

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11021-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **19.04.2022**

Date of issue: 19.04.2022

Holder of certificate:

**Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen
Leipzig mbH**

For its testing laboratories

**Mineral building materials,
Metal construction, fastening and joining technology,
Construction chemistry and environmental analytics,
Building physics and masonry,
Experimental structural mechanics and Construction Engineering
Sound insulation,
Structural sealing,
Pipe testing centre,
Subsoil and road construction laboratory, aggregates
Hans-Weigel-Straße 2B, 04319 Leipzig**

and

**Fire behaviour of building materials
Fire behaviour of structural components and special constructions
Hans-Weigel-Straße 2B, 04319 Leipzig
MFPA-Allee 1, 04509 Laue**

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

*The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
<https://www.dakks.de/en/content/accredited-bodies-dakks>*

Tests in the fields:

Testing of mechanical, physical and geometrical properties, the durability of concrete, fibre concrete, concrete products, mortar, binder, aggregates, subsoil, wood and wood-based materials, sealing sheets and coatings for sealing the buildings of insulating and non-insulating materials;

testing of watertightness, consistency and aging of sealing sheets and coatings, functionality of sealing procedure and injection materials, environmental compatibility of sealing products and injection materials, testing of chemical consistency, consistency against environmental factors and ageing behaviour, identification tests and quantitative analysis of mineral building products and binder, plastics, sealing and coating materials, textile and fibre-reinforced materials and polymer fibres for concrete and laminates; testing of mechanical, physical and geometric properties, durability, chemical analysis, stationary and ambulant metallography and nondestructive testing of metallic materials, welded joints, steel and polymer fibres for concrete, reinforcements and concrete reinforcement steel products, anticorrosive coatings and components of the sanitary and heating construction, building and metal constructions; Optical emission spectroscopy (OES) for steel and iron materials and non-iron materials; experimental testing for structural safety of existing constructions and constructional elements; testing of post tensioning kits for prestressing of structures; testing of mechanical, physical and geometrical properties and of usability and load bearing capacity of pipe systems, seepage elements, pipes and manholes of plastic, concrete, reinforced concrete and stoneware as well as manhole covers, pipe joints and seals, drainage channels, steps and fixed ladders; testing of thermal and hygrical properties, thermal conductivity, water vapour transmission, dynamical stiffness and flow resistance of insulating and non-insulating materials; hygrothermal behaviour of external walls in the wall test rig; testing of burglar resistance, testing of permanent functionality and smoke-tightness of windows, doors and gates; testing of acoustical and mechanical properties as well as acoustic and mechanic long term performance of road traffic noise reducing devices , noise protection walls and cognate appliance to the influence of airborne sound expansion; determination of airborne and impact sound insulation, of reduction and acoustical absorption in constructional elements;

Determination of noise and vibrations; module Immssion control;

Testing of fire behaviour and fire resistance of building materials, structural components construction products and builds;

Testing of construction products (system of assessment and verification of constancy of performance 3) within the scope of the Regulation (EU) No 305/2011 laying down harmonised conditions for the marketing of construction products (Construction Products Regulation)

Tests of reaction to fire, of resistance to fire, of external fire performance and of noise absorption, for which the reference to a relevant harmonised technical specification is not required (point 3. Annex V, (EU) Nr. 305/2011)

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The testing methods are identified with the symbols below, according to the sites where the testing was performed:

Le = Leipzig

La = Laue

Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods (without internal test procedures). The listed testing methods are exemplary. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

Within the scope of accreditation marked with **, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods (without internal test procedures) listed here with different issue dates. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

1 Concrete and concrete products (Le)**

1.1 Concrete

ISO 1920-4 2020-01	Testing of concrete - Part 4: Strength of hardened concrete
DIN EN 480-11 2005-12	Admixtures for concrete, mortar and grout - Test methods - Part 11: Determination of air void characteristics in hardened concrete
DIN EN 12350-1 2019-09	Testing fresh concrete - Part 1: Sampling
DIN EN 12350-3 2019-09	Testing fresh concrete - Part 3: Vebe test
DIN EN 12350-06 2019-09	Testing fresh concrete - Part 6: Density

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DIN EN 12390-1 2012-12	Testing hardened concrete - Part 1: Shape, dimensions and other requirements for specimens and moulds
DIN EN 12390-2 2019-09	Testing hardened concrete - Part 2: Making and curing specimens for strength tests
DIN EN 12390-3 2019-09	Testing hardened concrete - Part 3: Compressive strength of test specimens
DIN EN 12390-5 2019-09	Testing hardened concrete - Part 5: Flexural strength of test specimens
DIN EN 12390-8 2019-10	Testing hardened concrete - Part 8: Depth of penetration of water under pressure
DIN 1048-2 1991-06	Testing concrete; testing of hardened concrete (specimens taken in situ) <i>(whitdrawn standard)</i>
DIN 52108 2010-05	Testing of inorganic non-metallic materials - Wear test using the grinding wheel according to Böhme - Grinding wheel method
DAfStb Manual 401 1989	Instructions for the determination of chlorine content in concrete – <i>here:</i> Section 4.5: Chloride content determination by photometry
BAW-leaflet 2012-11	Resistance of concrete to chloride ingress
NT Build 492 1999-11	Concrete, mortar and cement-based repair materials: Chloride migration coefficient from non-steady-state migration experiments

1.2 Fibre concrete

DIN EN 14488-3 2006-09	Testing sprayed concrete - Part 3: Flexural strengths (first peak, ultimate and residual) of fibre reinforced beam specimens
DIN EN 14651 2007-12	Test method for metallic fibre concrete - Measuring the flexural tensile strength (limit or proportionality (LOP), residual)

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DAfStb Guidelines 2012-11	Guidelines of the German Reinforced Steel Committee „Steel fibre concrete“
DBV-Merkblatt (leaflet) 2001-10	Steel fibre concrete
ÖBV-Richtlinie (directive) 2015-04	Enhanced construction fire protection with concrete for subterranean traffic structures – Determination of polypropylene (PP) fibre content in fresh and hardened concrete (microfibres) – <i>here:</i> annex A.4 – determination of PP-fibre content in fresh concrete annex A.5 – determination of PP-fibre content in hardened concrete
ÖVBB-Richtlinie (directive) 2008-07	Fibre-reinforced concrete – <i>here:</i> annex 6 - Determination of macro-polypropylene (PP) fibre content in hardened concrete

1.3 Precast concrete, concrete goods

DIN EN 679 2005-09	Determination of the compressive strength of autoclaved aerated concrete
DIN EN 772-1 2016-05	Methods of test for masonry units - Part 1: Determination of compressive strength
DIN EN 1338 2003-08 + Corrigendum 1 2006-11	Concrete paving blocks - Requirements and test methods– <i>here:</i> annex C - Determination of the dimensions of a single paving stone annex D - Determination of the resistance to freeze-thaw cycles with de-icing salt annex E - Determination of the total water absorption annex F - Determination of the splitting tensile strength annex H - Measurement of wear using the Böhme test method annex J - Examination of the external condition
DIN EN 1339 2003-08 + Corrigendum 1 2006-11	Concrete paving flags - Requirements and test methods, <i>here:</i> annex C - Determination of the dimensions of a single panel annex D - Determination of the resistance to freeze-thaw cycles with de-icing salt annex E - Determination of water absorption

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	annex F - Measurement of flexural tensile strength and breaking load annex H - Measurement of wear using the Böhme test method annex J - Verification of the external condition
DIN EN 1340 2003-08 + Corrigendum 1 2006-11	Concrete curb units - Requirements and test methods, <i>here:</i> annex C - Determination the dimensions of a single curb annex D - Determination of the resistance to freeze-thaw cycles with de-icing salt annex E - Determination of the total water absorption annex F - Determination of the flexural strength annex H - Measurement of wear using the Böhme test method annex J - Examination of the external condition
DIN EN 12504-1 2021-02	Testing concrete in structures - Part 1: Cored specimens - Taking, examining and testing in compression
DIN EN 13791 2020-02	Assessment of in-situ compressive strength in structures and precast concrete components
DIN 483 2005-10	Concrete kerb units - Shapes, dimensions, marking

