	Benzo (b) fluoranthene, Benzo (g,h,i) perylene; Benzo (k) fluoranthene
USEPA 5030 B / 8015 C	Gasoline Range Hydrocarbons (C5 - C10)
USEPA 5030/5035/8121/8260	1,4-Dichlorobenzene; 1,3-Dichlorobenzene
USEPA 5030/5035/8260 C	1,3,5-Trimethylbenzene, 1,3-Dichloropropane, 2,2-Dichloropropane, 2-Chlorotoluene, Bromobenzene; Bromochloromethane; Bromodichloromethane; Bromoform; Carbon Tetrachloride; Chlorobenzene; cis-1,2-Dichloroethene; cis-1,3-Dichloropropene; Isopropylbenzene; m-Xylene; n-Butylbenzene; tert-Butylbenzene; Tetrachloroethene; trans-1,2-Dichloroethene; trans-1,3-Dichloropropene; Trichloroethane; Dibromomethane; n-Propylbenzene; o-Xylene; p-Isopropyltoluene; p-Xylene; sec-Butylbenzene; Styrene
USEPA 5030/8260 C	1,1,1,2-Tetrachloroethane; 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,1-Dichloropropene; 1,2,3-Trichloropropane; 1,2,4-Trichlorobenzene; 1,2,4-Trimethylbenzene; 1,2-Dibromo-3-chloropropane; 1,2-Dibromoethane; 1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane
USEPA 5030B/5035/8260 C	Ethyl Benzene
USEPA 5030B/5035/8260B	Chloroform; Dibromochloromethane
USEPA 5030B/5035/8260C	Toluene; Dichloromethane
USEPA 5030B/8260 C	Benzene; Xylenes
USEPA 6010C/ SMWW 4500 P D-B	Phosphate (PO4)
USEPA 8041	2,3,4,6-Tetrachlorophenol; 2,6-Dichlorophenol
USEPA 8260 B / 5030 B	Dichlorobromomethane
USEPA 9030B/9034-1996	Sulphide
USEPA 9060A	Total Organic Carbon (TOC)
USEPA 9065	Total Phenols

Waste Paint

USEPA 3050 B / 6010 C	Moisture & Volatile Content @ 105 ºC; Arsenic (As); Barium (Ba); Cadmium (Cd); Chromium (total) (Cr); Lead (Pb); Mercury (Hg); Phosphorous (P); Potassium(K); Selenium (Se); Silver (Ag); Sodium(Na);
USEPA 3550 C / 8082 A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl; 2,2',3,3',4,4',5-Heptachlorobiphenyl; 2,2',3,4,4',5,5'-Heptachlorobiphenyl; 2,2',3,4,4',5',6-Heptachlorobiphenyl; 2,2',3,4,4',5'-Hexachlorobiphenyl; 2,2',3,4',5,5',6-Heptachlorobiphenyl; 2,2',3,4,5,5'-Hexachlorobiphenyl; 2,2',3,4,5'-Pentachlorobiphenyl; 2,2',3,5,5',6-Hexachlorobiphenyl; 2,2',3,5'-Tetrachlorobiphenyl; 2,2',4,4',5,5'-Hexachlorobiphenyl; 2,2',4,5,5'-Pentachlorobiphenyl; 2,2',5,5'-Tetrachlorobiphenyl; 2,2',5-Trichlorobiphenyl; 2,3,3',4',6-Pentachlorobiphenyl; 2,3',4,4'-Tetrachlorobiphenyl; 2,3-Dichlorobiphenyl; 2,4',5-Trichlorobiphenyl; 2-Chlorobiphenyl
USEPA 5035 / 8260C	Benzene; Toluene; Xylenes
USEPA 9030 B / 9034 – 1996	Sulphide
USEPA 9065	Phenols

Environmental

USEPA 3005 A / 6010 C	Cobalt (Co)
USEPA 3050B /6010C	Antimony (Sb); Arsenic (As); Barium (Ba); Beryllium (Be); Cadmium (Cd); Chromium (Cr); Lead (Pb); Mercury (Hg); Phosphorous (P); Potassium (K); Selenium (Se); Silver (Ag); Sodium (Na); Sulphur (S); Thallium (Tl);
USEPA 3550 C / 8082 A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl; 2,2',3,3',4,4',5-Heptachlorobiphenyl; 2,2',3,4,4',5,5'-Heptachlorobiphenyl; 2,2',3,4,4',5',6-Heptachlorobiphenyl; 2,2',3,4,4',5'-Hexachlorobiphenyl; 2,2',3,4',5,5',6-Heptachlorobiphenyl; 2,2',3,4,5,5'-Hexachlorobiphenyl; 2,2',3,4,5'-Pentachlorobiphenyl; 2,2',3,5,5',6-Hexachlorobiphenyl; 2,2',3,5'-Tetrachlorobiphenyl; 2,2',4,4',5,5'-Hexachlorobiphenyl; 2,2',4,5,5'-Pentachlorobiphenyl; 2,2',5,5'-Tetrachlorobiphenyl; 2,2',5-Trichlorobiphenyl; 2,3,3',4',6-

