

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-18403-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 24.03.2021

Date of issue: 24.03.2021

Holder of certificate:

VDZ Technology gGmbH
Toulouser Allee 71, 40476 Düsseldorf

Tests in the fields:

Chemical, chemical-physical and physical-technological analysis of building materials and materials such as concrete, binders, granulated blast furnace slag, clinker, mortar, cement, cementitious binders, solids, metallic materials, aqueous solutions

Within the scope of accreditation marked *, the testing laboratory is permitted to apply the listed standardised or equivalent test methods with different versions without obtaining prior notification and consent from DAkkS.

The testing laboratory has an up-to-date list of all test methods within the flexible scope of accreditation.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.

*The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

Abbreviations used: see last page

Page 1 of 8

This document is a translation. The definitive version is the original German annex to the accreditation certificate.

Chemical and chemical-physical testing *

DIN EN 196-2 2013-10	Methods of testing cement – Part 2: Chemical analysis of cement
DIN EN 1911 2010-12	Stationary source emissions – Determination of mass concentration of gaseous chlorides expressed as HCl – Standard reference method
DIN EN 14789 2017-05	Stationary source emissions - Determination of volume concentration of oxygen - Standard reference method
DIN EN 14791 2017-05	Stationary source emissions - Determination of mass concentration of sulphur oxides - Standard reference method
DIN EN 15058 2017-05	Stationary source emissions - Determination of the mass concentration of carbon monoxide - Standard reference method: non-dispersive infrared spectrometry
DIN Technical Report CEN/TR 196-4 2007-11	Methods of testing cement - Part 4: Quantitative determination of constituents Section 7.2.2 Microscopic method
VDI 2456 2004-11	Measurement of gaseous emissions – Reference method for the determination of the sum of nitrogen monoxide and nitrogen dioxide – Ion chromatographic method
VDI 2470 Blatt 1 1975-10	Measurement of gaseous emissions; Measurement of gaseous fluorine compounds / Absorption method
VDI 3496 Blatt 1 1982-04	Measurement of gaseous emissions; Determination of basic nitrogen compounds ascertainable in sulphuric acid by absorption
VDI 3878 2017-09	Stationary source emissions - Measurement of ammonia (and gaseous ammonium compounds)

Chemical and chemical-physical testing – in-house methods

In-house method A-01-087 2020-11	X-ray fluorescence analysis for the determination of main and minor constituents in cement and other solids Determination of SiO ₂ , Al ₂ O ₃ , TiO ₂ , P ₂ O ₅ , Fe ₂ O ₃ , Mn ₂ O ₃ , CaO, MgO, SO ₃ , K ₂ O, Na ₂ O, S ²⁻ , Cl ⁻ , O ₂ equivalent, C ₃ S, C ₂ S, C ₃ A, C ₄ AF, C ₂ F, KS, TM, SM, SG, CUE and calculation of the composition of cements with several main constituents
In-house method A-01-099 2017-03	Determination of the glass content of granulated blast furnace slag in accordance with ZKG International 47 (1994) issue 11, p. 658-661 Enumeration with the help of light microscopy
In-house method A-11-009 2018-01	Total N determination by the Kjeldahl method in biogenic input materials and materials from the clinker burning process
In-house method A-11-015 2018-01	Photometric ammonium determination in aqueous solutions
In-house method A-11-024 2016-12	Ion chromatographic bromide determination in aqueous and sodium alkaline solutions
In-house method A-14-001 2020-11	Phase analysis of cement by X-ray diffraction / Rietveld analysis
In-house method A-14-007 2011-07	Determination of granulated blast furnace slag content in cements by X-ray diffraction / Rietveld analysis

Physical-technological testing *

DIN EN ISO 6892-1 2017-02	Metallic materials – Tensile testing – Part 1: Method of test at room temperature (ISO 6892-1: 2016)
DIN EN 196-1 2016-11	Methods of testing cement – Part 1: Determination of strength
DIN EN 196-3 2017-03	Methods of testing cement – Part 3: Determination of setting times and soundness
DIN EN 196-6 2019-03	Methods of testing cement – Part 6: Determination of fineness

