Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-18354-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 24.07.2019

Date of issue: 24.07.2019

Holder of certificate:

Warringtonfire Frankfurt GmbH
Industriepark Höchst, Geb. C 369
65926 Frankfurt am Main, Germany

Tests in the fields:

Fire behaviour of building materials and building components, materials, textiles, plastics, furniture and construction products (incl. combustibility, flammability, spread of flame, melting behaviour and heat development);
Testing of secondary fire symptoms (gas density and flue gas components) in building material and building components in aerospace;
Fire behaviour and fire prevention for building materials and building components in rail vehicles

Tests of reaction to fire of construction products, for which the reference to a relevant harmonised technical specification is not required (point 3. Annex V, (EU) Nr. 305/2011)

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.

The listed testing methods are exemplary. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

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

Abbreviations used: see last page

1. Test of primary fire properties and secondary fire symptoms in materials and finished products of all types; object- and scenario-specific structures; test of the fire resistance of building components

1.1 Primary fire properties *

1.1.1. Combustibility

IMO FTP CODE 2012-09	FTP Code: International Code for Application of Fire Test Procedures, 2010 Resolution MSC.307(88) Annex 1 - Fire test procedures: Part 1: Non-combustibility test
DIN EN ISO 1182 2010-10	Reaction to fire tests for products - Non-combustibility test

1.1.2. Ignitability

DIN 4102-1 1998-05	Fire behaviour of building materials and building components - Part 1: Building materials; concepts, requirements and tests - Part 6 Building material classes B: Part 6.1 Building material class B1 Part 6.2 Building material class B2
DIN EN 1021-1 2014-10	Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette
DIN EN 1021-2 2014-10	Furniture - Assessment of the ignitability of upholstered furniture - Part 2: Ignition source match flame equivalent
DIN EN ISO 11925-2 2011-02	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
DIN EN ISO 6940 2004-06	Textile fabrics - Burning behaviour - Determination of ease of ignition of vertically oriented specimens
DIN EN 597-1 2016-03	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 1: Ignition source smouldering cigarette
DIN EN 597-2 2016-03	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 2: Match flame equivalent as ignition source

DIN EN 1101 2005-09	Textiles and textile products - Burning behaviour, curtains and drapes - Detailed procedure to determine the ignitability of vertically oriented specimens (small flame)
DIN EN ISO 4589-2 2017-11	Plastics - Determination of burning behaviour by oxygen index - Part 2: Ambient-temperature test
DIN EN 60695-2-2 VDE 0471-2-2 1996-09	Fire hazard testing - Part 2: Test methods - Section 2: Needle-flame test (IEC 60695-2-2:1991 + A1:1994) (*withdrawn standard*)
DIN EN 60695-2-10 VDE 0471-2-10 2014-04	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure (IEC 60695-2-10:2013)
DIN EN 60695-2-11 VDE 0471-2-11 2014-11	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT) (IEC 60695-2-11:2014)
DIN EN 60695-2-12 VDE 0471-2-12 2015-01	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials (IEC 60695-2-12:2010 + A1:2014)
DIN EN 60695-2-13 VDE 0471-2-13 2015-01	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials (IEC 60695-2-13:2010 + A1:2014)
DIN EN ISO 12952-1 2011-01	Textiles - Assessment of the ignitability of bedding items - Part 1: Ignition source: smouldering cigarette
DIN EN ISO 12952-2 2011-01	Textiles - Assessment of the ignitability of bedding items - Part 2: Ignition source: small open flame (ISO 12952-2:2010)
DIN EN ISO 12592-4 1999-02	Textiles - Burning behaviour of bedding items - Part 4: Specific test methods for the ignitability by a small open flame (*withdrawn standard*)
IMO FTP CODE 2012-09	FTP Code: International Code for Application of Fire Test Procedures, 2010 Resolution MSC.307(88) Annex 1 - Fire test procedures: Part 7: test for vertically supported textiles and films Part 8: test for upholstered furniture Part 9: test for bedding components

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

UIC 564-2 1991-01	Regulations relating to fire protection and fire-fighting measures in passenger-carrying railway vehicles or assimilated vehicles used on international services Annex 07: Test method for determining the fire resistance of materials by measuring the oxygen index
UL 94 (HB, V, HBF) 2018-05	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances Part 7: Horizontal Burning Test; HB Part 8: 50 W (20 mm) Vertical Burning Test - V-0, V-1, or V-2 Part 12: Horizontal Burning Foamed Material Test - HBF, HF-1 or HB-2
AITM 2.0002_ 2013-12_3	12s and 60s vertical test according to ABD 0031 issue G, table 1 Identity block AITM2-0002 A and B