1.4 Concrete construction

DIN EN 13391 2004-06	Mechanical tests for post-tensioning systems
EAD 160004-00-0301	Post-tensioning systems for prestressing of structures <i>except</i> Annex C.2.2 - statistical loading in low temperatures
ETAG 013 2006-05	Guideline for European Technical Approval of post tensioning kits for prestressing of structures – Testing of prestressing – Annex B <i>except</i> Annex B 1.2 - statistical loading in low temperatures

Experimental testing for structural safety of existing constructions and constructional elements *

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods (<i>characteristic</i>)
Bending Pull Compression	Strain (ϵ) Deformation (w) Force (F)	DAfStb-Rili Load tests on concrete structures

Characteristic testing method

DAfSt-Richtlinie (directive)
2000-09 Load tests on concrete structures

2. Binder (Le) **

DIN EN 196-1
2016-11 Methods of testing cement - Part 1: Determination of strength

DIN EN 196-2
2013-10 Method of testing cement - Part 2: Chemical analysis of cement
here:
clause 4.4.2 Determination of the sulphate

DIN EN 1015-2
2007-05 Methods of test for mortar for masonry - Part 2: Bulk sampling
of mortars and preparation of test mortars

DIN EN 1015-3
2007-05 Methods of test for mortar for masonry - Part 3: Determination
of consistence of fresh mortar (by flow table)

DIN EN 1015-6
2007-05 Methods of test for mortar for masonry - Part 6: Determination
of bulk density of fresh mortar

DIN EN 1015-7
1998-12 Methods of test for mortar for masonry - Part 7: Determination
of air content of fresh mortar
here:
clause 7: method A – Pressure procedure

DIN EN 1015-11
2020-01 Methods of test for mortar for masonry - Part 11: Determination
of flexural and compressive strength of hardened mortar

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DIN EN 12004-02 2017-05	Adhesives for ceramic tiles - Part 2: Test methods
DIN EN 12467 2018-07	Fibre-cement flat sheets - Product specification and test methods <i>here:</i> clause 7.3.5: Warm water clause 7.3.6: Soak-dry clause 7.4.1: Freeze-thaw
DIN EN 13892-2 2003-02	Methods of test for screed materials - Part 2: Determination of flexural and compressive strength
DIN 18555-3 1982-09	Testing of mortars containing mineral binders; hardened mortars; determination of flexural strength, compressive strength and bulk density <i>(withdrawn standard)</i>

2.1 Testing of mineral-based constructional material behaviour under climatic stressing (with and without de-icing agent)*

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods <i>(characteristic)</i>
Climatic stressing		
- due to freeze-thaw test with de-icing salt	Weathering amount	DIN EN 1338 DIN EN 1339 DIN EN 1340
- CDF due to freeze-thaw test with de-icing salt	Weathering amount	BAW leaflet Frostprüfung (Freeze test)
- CIF due to freeze-thaw test without de-icing salt	Internal damage	BAW leaflet Frostprüfung (Freeze test)
- CIF/CDF due to freeze-thaw test with/ without de-icing salt	Weathering amount	DIN CEN/TS 12390-9

Characteristic testing methods

DIN EN 1338 2003-08 + Corrigendum 1 2006-11	Concrete paving blocks - Requirements and test methods - Annex D: Determination of freeze-thaw resistance with de-icing salt
DIN EN 1339 2003-08 + Corrigendum 1 2006-11	Concrete paving flags - Requirements and test methods - Annex D: Determination of freeze-thaw resistance with de-icing salt
DIN EN 1340 2003-08 + Corrigendum 1 2006-11	Concrete kerb units - Requirements and test methods - Annex D: Determination of freeze-thaw resistance with de-icing salt
DIN CEN/TS 12390-9 2017-05	Testing hardened concrete - Part 9: Freeze-thaw resistance - Scaling
Saxonian Testing Guidelines 2002-12 in conjunction with SMWA directive of 11.01.2005	Testing of concrete – Determination of the freeze-thaw resistance of cement-bound constructional elements <i>(in German)</i>
BAW leaflet "Frostprüfung" (Freeze test) 2012-09	Freeze test for concrete

3. Aggregates (Le) **

DIN EN 932-1 1996-11	Test for general properties of aggregates - Part 1: Methods for sampling
DIN EN 932-2 1999-03	Test for general properties of aggregates - Part 2: Methods for reducing laboratory samples
DIN EN 932-3 2003-12	Tests for general properties of aggregates - Part 3: Procedure and terminology for simplified petrographic description
DIN EN 933-1 2012-03	Tests for geometrical properties of aggregates - Part 1: Determination of particle size distribution - Sieving method

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DIN EN 933-3 2012-04	Tests for geometrical properties of aggregates - Part 3: Determination of particle shape - Flakiness index
DIN EN 933-4 2015-01	Tests for geometrical properties of aggregates - Part 4: Determination of particle shape - Shape index
DIN EN 933-5 2005-02	Tests for geometrical properties of aggregates – Part 5: Determination of percentage of crushed and broken surfaces in coarse aggregate particles
DIN EN 933-6 2014-07	Test for geometrical properties of aggregates - Determination of surface characteristics - Part 6: Flow coefficient of aggregates
DIN EN 933-7 1998-05	Tests for geometrical properties of aggregates - Part 7: Determination of shell content; percentage of shells in coarse aggregates
DIN EN 933-11 2011-05	Tests for geometrical properties of aggregates - Part 11: Classification test for the constituents of coarse recycled aggregate
DIN EN 1097-2 2020-06	Tests for mechanical and physical properties of aggregates - Part 2: Methods for the determination of resistance to fragmentation
DIN EN 1097-3 1998-06	Tests for mechanical and physical properties of aggregates - Part 3: Determination of loose bulk density and voids
DIN EN 1097-5 2008-06 + 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 1097-6 2013-09	Tests for mechanical and physical properties of aggregates - Part 6: Determination of particle density and water absorption
DIN EN 1367-1 2007-06	Tests for thermal and weathering properties of aggregates - Part 1: Determination of resistance to freezing and thawing

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DIN EN 1367-5 2011-04	Tests for thermal and weathering properties of aggregates - Part 5: Determination of resistance to thermal shock
DIN EN 1367-6 2008-12	Tests for thermal and weathering properties of aggregates - Part 6: Determination of resistance to freezing and thawing in the presence of salt (NaCl)
DIN EN 1744-1 2013-03	Tests for chemical properties of aggregates - Part 1: Chemical analysis <i>here:</i> clauses 14.2 - Investigation for light-weight contaminants clause 15.1 - Determination of the presence of humus clause 17 - Determination of the loss on ignition

4. Subsoil /soil (Le) **

DIN EN ISO 17892-1 2015-03	Geotechnical investigation and testing - Laboratory testing of soil - Part 1: Determination of water content
DIN EN ISO 17892-3 2016-07	Geotechnical investigation and testing - Laboratory testing of soil - Part 3: Determination of particle density
DIN EN ISO 17892-4 2017-04	Geotechnical investigation and testing - Laboratory testing of soil - Part 4: Determination of particle size distribution
DIN 18123 2011-04	Soil, investigation and testing - Determination of grain-size distribution <i>(withdrawn standard)</i>
DIN 18128 2002-12	Soil - Investigation and testing - Determination of ignition loss

5. Metallic material, metallic alloys and coatings, metal construction (Le) **

5.1 Metallic materials

ISO 4968 1979-11	Steel; Macrographic examination by sulfur print (Baumann method)
ISO 15835-2 2018-10	Steels for the reinforcement of concrete - Reinforcement couplers for mechanical splices of bars - Part 2: Test methods

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EAD 160129-00-0301 Couplers for mechanical splices of reinforcing steel bars
Annex A – tests

5.2 Metallic alloys

DIN EN ISO 1463 Metallic and oxide coatings - Measurement of coating thickness -
2004-08 Microscopical method