	Pentachlorobiphenyl; 2,3',4,4'-Tetrachlorobiphenyl; 2,3-Dichlorobiphenyl; 2,4',5-Trichlorobiphenyl; 2-Chlorobiphenyl
USEPA 3550 C / 8270 D	1,2,4-Trichlorobenzene; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylnaphthalene; 2-Nitroaniline; 2-Nitrophenol; 3,3-Dichlorobenzidine; 3-Nitroaniline; 4,6-Dinitro-2-methylphenol; 4-Bromophenyl-phenylether; 4-Chloro-3-methylphenol; 4-Chloroaniline; 4-Chlorophenyl-phenylether; 4-Nitroaniline; 4-Nitrophenol; Acenaphthene; Acenaphthylene; Anthracene; Benzo (a) anthracene; Benzo (a) pyrene; Benzo (b) fluoranthene; Benzo (ghi) perylene; Benzo (k) fluoranthene; Bis(2-Chloroethoxy)methane; Bis(2-Chloroethyl)ether; Bis(2-Chloroisopropyl)ether; Bis(2-Ethylhexyl)phthalate; Butylbenzylphthalate; Carbazole; Chrysene; Dibenzo(a,h)anthracene; Dibenzofuran; Diethylphthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Fluoranthene; Fluorene; Hexachlorobenzen; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Ideno(1,2,3-cd)pyrene; Isophorone; Naphthalene; Nitrobenzene; N-nitrosodi-n-propylamine; N-nitrosodiphenylamine; o-Cresol; p-Cresol; Pentachlorophenol; Phenanthrene; Phenol; Pyrene
USEPA 5030 B / 8260 C	Benzene
USEPA 5035 / 8260 C	1,1,1,2-Tetrachloroethane; 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,1-Dichloropropene; 1,2,3-Trichlorobenzene; 1,2,3-Trichloropropane; 1,2,4-Trichlorobenzene; 1,2,4-Trimethylbenzene; 1,2-Dibromo-3-chloropropane; 1,2-Dibromoethane; 1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,3,5-Trimethylbenzene; 1,3-Dichlorobenzene; 1,3-Dichloropropane; 1,4-Dichlorobenzene; 2,2-Dichloropropane; 2-Chlorotoluene; 4-Chlorotoluene; Benzene; Bromobenzene; Bromochloromethane; Bromodichloromethane; Bromoform; Carbon Tetrachloride; Chlorobenzene; Chloroform; cis-1,2-Dichloroethene; cis-1,3-Dichloropropene; Dibromochloromethane; Dibromomethane; Dichloromethane; Ethylbenzene; Hexachlorobutadiene; Isopropylbenzene; m-Xylene; Naphthalene; n-Butylbenzene; n-Propylbenzene; o-Xylene; p-Isopropyltoluene; p-Xylene; sec-Butylbenzene; Styrene; tert-Butylbenzene; Tetrachloroethene; Toluene; trans-1,2-Dichloroethene; trans-1,3-Dichloropropene; Trichloroethane
USEPA 9030B/9034-1996	Sulphide
USEPA 9065	Phenols
USEPA 9071 B	Hexane Extractable Materials

Oil

ASTM D 3612C	Gases Dissolved in Electrical Insulating Oils
ASTM D1169-11	Specific Resistance (Resistivity) of Insulating Liquids
ASTM D1275-06 Method B	Corrosive Sulfur
ASTM D1298-12b	Density & Specific Gravity or API Gravity
ASTM D1500	Color
ASTM D1500-12	Color of Petroleum Products (ASTM Color Scale)
ASTM D1524-94 (2010)	Visual Examination of Insulating Oil
ASTM D1533-12	Moisture in Insulating Liquids
ASTM D1698	Sediments and Soluble Sludge
ASTM D1698-03 (2008)	Sediments and Soluble Sludge in Insulating Oils
ASTM D1816-12	Dielectric Breakdown Voltage (VDE Electrodes)
ASTM D2270-10e1	Viscosity Index
ASTM D3612-02 (2009) Method C	Dissolved Gas Analysis (DGA)
ASTM D4059-00 (2010)	Polychlorinated Biphenyls in Insulating Liquids
ASTM D445	Viscosity (Kinematic) @ 40 C
ASTM D445-12	Kinematic and Dynamic Viscosity @40 oC
ASTM D445-12	Kinematic and Dynamic Viscosity @100 oC
ASTM D4739-11	Base Number (Potentiometric Titration)
ASTM D4768-11	Ditertiary Butyl Cresol and Butyl Phenol in Insulating Liquids
ASTM D482	Ash
ASTM D5837-12	Furanic Compounds (HPLC)
ASTM D6304-07	Moisture in Petroleum Products, Lubricants & Additives
ASTM D664/D974	Neutralization Value (Acidity)
ASTM D664-11a	Acid Number of Petroleum Products
ASTM D877-02 (2007)	Dielectric Breakdown Voltage (Disk Electrodes)
ASTM D92-12b	Flash Point & Fire Point (Cleveland Open Cup)
ASTM D923-07	Sampling of Electrical Insulating Liquids
ASTM D924-08	Dissipation Factor (Power Factor) & Dielectric Constant
ASTM D93-12	Flash Point (Pensky-Martens Closed Cup)
ASTM D971-12	Interfacial Tension (Ring Method)
ASTM D974-12	Acid and Base Number (Color Titration)
IEC 60156	Breakdown Dielectric Voltage (BDV)
IEC 60156:1995	Dielectric Breakdown Voltage (VDE Electrodes)
IEC 60247	Di-electrical dissipation Factor / Power Factor @ 90deg.C
IEC 60247	Resistivity p @ 90deg.C
IEC 60567	Dissolve Gas Analysis (DGA)
IEC 60814	Water Content KF
IEC 60814:1997	Water Content in Insulating Liquids
IEC 61198	Furan Analysis (5 compounds)
IEC 62021-2:2007	Total Acid Number IEC 62021-2
IEC 6295	Interfacial Surface Tension
ISO 2049:1996	Color (ASTM Color Scale)
ISO 4406:1999/NAS 1638: 2011	Particle Count
NAS 1638	Particle Count