Annex to the accreditation certificate D-PL-18403-01-00

DIN EN 196-9 2010-07	Methods of testing cement - Part 9: Heat of hydration - Semi-adiabatic method
DIN EN 413-2 2016-12	Masonry cement – Part 2: Test methods Section 5.2: Determination of the consistency of fresh mortar with the consistometer (reference method) Section 5.3: Determination of the consistency of fresh mortar with the flow table (alternative method) Section 6: Determination of water retention capacity Section 7.2: Determination of air content; Pressure balance method
DIN EN 445 1996-07	Grout for prestressing tendons – Test methods
DIN EN 450-1 2012-10	Fly ash for concrete – Part 1: Definition, specifications and conformity criteria Section 5.3.2: Determination of the activity index Section 5.3.5: Determination of initial set after
DIN EN 932-1 1996-11	Test for general properties of aggregates – Part 1: Methods for sampling
DIN EN 933-10 2009-10	Tests for geometrical properties of aggregates – Part 10: Assessment of fines – Grading of filler aggregates (air jet sieving)
DIN EN 1097-5 2008-06 and Corrigendum 1 2008-09	Tests for mechanical and physical properties of aggregates – Part 5: Determination of the water content by drying in a ventilated oven
DIN EN 1097-7 2008-06 and Corrigendum 1 2008-09	Tests for mechanical and physical properties of aggregates – Part 7: Determination of the particle density of filler – Pycnometer method
DIN EN 12350-2 2019-09	Testing fresh concrete – Part 2: Slump test
DIN EN 12350-3 2019-09	Testing fresh concrete – Part 3: Vebe test
DIN EN 12350-4 2019-09	Testing fresh concrete – Part 4: Degree of compactability

Valid from: 24.03.2021
Date of issue: 24.03.2021

Annex to the accreditation certificate D-PL-18403-01-00

DIN EN 12350-5 2019-09	Testing fresh concrete – Part 5: Flow table test
DIN EN 12350-6 2019-09	Testing fresh concrete – Part 6: Density
DIN EN 12350-7 2019-09	Testing fresh concrete – Part 7: Air content – Pressure methods
DIN EN 12390-3 2019-10	Testing hardened concrete – Part 3: Compressive strength of test specimens
DIN EN 12390-5 2019-10	Testing hardened concrete – Part 5: Flexural strength of test specimens
DIN EN 12390-6 2010-09	Testing hardened concrete – Part 6: Tensile splitting strength of test specimens
DIN EN 12390-7 2019-10	Testing hardened concrete – Part 7: Density of hardened concrete
DIN EN 12390-8 2019-10	Testing hardened concrete – Part 8: Depth of penetration of water under pressure
DIN EN 12390-13 2014-06	Testing hardened concrete – Part 13: Determination of secant modulus of elasticity in compression
DIN EN 14651 2017-12	Test method for metallic fibre concrete – Measuring the flexural tensile strength (limit or proportionality (LOP), residual)
DIN EN 14790 2017-05	Stationary source emissions – Determination of the water vapour in ducts – Standard reference method
DIN EN 15167-1 2006-12	Ground granulated blast furnace slag for use in concrete, mortar and grout – Part 1: Definitions, specifications and conformity criteria Section 5.3.2.2: Determination of time to initial set Section 5.3.2.3: Determination of the activity index
DIN EN 15414-3 2011-05	Solid recovered fuels – Determination of moisture content using the oven dry method – Part 3: Moisture in general analysis sample
DIN 1048-1 1991-06	Test method for concrete, fresh concrete, fresh concrete temperature