DIN EN ISO 2178 Non-magnetic coatings on magnetic substrates - Measurement
2016-11 of coating thickness - Magnetic method

DIN EN ISO 2360 Non-conductive coatings on non-magnetic electrically
2017-12 conductive basis materials - Measurement of coating thickness -
Amplitude-sensitive eddy current method

PrüfV-1.2-8/1_VA Optical spark emission spectroscopy (OES) for the determination
01.08.2016 of 19 elements in steel and iron materials and in copper- and
aluminium-based alloys

5.3 Metal constructions

DIN EN ISO 17639 Destructive tests on welds in metallic materials - Macroscopic
2013-12 and microscopic examination of welds

5.4 Fibres for concrete

DIN EN 14889-1 Fibres for concrete - Part 1: Steel fibres - Definitions,
2006-11 specifications and conformity

5.5 Mechanical testing of metallic materials, constructional elements and metal constructions*

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods (characteristic)
Compression	Force (F)	DIN 50106
Traction	Force (F) Temperature (T)	DIN EN ISO 6892-1 DIN EN ISO 6892-2
Shear load	Force (F)	DIN EN ISO 15630-1

Type of test	Measure/ test parameter	Testing methods (characteristic)
Vibration	Force	DIN 50100
	Load cycle	
Hardness	HB	DIN EN ISO 6506-1
	HV	DIN EN ISO 6507-1
Impact loading	Impact energy (KV)	DIN EN ISO 148-1
	Temperature (T)	
Bending	Angle Angle deviation	DIN EN ISO 7438
Deformation	Trajectory (L)	DIN EN ISO 6892-1 DIN EN ISO 6892-2

Characteristic testing methods

DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method (here: only temperature range: -40°C to room temperature)
DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method
DIN EN ISO 6892-1 2020-06	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
DIN EN ISO 6892-2 2018-09	Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature
DIN EN ISO 7438 2021-03	Metallic materials - Bend test
DIN EN ISO 15630-1 2011-02	Steel for the reinforcement and prestressing of concrete - Test methods - Part 1: Reinforcing bars, wire rod and wire
DIN 50100 2016-12	Load controlled fatigue testing - Execution and evaluation of cyclic tests at constant load amplitudes on metallic specimens and components

DIN 50106 Testing of metallic materials - Compression test at room
2016-11 temperature

6. Wood and wood-based materials (Le) **

DIN EN 310 Wood-based panels; determination of modulus of elasticity in
1993-08 bending and of bending strength

DIN EN 314-1 Plywood - Bonding quality - Part 1: Test methods
2005-03

DIN EN 317 Particleboards and fibreboards; determination of swelling in
1993-08 thickness after immersion in water

DIN EN 318 Wood-based panels - Determination of dimensional changes
2002-06 associated with changes in relative humidity

DIN EN 319 Particleboards and fibreboards; determination of tensile
1993-08 strength perpendicular to the plane of the board

DIN EN 320 Particleboards and fibreboards - Determination of resistance to
2011-07 axial withdrawal of screws

DIN EN 321 Wood-based panels - Determination of moisture resistance
2002-03 under cyclic test conditions

DIN EN 324-1 Wood-based panels; determination of dimensions of boards;
1993-08 part 1: determination of thickness, width and length

DIN EN 324-2 Wood-based panels; determination of dimensions of boards;
1993-08 part 2: determination of squareness and edge straightness

DIN EN 408 Timber structures - Structural timber and glued laminated
2012-10 timber - Determination of some physical and mechanical
 properties

DIN EN 594 Timber structures - Test methods - Racking strength and stiffness
2011-09 of timber frame wall panels

DIN EN 596 Timber structures - Test methods - Soft body impact test of
1996-07 timber framed walls

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DIN EN 789 2005-01	Timber structures - Test methods - Determination of mechanical properties of wood based panels
DIN EN 1087-1 1995-04	Particleboards - Determination of moisture resistance - Part 1: Boil test
DIN EN 1156 2013-10	Wood-based panels - Determination of duration of load and creep factors
DIN EN 1195 1998-06	Timber structures - Test methods - Performance of structural floor decking
DIN EN 12871 2013-09	Wood-based panels - Determination of performance characteristics for load bearing panels for use in floors, roofs and walls
DIN EN 13354 2009-02	Solid wood panels (SWP) - Bonding quality - Test method
DIN EN 14279 2009-07	Laminated veneer lumber (LVL) - Definitions, classification and specifications
DIN EN 14755 2006-01	Extruded particleboards - Specifications

7. Insulating materials (Le) **

ISO 29768 2008-11	Thermal insulating products for building applications - Determination of linear dimensions of test specimens
DIN EN ISO 12570 2018-07	Hygrothermal performance of building materials and products - Determination of moisture content by drying at elevated temperature
DIN EN ISO 12571 2013-12	Hygrothermal performance of building materials and products - Determination of hygroscopic sorption properties
DIN EN ISO 16534 2019-06 Draft	Thermal insulating products for building applications - Determination of compressive creep
DIN EN ISO 16535 2019-10	Thermal insulating products for building applications - Determination of long-term water absorption by immersion

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DIN EN ISO 16536 2019-11	Thermal insulating products for building applications - Determination of long-term water absorption by diffusion
DIN EN ISO 16546 2019-04 draft	Thermal insulating products for building applications - Determination of freeze-thaw resistance
DIN EN ISO 29470 2019-06 draft	Thermal insulating products for building applications - Determination of the apparent density
DIN EN ISO 29767 2019-11	Thermal insulating products for building applications - Determination of short-term water absorption by partial immersion
DIN EN 822 2013-05	Thermal insulating products for building applications - Determination of length and width
DIN EN 823 2013-05	Thermal insulating products for building applications - Determination of thickness
DIN EN 824 2013-05	Thermal insulating products for building applications - Determination of squareness
DIN EN 825 2013-05	Thermal insulating products for building applications - Determination of flatness
DIN EN 826 2013-05	Thermal insulating products for building applications - Determination of compression behaviour
DIN EN 1602 2013-05	Thermal insulating products for building applications - Determination of the apparent density
DIN EN 1603 2013-05	Thermal insulating products for building applications - Determination of dimensional stability under constant normal laboratory conditions (23 °C/ 50 % relative humidity)
DIN EN 1604 2013-05	Thermal insulating products for building applications - Determination of dimensional stability under specified temperature and humidity conditions
DIN EN 1605 2013-05	Thermal insulating products for building applications - Determination of deformation under specified compressive load and temperature conditions
DIN EN 1606 2013-05	Thermal insulating products for building applications - Determination of compressive creep

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DIN EN 1607 2013-05	Thermal insulating products for building applications - Determination of tensile strength perpendicular to faces
DIN EN 1608 2013-05	Thermal insulating products for building applications - Determination of tensile strength parallel to faces
DIN EN 1609 2013-05	Thermal insulating products for building applications - Determination of short term water absorption by partial immersion <i>(withdrawn standard)</i>
DIN EN 12085 2013-06	Thermal insulating products for building applications - Determination of linear dimensions of test specimen
DIN EN 12087 2013-06	Thermal insulating products for building applications - Determination of long term water absorption by immersion <i>(withdrawn standard)</i>
DIN EN 12088 2013-06	Thermal insulating products for building applications - Determination of long term water absorption by diffusion <i>(withdrawn standard)</i>
DIN EN 12089 2013-06	Thermal insulating products for building applications - Determination of bending behaviour
DIN EN 12090 2013-06	Thermal insulating products for building applications - Determination of shear behaviour
DIN EN 12091 2013-06	Thermal insulating products for building applications - Determination of freeze-thaw resistance
DIN EN 12431 2013-05	Thermal insulating products for building applications - Determination of thickness for floating floor insulating products (compressibility)
DIN EN 12664 2001-05	Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Dry and moist products with medium and low thermal resistance
DIN EN 12667 2001-05	Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance

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DIN EN 13496 2013-12	Thermal insulation products for building applications - Determination of the mechanical properties of glass fibre meshes as reinforcement for External Thermal Insulation Composite Systems with renders (ETICS)
EAD 040083-00-0404	External thermal insulation composite systems (ETICS) with renderings <i>here:</i> clause 2.2.21 – Mechanical and physical characteristics of the mesh
ETAG 004 2013-02	Guideline for European Technical Approval of external thermal insulation composite systems (ETICS) with rendering clause clause 5.6.7.1: Textiles glass grids - tear strength and displacement of reinforced fabric <i>(withdrawn)</i>
PrüfV-4.1-25 07.03.2014	Testing of specific heat capacity – Kohlrausch method

7.1 Water vapour transmission properties*

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods <i>(characteristic)</i>
Water vapour permeability	Water vapour diffusion resistance coefficient μ respectively water vapour diffusion- equivalent air layer thickness s_d	DIN 53122-1 DIN EN 772-15 DIN EN 1931 DIN EN 12086 DIN EN ISO 7783

Characteristic testing methods *

DIN EN ISO 7783 2019-02	Paints and varnishes - Determination of water-vapour transmission properties - Cup method
DIN EN ISO 12572 2017-05	Hygrothermal performance of building materials and products - Determination of water vapour transmission properties - Cup method

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DIN EN 772-15 2000-09	Methods of test for masonry units - Part 15: Determination of water vapour permeability of autoclaved aerated concrete masonry units
DIN EN 1931 2001-03	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties
DIN EN 12086 2013-06	Thermal insulating products for building applications - Determination of water vapour transmission properties
DIN 53122-1 2001-08	Testing of plastics and elastomer films, paper, board and other sheet materials - Determination of water vapour transmission - Part 1: Gravimetric method

8. Plastics (Le) **

8.1 Material characteristics **

DIN EN ISO 62 2008-05	Plastics - Determination of water absorption
DIN EN ISO 178 2019-08	Plastics - Determination of flexural properties
DIN EN ISO 179-1 2010-11	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test
DIN EN ISO 604 2003-12	Plastics – Determination of compressive properties
DIN EN ISO 1133-1 2012-03	Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics - Part 1: Standard method here: Determination of the melt mass-flow rate (MFR)
DIN EN ISO 1183-1 2019-09	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1:2012); Method A - immersion method Method B - liquid pycnometer method and titration method
DIN EN ISO 2039-1 2003-06	Plastics - Determination of hardness - Part 1: Ball indentation method

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DIN EN ISO 2811-1 2016-08	Paints and varnishes - Determination of density - Part 1: Pycnometer method
DIN EN ISO 11357-3 2018-07	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization clause 10.1 – Determination of transition temperatures
DIN EN ISO 11357-6 2018-07	Plastics - Differential scanning calorimetry (DSC) - Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)
DIN EN ISO 11358-1 2014-10	Plastics - Thermogravimetry (TG) of polymers - General principles
DIN EN 59 2016-06	Glass reinforced plastics; Measurement of hardness by means of a Barcol impressor
DIN EN 61006 2004-11	Electrical insulating materials - Methods of test for the determination of the glass transition temperature

8.1.1 Tensile force and tensile strength testing *

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods (characteristic)
Tensile strength (plastics, elastomers, rubber)	Tensile force	DIN EN ISO 527, parts 1 to 5 DIN EN ISO 13262 ISO 37 DIN EN 12310, parts 1 and 2 DIN EN 12311, parts 1 and 2 DIN EN 12316, parts 1 and 2 DIN EN 12317, parts 1 and 2

Characteristic testing methods

ISO 37 2017-11	Rubber, vulcanized or thermoplastic - Determination of tensile stress strain properties
DIN EN ISO 527-1 2019-12	Plastics - Determination of tensile properties - Part 1: General principles

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DIN EN ISO 527-2 2012-06	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics
DIN EN ISO 527-3 2019-02	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets
DIN EN ISO 527-4 1997-07	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites
DIN EN ISO 527-5 2010-01	Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites
DIN EN ISO 13262 2018-01	Thermoplastics piping systems for non-pressure underground drainage and sewerage - Thermoplastics spirally-formed structured-wall pipes - Determination of the tensile strength of a seam
DIN EN 12310-1 1999-11	Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing; determination of resistance to tearing (nail shank)
DIN EN 12310-2 2019-02	Flexible sheets for waterproofing - Determination of resistance to tearing - Part 2: Plastic and rubber sheets for roof waterproofing
DIN EN 12311-1 1999-11	Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing; Determination of tensile properties
DIN EN 12311-2 2013-11	Flexible sheets for waterproofing - Determination of tensile properties - Part 2: Plastic and rubber sheets for roof waterproofing
DIN EN 12316-1 1999-11	Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing; determination of peel resistance of joints
DIN EN 12316-2 2013-08	Flexible sheets for waterproofing - Determination of peel resistance of joints - Part 2: Plastic and rubber sheets for roof waterproofing
DIN EN 12317-1 1999-11	Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing; determination of shear resistance of joints

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DIN EN 12317-2
2010-12 Flexible sheets for waterproofing - Determination of shear resistance of joints - Part 2: Plastic and rubber sheets for roof waterproofing

8.2 Characteristics of laminates **

DIN EN ISO 1172
1998-12 Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content; calcination methods

DIN EN 2564
2018-12 Aerospace series - Carbon fibre laminates - Determination of the fibre-, resin- and void contents

8.3 Fibres for concrete **

DIN EN 14889-2
2006-11 Fibres for concrete - Part 2: Polymer fibres - Definitions, specifications and conformity

9. Pipes, manholes and fittings (Le) **

9.1 Plastic components and –construction products

ISO 12091
1995-12 Structured-wall thermoplastics pipes - Oven test

DIN EN ISO 580
2005-05 Plastics piping and ducting systems - Injection-moulded thermoplastics fittings - Methods for visually assessing the effects of heating,
here:
clause 4 - Method A

DIN EN ISO 2505
2005-08 Thermoplastics pipes - Longitudinal reversion - Test methods and parameters– Test method after Section 5.2: Oven with forced air circulation

DIN EN ISO 3126
2005-05 Plastics piping systems - Plastics components - Determination of dimensions

DIN EN ISO 3127
2018-01 Thermoplastics pipes - Determination of resistance to external blows - Round-the-clock method

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DIN EN ISO 9967 2016-07	Thermoplastics pipes - Determination of creep ratio
DIN EN ISO 9969 2016-06	Thermoplastics pipes - Determination of ring stiffness
DIN EN ISO 11173 2018-02	Thermoplastics pipes - Determination of resistance to external blows - Staircase method
DIN EN ISO 13255 2018-01	Thermoplastics piping systems for soil and waste discharge inside buildings - Test method for airtightness of joints
DIN EN ISO 13263 2018-01	Thermoplastics piping systems for non-pressure underground drainage and sewerage - Thermoplastics fittings - Test method for impact strength
DIN EN ISO 13264 2018-01	Thermoplastics piping systems for non-pressure underground drainage and sewerage - Thermoplastics fittings - Test method for mechanical strength or flexibility of fabricated fittings
DIN EN ISO 13968 2009-01	Plastics piping and ducting systems - Thermoplastics pipes - Determination of ring flexibility
DIN EN 1228 1996-08	Plastics piping systems - Glass-reinforced thermosetting plastics (GRP) pipes - Determination of initial specific ring stiffness
DIN EN 1401-1 2019-09	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U) - Part 1: Specifications for pipes, fittings and the system
DIN EN 1852-1 2018-03	Plastics piping systems for non-pressure underground drainage and sewerage - Polypropylene (PP) - Part 1: Specifications for pipes, fittings and the system
DIN EN 12666-1 2011-11	Plastics piping systems for non-pressure underground drainage and sewerage - Polypropylene (PP) - Part 1: Specifications for pipes, fittings and the system