Annex to the accreditation certificate D-PL-18403-01-00

DIN 1048-5 1991-06	Test method for concrete, modulus of elasticity
DIN 1048-5 1991-06	Test method for concrete, hardened concrete, specially prepared test specimens, moisture content
DIN 1048-5 1991-06	Test method for concrete, hardened concrete, specially prepared test specimens, impermeability to water
DIN 51718 2002-06	Testing of solid fuels – Determination of the water content and the moisture of analysis sample, method B
DIN 51904 2012-11	Testing of carbonaceous materials – Determination of water content – Solid matters
DIN 66133 1993-06	Determination of pore volume distribution and specific surface area of solids by mercury intrusion
DIN CEN/TS 12390-9 2017-03	Testing hardened concrete – Part 9: Freeze-thaw resistance with de-icing salts – Scaling
DIN Technical Report CEN/TR 15177 2006-06	Testing the freeze-thaw resistance of concrete – Internal structural damage Section 7: Beam test Section 9: CIF method
DAfStb Heft 422 1991	Testing of concrete, recommendation and notes as a supplement to DIN 1048 – Duration of the ultrasonic pulse – Resonance frequency – Determination of carbonation depth
DAfStb Alkali-Richtlinie 2007-02	DAfStb guideline – Preventive measures against harmful alkali reaction in concrete (alkali guideline) – Broken alkali sensitive aggregates Annex A: Mortar quick test (alternative method)
DAfStb Alkali-Richtlinie 2013-10	DAfStb guideline – Preventive measures against harmful alkali reaction in concrete (alkali guideline) – Broken alkali-sensitive aggregates Annex B.1: Quick test method (reference method) Annex B.2: Concrete test with mist chamber storage (40 °C) Annex C: Concrete test at 60 °C

Valid from: 24.03.2021
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Annex to the accreditation certificate D-PL-18403-01-00

DAfStb-Richtlinie BUmwS, March 2011 edition	DAfStb guideline on concrete construction when handling substances hazardous to water (BUmwS) Annex A.2 Ingress of water-polluting substances into non-cracked concrete, determination of the penetration depth of water-polluting substances
BAW leaflet on chloride penetration resistance 2012 edition	BAW leaflet on chloride penetration resistance of concrete, chloride penetration resistance of concrete, chloride migration test
NT BUILD 492 1999-11	Chloride migration test in accordance with NT BUILD 492
DIN EN 480-11:2005	Determination of air void characteristics in hardened concrete
DAfStb Heft 422: 1991	Determination of air void characteristics in hardened concrete – Microscopic air void analysis (1981 version)

Physical-technological testing – in-house methods

In-house method A-04-001 2016-11	60 °C concrete test with alkali supply
In-house method A-04-002 2016-11	60 °C concrete test without alkali supply
In-house method A-07-004 2018-06	Determination of grain-size distribution of fine-grained substances with the air jet sieve machine
In-house method A-07-006 2011-12	Determination of grain-size distribution of fine-grained substances with the tower sieve machine
In-house method A-07-007 2018-12	Determination of grain-size distribution of powdery substances with the laser diffraction spectrometer (CILAS)
In-house method A-10-001 2018-12	Determination of sieve residue and production of grain fractions
In-house method A-10-025 2006-02	Determination of initial set with the "ToniSET" machine
In-house method A-10-034 2019-11	Determination of fineness with the Blaine machine "Dyckerhoff system"

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Annex to the accreditation certificate D-PL-18403-01-00

In-house method A-10-047 2011-11	Fineness of fly ash for concrete in accordance with test methods for geometric properties of aggregates as per DIN EN 933-10
In-house method A-14-034 2016-01	Testing of the sulphate resistance of cement using the Wittekindt, SVA and CEN methods

Abbreviations used:

BAW	Bundesanstalt für Wasserbau (Federal Waterways Engineering and Research Institute)
DAfStb	Deutscher Ausschuss für Stahlbeton (German Committee for Structural Concrete)
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardisation)
EN	European standard
NT	Nordtest