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DIN EN 13476-2 2020-12	Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 2: Specifications for pipes and fittings with smooth internal and external surface and the system, Type A
DIN EN 13476-3 2020-12	Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 3: Specifications for pipes and fittings with smooth internal and profiled external surface and the system, Type B
DIN EN 13598-1 2020-12	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 1: Specifications for ancillary fittings including shallow inspection chambers
DIN EN 13598-2 2020-12	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 2: Specifications for manholes and inspection chambers
DIN EN 14758-1 2012-05	Plastics piping systems for non-pressure underground drainage and sewerage - Polypropylene with mineral modifiers (PP-MD) - Part 1: Specifications for pipes, fittings and the system
DIN EN 14830 2007-01	Thermoplastics inspection chamber and manhole bases - Test methods for buckling resistance
DIN EN 14982 2011-01	Plastics piping and ducting systems - Thermoplastics shafts or risers for inspection chambers and manholes - Determination of ring stiffness
DIN EN 17150 2019-11	Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Test method for determination of short-term compression strength of boxes

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DIN EN 17151 2019-11	Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Test method for determination of long-term compression strength of boxes
DIN EN 17152-1 2019-11	Plastics piping systems for non-pressure underground conveyance and storage of non-potable water - Boxes used for infiltration, attenuation and storage systems - Part 1: Specifications for storm water boxes made of PP and PVC-U
DIN CEN/TR 15729 2010-11; DIN SPEC 1188 2010-11	Plastics piping systems - Glass-reinforced thermosetting plastics (GRP) based on unsaturated polyester resin (UP) - Report on the determination of mean abrasion after a defined number of test cycles
DIN 4262-1 2009-10	Pipes and fittings for subsoil drainage of trafficked areas and underground engineering - Part 1: Pipes, fittings and their joints made from PVC-U, PP and PE
ÖNORM B 5176-1 2020-08	Internal plastics linings for concrete manhole bases - Part 1: Polypropylene (PP) linings - Requirements, tests, quality control <i>(replacement for ONR 22504-1:2010-08)</i>
ÖNORM B 5176-2 2020-08	Internal plastics linings for concrete manhole bases - Part 2: Linings made of glass reinforced thermosetting plastics based on polyester resins (GRP) - Requirements, tests, quality control <i>(replacement for ONR 22504-2:2010-08)</i>
DBS 918 064 version b: 2018-12	German Railway Standard – Technical delivers conditions, plastics piping and plastics manholes for the drainage of railway systems
PrüfV-5.2-47 2017-08-23	Plastic seepage elements for ground laying - testing of short term - load capacity and creep

9.2 Construction products made of concrete, reinforced concrete and stoneware

DIN EN 295-3 2012-03	Vitrified clay pipe systems for drains and sewers - Part 3: Test methods
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DIN EN 295-7 2013-05	Vitrified clay pipe systems for drains and sewers - Part 7: Requirements for pipes and joints for pipe jacking
DIN EN 1916 2003-04	Concrete pipes and fittings, unreinforced, steel fibre and reinforced, clause 6
DIN EN 1917 2003-04	Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced, clause 6
DIN V 1201 2004-08	Concrete pipes and fittings, unreinforced, steel fibre and reinforced for drains and sewers - Type 1 and Type 2 - Requirements, test methods and evaluation of conformity - clause 6
DIN 4034-1 2020-04	Prefabricated concrete manholes, unreinforced, steel fibre and reinforced - Part 1: Requirements, test methods and marking for drains and sewers in addition to DIN EN 1917:2003-04
DIN 4034-2 2013-05	Prefabricated concrete manholes, unreinforced, steel fibre and reinforced - Part 2: Manholes for well construction and drain construction
Quality Guidelines FBS-Qualitätsrichtlinie:1-1 2011-07	Concrete piping and reinforced steel piping and jacking pipes with circular cross-section in FBS quality for buried sewage pipes and canals – Designs, requirements and testing methods – Product testing, clause 6
Quality Guidelines FBS-Qualitätsrichtlinie:1-2 2011-07	Concrete piping and reinforced steel piping with egg-shaped cross-section in FBS quality for buried sewage pipes and canals – Designs, requirements and testing methods – Product testing; clause 6
Quality Guidelines FBS-Qualitätsrichtlinie:2-1 2011-07	Prefabricated shaft components of concrete and reinforced concrete in FBS quality for buried sewage pipes and canals – Designs, requirements and testing methods – Product testing, clause 6

9.3 Pipe joints and elastomer seals

ISO 9691 1992-11	Rubber - Recommendations for the workmanship of joint rings - Description and classification of imperfections
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DIN EN ISO 13254 2018-01	Thermoplastics piping systems for non-pressure applications - Test method for watertightness
DIN EN ISO 13257 2019-04	Thermoplastics piping systems for non-pressure applications - Test method for resistance to elevated temperature cycling
DIN EN ISO 13259 2020-10	Thermoplastics piping systems for underground non-pressure applications - Test method for leaktightness of elastomeric sealing ring type joints
DIN ISO 48-2 2021-02	Rubber, vulcanized or thermoplastic - Determination of hardness - Part 2: Hardness between 10 IRHD and 100 IRHD
DIN ISO 48-4 2016-09	Rubber, vulcanized or thermoplastic - Determination of hardness - Part 4: Indentation hardness by durometer method (Shore hardness)
DIN ISO 815-1 2016-09	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures
DIN ISO 815-2 2016-09	Elastomere oder thermoplastische Elastomere - Bestimmung des Druckverformungsrestes - Teil 2: Bei niedrigen Temperaturen
DIN ISO 1817 2016-11	Rubber, vulcanized - Determination of the effect of liquids
DIN ISO 3384-1 2015-12	Rubber, vulcanized or thermoplastic - Determination of stress relaxation in compression - Part 1: Testing at constant temperature
DIN EN 681-1 2006-11	Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber <i>except</i> clause 4.2.9 – Ozone resistance
DIN EN 681-2 2006-11	Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 2: Thermoplastic elastomers <i>except</i> clause 4.2.9 – Ozone resistance

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DIN 4060
2016-07

Joints of sewer and drain pipes with elastomeric seals -
Requirements and testing on joints with elastomeric seals
here:
clause 4.3 – test of watertightness

9.4 Manhole covers, drainage channels, steps, fixed ladders

DIN EN 124-1
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 1: Definitions, classification, general principles of design,
performance requirements and test methods
except clause 7.4

DIN EN 124-2
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 2: Gully tops and manhole tops made of cast iron

DIN EN 124-3
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 3: Gully tops and manhole tops made of steel or aluminium
alloys

DIN EN 124-4
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 4: Gully tops and manhole tops made of steel reinforced
concrete

DIN EN 124-5
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 5: Gully tops and manhole tops made of composite
materials

DIN EN 124-6
2015-09

Gully tops and manhole tops for vehicular and pedestrian areas -
Part 6: Gully tops and manhole tops made of polypropylene (PP),
polyethylene (PE) or unplasticized poly(vinyl chloride) (PVC-U)

DIN EN 1433
2005-09

Drainage channels for vehicular and pedestrian areas -
Classification, design and testing requirements, marking and
evaluation of conformity

DIN EN 13101
2003-04

Steps for underground man entry chambers - Requirements,
marking, testing and evaluation of conformity

DIN EN 14396
2004-04

Fixed ladders for manholes

10. Flexible sheets for waterproofing, coating material/-systems (Le) **

10.1 Plastics, Bitumen sheets, fluid mineral substances to be applied or plastic based materials

DIN EN ISO 489 1999-08	Plastics - Determination of the refractive index
DIN EN 1848-1 1999-12	Flexible sheets for waterproofing - Determination of length, width and straightness - Part 1: Bitumen sheets for roof waterproofing
DIN EN 1848-2 2001-09	Flexible sheets for waterproofing - Determination of length, width, straightness and flatness - Part 2: Plastic and rubber sheets for roof waterproofing
DIN EN 1849-1 2000-01	Flexible sheets for waterproofing - Determination of thickness and mass per unit area - Part 1: Bitumen sheets for roof waterproofing
DIN EN 1849-2 2019-09	Flexible sheets for waterproofing - Determination of thickness and mass per unit area - Part 2: Plastic and rubber sheets
DIN EN 1850-1 1999-12	Flexible sheets for roofing - Determination of visible defects - Part 1: Bitumen sheets for roof waterproofing
DIN EN 1850-2 2001-09	Flexible sheets for waterproofing - Determination of visible defects - Part 2: Plastic and rubber sheets for roof waterproofing
DIN EN 12691 2018-05	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of resistance to impact

10.2 Mineral materials (mineral or plastic-based)

DIN EN 1062-7 2004-08	Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 7: Determination of crack bridging properties – Method A
DIN EN 15812 2011-06	Polymer modified bituminous thick coatings for waterproofing - Determination of crack bridging ability <i>here:</i> chapter 7 – method A

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10.3 Plastics, coatings, injection materials

DIN EN 1542 1999-07	Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off
DIN EN 1767 1999-09	Products and systems for the protection and repair of concrete structures - Test methods - Infrared analysis
DIN CEN/TS 16637-1; DIN SPEC 18046-1 2018-12	Construction products - Assessment of release of dangerous substances - Part 1: Guidance for the determination of leaching tests and additional testing steps
DIN CEN/TS 16637-2; DIN SPEC 18046-2 2014-11	Construction products - Assessment of release of dangerous substances - Part 2: Horizontal dynamic surface leaching test
DIN 19631 2016-07	Leaching of construction products - Percolation method for the examination of the leaching behaviour of materials injected into the soil

10.4 Watertightness*

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods <i>(characteristic)</i>
Watertightness	Watertightness yes/no	DIN EN 1928 DIN EN 13111 DIN EN 14891 DIN EN 15820 DIN EN 12390-8 PG – FBB Teil 1 PG – FBB (E) Teil 2 PG – MDS /FPD PG – AIV-F PG – AIV-B PG – AIV-P PG – FLK

Characteristic testing method

DIN EN 1928 2000-07	Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of watertightness
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DIN EN 12390-8 2019-10	Testing hardened concrete - Part 8: Depth of penetration of water under pressure
DIN EN 13111 2010-11	Flexible sheets for waterproofing - Underlays for discontinuous roofing and walls - Determination of resistance to water penetration
DIN EN 14891 2017-05	Liquid-applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Requirements, test methods, evaluation of conformity, classification and designation – <i>here</i> : Annex A.7: Water impermeability
DIN EN 15820 2011-06	Polymer modified bituminous thick coatings for waterproofing - Determination of watertightness
PG-FBB Teil 1 09.2017	Seals for construction joints and dummy joint cross-sections - <i>here</i> : Watertightness of construction joint seals Watertightness of dummy joints Swelling pressure of swellable joint seals Behaviour of joint seals with storage of liquids
PG-FBB (E) Teil 2 09.2017	Principles of testing for the issuing of national technical approval certification for joint seals in construction elements of concrete with high water penetration resistance in the area in contact with the soil - Part 2: Seals for expansion joints
PG – MDS /FPD 11.2016	Principles of testing for the issuing of national technical approval certification for joint seals with mineral-based sealing masses (PG-MDS)
PG-AIV-B 2018-03	Principles of testing for the issuing of national technical approval certification for seals in connection with ceramic tiling and floor paving – Part 2: Sheet-type sealing materials (PG-AIV-B)
PG-AIV-F 2018-03	Principles of testing for the issuing of national technical approval certification for seals in connection with ceramic tiling and floor paving - Part 1: fluid based sealants PG-AIV-F
PG–AIV-P 2018-02	Principles of testing for the issuing of national technical approval certification for seals in connection with ceramic tiling and floor paving – Part 3: plate shaped sealants PG-AIV-P

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PG – FLK
07.2019

Principle of testing for granting national technical approval certificates for construction structures sealants with fluid plastic substances

11. Noise protection wall and related fixtures for influencing airborne noise propagation and noise absorbing claddings (Le) **

DIN EN 1793-1 2017-07	Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 1: Intrinsic characteristics of sound absorption
DIN EN 1793-2 2019-05	Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 2: Intrinsic characteristics of airborne sound insulation under diffuse sound field conditions
DIN EN 1793-4 2015-05	Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 4: Intrinsic characteristics - In situ values of sound diffraction
DIN EN 1793-5 2018-12	Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 5: Intrinsic characteristics - In situ values of sound reflection under direct sound field conditions
DIN EN 1793-6 2021-05	Road traffic noise reducing devices - Test method for determining the acoustic performance - Part 6: Intrinsic characteristics - In-situ values of airborne sound insulation under direct sound field conditions
DIN EN 1794-1 2018-04	Road traffic noise reducing devices - Non-acoustic performance - Part 1: Mechanical performance and stability requirements Annexes A to E
DIN EN 1794-2 2020-07	Road traffic noise reducing devices - Non-acoustic performance - Part 2: General safety and environmental requirements, Annexes A to F
DIN EN 1794-3 2016-12	Road traffic noise reducing devices - Non-acoustic performance - Part 3: Reaction to fire - Burning behaviour of noise reducing devices and classification <i>except</i> Smoke and toxic gases

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DIN EN 14389-1 2015-07	Road traffic noise reducing devices - Procedures for assessing long term performance - Part 1: Acoustical characteristics
DIN EN 14389-2 2015-07	Road traffic noise reducing devices - Procedures for assessing long term performance - Part 2: Non-acoustic characteristics
DIN EN 16272-1 2013-01	Railway applications - Track - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 1: Intrinsic characteristics - Sound absorption in the laboratory under diffuse sound field conditions
DIN EN 16272-2 2013-01	Railway applications - Track - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 2: Intrinsic characteristics - Airborne sound insulation in the laboratory under diffuse sound field conditions
DIN EN 16727-2-1 2018-08	Railway applications - Track - Noise barriers and related devices acting on airborne sound Propagation - Non-acoustic performance - Part 2-1: Mechanical performance under dynamic loadings due to passing trains - Resistance to fatigue
DIN EN 16272-4 2016-12	Railway applications - Track - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 4: Intrinsic characteristics - In situ values of sound diffraction under direct sound field conditions
DIN EN 16272-6 2014-12	Railway applications - Track - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 6: Intrinsic characteristics - In situ values of airborne sound insulation under direct sound field conditions
DIN CEN/TS 16272-5 2014-09 DIN SPEC 1637 2014-09	Railway applications - Track - Noise barriers and related devices acting on airborne sound propagation - Test method for determining the acoustic performance - Part 5: Intrinsic characteristics - In situ values of sound reflection under direct sound field conditions

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Guideline of the German
Railway 804.5501
Deutsche Bahn AG
01.01.2013

Noise protection walls – Acoustical tests / Testing of airborne
noise attenuation in noise protection walls

12. Space enclosing components and installations (Le) **

DIN EN 1191
2013-04

Windows and doors - Resistance to repeated opening and
closing - Test method
here: for self-closing revolving doors according EN 16034

DIN EN 1628
2016-03

Pedestrian doorsets, windows, curtain walling, grilles and
shutters - Burglar resistance - Test method for the determination
of resistance under static loading

DIN EN 1629
2016-03

Pedestrian doorsets, windows, curtain walling, grilles and
shutters - Burglar resistance - Test method for the determination
of resistance under dynamic loading

DIN EN 1630
2016-03

Pedestrian doorsets, windows, curtain walling, grilles and
shutters - Burglar resistance - Test method for the determination
of resistance to manual burglary attempts

DIN EN 12046-1
2020-11

Operating forces - Test method - Part 1: Windows

DIN EN 12046-2
2000-12

Operating forces - Test method - Part 2: Doors

DIN EN 13964
2014-08

Suspended ceilings - Requirements and test methods
without clause 5.5

DIN 18032-3
2018-11

Sports halls - Halls and rooms for sports and multi-purpose use -
Part 3: Testing of safety against ball throwing

13. Hygrothermal behaviour in the wall test rig * (Le)

The specified tests areas are characterized by the specified test methods.

Type of test	Measure/ test parameter	Testing methods (characteristic)
Climate change test (hygrothermal behaviour in the wall test rig)	Temperature (T) Air moisture (ϕ_{rel}) Amount of irrigation	DIN EN 12467 DIN EN 16383 EAD 040083-00-0404 EAD 090062-00-0404

Characteristic testing methods

DIN EN 12467 2018-07	Fibre-cement flat sheets - Product specification and test methods <i>here:</i> clause 7.4.2 – Heat-rain cycles test
EAD 040083-00-0404	External thermal insulation composite systems (ETICS) with renderings <i>here:</i> clause 2.2.6 – Water-tightness of the ETIC: Hygrothermal behaviour
EAD 090062-00-0404	Kits for external wall claddings mechanically fixed <i>here:</i> clause 2.2.15 - Durability annex M.1 – Hygrothermal behaviour test

14. Sound insulation of construction products, constructional elements and builds (Le) **

**14.1 Determination of airborne and impact sound insulation and reduction in
constructional elements**

DIN EN ISO 10140-2 2010-12	Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation
DIN EN ISO 10140-4 2010-12	Acoustics - Laboratory measurement of sound insulation of building elements - Part 4: Measurement procedures and requirements

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14.2 Determination of dynamic stiffness

DIN EN 29052-1 1992-08	Acoustics; determination of dynamic stiffness; part 1: materials used under floating floors in dwellings
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14.3 Determination of flow resistance

DIN EN ISO 9053-1 2019-03	Acoustics - Determination of airflow resistance - Part 1: Static airflow method
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DIN EN ISO 9053-2 2021-02	Acoustics - Determination of airflow resistance - Part 2: Alternating airflow method
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DIN EN 29053 1993-05	Acoustics; materials for acoustical applications; determination of airflow resistance <i>(withdrawn standard)</i>
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15. Emissions and immissions of noise and vibrations – module Immission control (Le)
15.1 Determination of noise (group V)
Specifications by module Immission control and DIN 45688:2014

Group V: Determination of noise			
Standard / Directive / Technical Rule		QM-document	Remark Location
Title	Description		
TA Noise 1998-08 (stand 2017)	Sixth general administrative specification for the German Federal Immission Control Act: Technical instruction concerning noise protection	Manual PrüfV-2.3-01_01 PrüfV-2.3-01_02 03.07.2020	Le
TA Noise 1968-07	General administrative specification for installations subject to approval in accordance with Section 16 of the German trade regulation act: Technical instruction concerning noise protection - TA Lärm (in conjunction with: VDI 2058 Sheet 1:1985-09 "Assessment of working noise in the vicinity")	Manual PrüfV-2.3-01_01 PrüfV-2.3-01_02 03.07.2020	Le

15.2 Determination of vibrations (Group VI)
Specifications by module Immission control and DIN 45688:2014

Group VI: Determination of vibrations			
Standard / Directive / Technical Rule		QM-document	Remark Location
Title	Description		
LAI- Vibration Guidelines 2018-03	Considerations for the measurement, evaluation and reduction of vibration immissions	Manual PrüfV-2.2-02 07.07.2020	Le
DIN 4150-2 1999-06	Vibrations in buildings - Part 2: Effects on persons in buildings	Manual PrüfV-2.2-02 07.07.2020	Le
DIN 4150-3 1999-02	Vibration in buildings - Part 3: Effects on structures	Manual PrüfV-2.2-02 07.07.2020	Le

The methods described under 15.1 and 15.2 correspond to the requirements of the
“special proof of competence in the area of immission control”
“LAI Module Immission Control”(updated by the L/W/V in the version of 30th January,2018)

Competence in the testing and technical task areas
of Group V and Group VI
subject to immission control legislation is hereby confirmed.

16. Fire behaviour of building components, builds and construction products - European (La) **

DIN EN ISO 9239-1 2010-11	Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source
DIN EN 1363-1 2020-05	Fire resistance tests - Part 1: General Requirements
DIN EN 1363-2 1999-10	Fire resistance tests - Part 2: Alternative and additional procedures
DIN V EN V 1363-3 1999-09	Fire resistance tests - Part 3: Verification of furnace performance
DIN EN 1365-1 2013-08	Fire resistance tests for loadbearing elements - Part 1: Walls
DIN EN 1366-11 2018-07	Fire resistance tests for service installations - Part 11: Fire protective systems for cable systems and associated components
DIN EN 16733 2016-07	Reaction to fire tests for building products - Determination of a building product's propensity to undergo continuous smouldering

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- PrüfV-3.2/3.02
2021-06
- Fire behavior of loaded cantilever slab connections
Loaded fire resistance test of a heat-insulating cantilever slab connection in a statically indeterminate system
- Experimental assessment of loaded cantilever slab connections
a) fire exposure from below
b) fire exposure from the top
- PrüfV-3.2/3.03
2021-07
- Fire behavior of loaded/unloaded tunnel specimens up to a temperature of 1,350 °C - Fire resistance test on tunnel concretes with or without a fire protection system
- Experimental assessment of special concrete mixtures and/or alternative fire protection measures (fire protection panels or additional applications) on reinforced concrete components under one-sided fire exposure by means of different fire curves up to a maximum temperature of 1,350 °C

17. Testing of construction products (system of assessment and verification of constancy of performance 3) within the scope of the Regulation (EU) No 305/2011 laying down harmonised conditions for the marketing of construction products (Construction Products Regulation) (Le)

Decision / resolution of the Commission	System ¹⁾	Technical specification
1995/467/EC Gypsum products	3	EN 520:2004+A1:2009 Gypsum plasterboards - Definitions, requirements and test methods
		EN 12859:2011 Gypsum blocks - Definitions, requirements and test methods
		EN 12860:2001+AC:2002 Gypsum based adhesives for gypsum blocks - Definitions, requirements and test methods
		EN 13963:2005+AC:2006 Jointing materials for gypsum boards - Definitions, requirements and test methods
		EN 14190:2014 Gypsum board products from reprocessing - Definitions, requirements and test methods
1996/579/EC Circulation fixtures	3	EN 14388:2005+AC:2008 Road traffic noise reducing devices – Specifications

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Decision / resolution of the Commission	System ¹⁾	Technical specification
1997/462/EG Wood-based panels	3	EN 13986:2004+A1:2015 Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking
1997/464/EC 2004/663/EC Waste water engineering products outside buildings	3	EN 1433:2002+A1:2005 Drainage channels for vehicular and pedestrian areas - Classification, design and testing requirements, marking and evaluation of conformity
1998/436/EC Roof coverings, rooflights, roof windows and ancillary products	3	EN 14509:2013 Self-supporting double skin metal faced insulating panels - Factory made products – Specifications
		EN 16153:2013 +A1:2015 Lichtdurchlässige, flache Stegmehrfachplatten aus Polycarbonat (PC) für Innen- und Außen- anwendungen an Dächern, Wänden und Decken - Anforderungen und Prüfverfahren
1998/437/EC Internal and external wall and ceiling finishes	3	EN 12467:2012 +A2:2018 Fibre-cement flat sheets - Product specification and test methods
		EN 13964:2014 Suspended ceilings - Requirements and test
		EN 14716:2004 Stretched ceilings - Requirements and tests methods
1999/90/EC Membranes	3	EN 13859-1:2010 Flexible sheets for waterproofing - Definitions and characteristics of underlays - Part 1: Underlays for discontinuous roofing
		EN 13859-2:2010 Flexible sheets for waterproofing - Definitions and characteristics of underlays - Part 2: Underlays for walls
		EN 13970:2004+A1:2006 Flexible sheets for waterproofing - Bitumen water vapour control layers - Definitions and characteristics
		EN 13984:2013 Flexible sheets for waterproofing - Plastic and rubber vapour control layers - Definitions and characteristics

Decision / resolution of the Commission	System ¹⁾	Technical specification
1999/90/EC Membranes	3	EN 14891:2012+AC:2012 Liquid-applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Requirements, test methods, evaluation of conformity, classification and designation
		EN 14909:2012 Flexible sheets for waterproofing - Plastic and rubber damp proof courses - Definitions and characteristics
		EN 14967:2006 Flexible sheets for waterproofing - Bitumen damp proof courses - Definitions and characteristics
		EN 15814:2011+A2:2014 Polymer modified bituminous thick coatings for waterproofing - Definitions and requirements
1999/91/EC Thermal insulating products	3	EN 13162:2012+A1:2015 Thermal insulation products for buildings - Factory made mineral wool (MW) products – Specification
		EN 13163:2012+A1:2015 Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products – Specification
		EN 13164:2012+A1:2015 Thermal insulation products for buildings - Factory made extruded polystyrene foam (XPS) products – Specification
		EN 13165:2012+A2:2016 Thermal insulation products for buildings - Factory made rigid polyurethane foam (PU) products - Specification
		EN 13166:2012+A2:2016 Thermal insulation products for buildings - Factory made phenolic foam (PF) products – Specification
		EN 13167:2012+A1:2015 Thermal insulation products for buildings - Factory made cellular glass (CG) products – Specification
		EN 13168:2012+A1:2015 Thermal insulation products for buildings - Factory made wood wool (WW) products – Specification

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Decision / resolution of the Commission	System ¹⁾	Technical specification
1999/91/EC Thermal insulating products	3	EN 13169:2012+A1:2015 Thermal insulation products for buildings - Factory made expanded perlite board (EPB) products – Specification
		EN 13170:2012+A1:2015 Thermal insulation products for buildings - Factory made products of expanded cork (ICB) – Specification
		EN 13171:2012+A1:2015 Thermal insulation products for buildings - Factory made wood fibre (WF) products – Specification
		EAD 040005-00-1201 ²⁾ Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres
		EAD 040012-00-1201 ²⁾ Thermal insulation board made of mineral material
		EAD 040288-00-1201 ²⁾ Factory-made thermal and acoustic insulations made of polyester fibres
1999/454/EC Fire stopping, fire sealing and fire protection products	3	EAD 350142-00-1106 ²⁾ Fire protective board, slab and mat products and kits
2000/273/EC Seven products for European Technical Approvals	3	EAD 040048-01-0502 ²⁾ Rubber fibre mat to be used for impact sound insulation
		EAD 040049-00-0502 ²⁾ Polyurethane (PU)-exhibition mat for impact sound insulation
2003/640/EC Kits for exterior wall claddings	3	EAD 090062-00-0404 ²⁾ Kits for external wall claddings mechanically fixed
1999/472/EC Pipes, tanks and ancillaries not in contact with water intended for human consumption	3	EAD 280016-00-0602 – draft 2017-06-15 ³⁾ Installation Systems Supporting Technical Equipment for Building Services

¹⁾ System of assessment and verification of consistency of performance

²⁾ for uses subjects to regulation on reaction to fire

³⁾ Harmonization in preparation

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The requirements for a testing laboratory are fulfilled according to article 43 of the Construction Products Regulation. Testing methods, which are necessary for determining the product type and cannot be executed by the holder of the certificate, are described in the list of subcontractors.

Without prior approval by the DAkkS German Accreditation Body, the testing laboratory body is permitted to use new revisions of harmonised technical standards.

18. Tests of reaction to fire, of resistance to fire, of external fire performance and of noise absorption, for which the reference to a relevant harmonised technical specification is not required (point 3. Annex V, (EU) Nr. 305/2011) - (Le, La) **

18.1 Reaction to fire - (La)

EN 13823
2020 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item

EN ISO 1182
2020 Reaction to fire tests for products - Non-combustibility test

EN ISO 1716
2018 Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value)

EN ISO 11925-2
2020 Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test

clause 18.1 in conjunction with:

*EN 13501-1
2019 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

*EN 13501-6
2019 Fire classification of construction products and building elements - Part 6: Classification using data from reaction to fire tests on electric cable*

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18.2 Resistance to fire - (La)

EN 1364-1 2015	Fire resistance tests for non-loadbearing elements - Part 1: Walls
EN 1364-2 2018	Fire resistance tests on non-loadbearing elements - Part 2: Ceilings
EN 1365-2 2014	Fire resistance tests for loadbearing elements - Part 2: Floors and roofs
EN 1365-3 1999	Fire resistance tests for loadbearing elements - Part 3: Beams
EN 1365-4 1999	Fire resistance tests on loadbearing elements - Part 4: Columns
EN 1366-3 2009	Fire resistance tests for service installations - Part 3: Penetration seals
EN 1366-4 2006 + A1:2010	Fire resistance tests for service installations - Part 4: Linear joint seals
EN 1366-5 2010	Fire resistance tests for service installations - Part 5: Service ducts and shafts
EN 1366-6 2004	Fire resistance tests for service installations - Part 6: Raised access and hollow core floors
EN 1634-1 2014+A1:2018	Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows
EN 1634-3 2004	Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 3: Smoke control test for door and shutter assemblies
EN 13381-2 2014	Test methods for determining the contribution to the fire resistance of structural members - Part 2: Vertical protective membranes
EN 13381-3 2015	Test methods for determining the contribution to the fire resistance of structural members - Part 3: Applied protection to concrete members

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EN 13381-4 2013	Test methods for determining the contribution to the fire resistance of structural members - Part 4: Applied passive protection to steel members
EN 13381-7 2019	Test methods for determining the contribution to the fire resistance of structural members - Part 7: Applied protection to timber members
EN 13381-8 2013	Test methods for determining the contribution to the fire resistance of structural members - Part 8: Applied reactive protection to steel members
EN 14135 2004	Coverings - Determination of fire protection ability

clause 18.2 in conjunction with:

<i>EN 13501-2 2016</i>	<i>Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services</i>
<i>EN 13501-3 2005 +A1 2009</i>	<i>Fire classification of construction products and building elements - Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers</i>
<i>EN 13501-4 2016</i>	<i>Fire classification of construction products and building elements - Part 4: Classification using data from fire resistance tests on components of smoke control systems</i>

18.3 External fire performance – (La)

CEN/TS 1187 2012	Test methods for external fire exposure to roofs Here: testmethod 1
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clause 18.3 in conjunction with

<i>EN 13501-5 2016</i>	<i>Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests</i>
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18.4 Noise absorption – (Le)

EN ISO 354 2003	Acoustics - Measurement of sound absorption in a reverberation room
EN ISO 10140-1 2016	Acoustics - Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products
EN ISO 10140-3 2010+A1:2015	Acoustics - Laboratory measurement of sound insulation of building elements - Part 3: Measurement of impact sound insulation

The requirements for a testing laboratory in accordance with Article 43 of the Construction Product are fulfilled.

Abbreviations used:

BAW	Bundesanstalt für Wasserbau (German Federal Waterways Engineering and Research Institute)
DAfStb	Deutscher Ausschuss für Stahlbeton (German Committee for Reinforced Concrete)
DBS	Standard of Deutsche Bahn AG
DBV	Deutscher Beton- und Bautechnik-Verein (German Concrete and Construction Technology Association)
EAD	European Assessment Document
ETAG	European Technical Approval Guideline
FBS	Fachvereinigung Betonrohre und Stahlbetonrohre e.V. (German Professional Association for Concrete Piping and Reinforced Steel Piping)
ÖNORM	Standards of the Austrian Standards Institute
ÖVBB	Österreichische Vereinigung für Beton und Bautechnik (Austrian Association for Concrete and Engineering Construction)
PG-FBB	DIBt - Prüfgrundsätze - Fugenabdichtungen in Bauteilen aus Beton (FBB) mit hohem Wassereindringwiderstand gegen drückendes und nicht drückendes Wasser und gegen Bodenfeuchtigkeit (Testing principles – Construction joint seals in constructional elements of concrete with high water penetration resistance against water under pressure and in-situ water and against soil moisture)
Prüf-XX-XX_VA	Internal test procedure (MFPA Leipzig)