1.1.3. Flame spread

ISO 5658-2 2006-09	Reaction to fire tests - flame spread - Part 2: Lateral spread on building and transport products in vertical configuration
ISO 5658-2 AMD 1 2011-11	Reaction to fire tests - spread of flame - Part 2: Lateral spread on building and transport products in vertical configuration – modification 1
DIN 4102-7 2018-05	Fire behaviour of building materials and building components - Part 7: roofing - concepts, requirements and tests
DIN 4102-14 1990-05	Fire behaviour of building materials and building components - floor covering systems - determination of the flame spread during exposure from a radiant heat source
DIN 4102-16 2015-09	Fire behaviour of building materials and building components - Part 16: "Brandschacht" tests
DIN EN ISO 6941 2004-05	Textile fabrics - Burning behaviour - Measurement of the flame propagation combustion behaviour properties of the fabrics vertically arranged samples
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 ISO 15025 2017-04	Protective clothing - Protection against flames - Limited flame spread test methods
DIN EN ISO 14116 2018-08	Protective clothing - Protection against flames - Materials, combinations of materials and clothing with limited flame spread
DIN EN 1102 2016-10	Textiles and textile products - Burning behaviour of curtains and drapes - Detailed procedure to determine the flame spread of vertically oriented specimens
DIN EN 1103 2006-03	Textiles - Fabrics for apparel - Detailed procedure to determine the burning behaviour
DIN EN 13772 2011-04	Textiles and textile products - Burning behaviour - Curtains and drapes - Measurement of flame spread of vertically oriented specimens with large ignition source
DIN EN 16733 2016-07	Reaction to fire tests for construction products - Determination of a building product's propensity to undergo continuous smouldering
DIN 53438-2 1984-06	Testing of combustible materials - Response to ignition by a small flame Edge ignition
DIN 53438-3 1984-06	Testing of combustible materials - Response to ignition by a small flame - Surface ignition
DIN 54332 1975-02	Testing of textiles - Determination of the burning behaviour of textile floor coverings (*withdrawn standard*)
DIN 54333-1 1981-12	Testing of textiles - Determination of burning behaviour - Horizontal method - Ignition at the edge of the specimen
DIN 54837 2007-12	Testing of materials, small components and component sections for rail vehicles - Determination of burning behaviour using a gas burner (*withdrawn standard*)
DIN 75200 1980-09	Determination of burning behaviour of interior materials in motor vehicles

UN-R 118 2017-10	Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles Appendix 6: Test to determine the horizontal burning rate of materials Appendix 8: Test to determine the vertical burning rate of materials
Directive 95/28/EC 1995-10	Directive 95/28/EC of the European Parliament and of the Council of 24 October 1995 relating to the burning behaviour of materials used in the interior construction of certain categories of motor vehicle Appendix IV: Test to determine the horizontal burning rate of materials Appendix VI: Test to determine the vertical burning rate of materials
DBL 5307 2008-03	Supply Specification; Flame Retardant Properties - Requirements and test specification Part 5.1 Test to determine the horizontal burning rate of materials
GMW 3232 2011-08	Determination of burning behaviour of motor vehicle interiors
VW TL 1010 2008-01	Burning behaviour of materials used in motor vehicles, factory requirements
Renault D45 1333 2003-10	Test method of materials used in motor vehicles, horizontal flammability
NF P 92 - 501 1995-12	Safety against fire - Building materials - Reaction to fire tests - Radiation test used for rigid materials, or for materials on rigid substrates (flooring and finishes) of all thicknesses, and for flexible materials thicker than 5 mm
NF P 92 - 503 1995-12	Safety against fire - Building materials - Reaction to fire tests - Electrical burner test used for flexible materials
NF P 92 - 504 1995-12	Safety against fire - Building materials - Reaction to fire tests - Flame persistence test and speed of the spread of flame
FMVSS 302 2013-10	Standard No. 302 - Flammability of interior materials

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

CS/FAR-25 2018-02	60s vertical test according to CS/FAR§25.853(a)/§25.855(d) & App. F, Part I, § (a)(1)(i) in compliance with EASA CS-25.853 (a) and Appendix F Part I 12s vertical test according to CS/FAR§25.853(a)/§25.855(d) & App. F, Part I, § (a)(1)(ii) & (iii) in compliance with EASA CS-25.853 (a) and Appendix F Part I Horizontal test (15s) according to CS/FAR§25.853(a)/§25.855(d) & App. F, Part I, § (a)(1)(iv) und § (a)(1)(v) in compliance with EASA CS-25.853 (a) and Appendix F Part I
BSS 7230 1994-07	12s and 60s vertical test according to test method BSS 7230
AITM 2.0003_ 2009-03_2	Horizontal test (15s) according to ABD 0031 issue G
IMO FTP CODE 2012-09	FTP Code: International Code for Application of Fire Test Procedures, 2010 Resolution MSC.307(88) Annex 1 - Fire test procedures: Part 5: test the surface flammability, test for surface materials and primary deck coverings
UIC 564-2 1991-01	Regulations relating to fire protection and fire-fighting measures in passenger-carrying railway vehicles or assimilated vehicles used on international services Appendix 04: Test method for determining the fire-resistance of rigid non-thermoplastic materials Appendix 05: Test method for determining the fire-resistance of coated uncoated textiles Appendix 06: Test method for determining the fire-resistance of rubber door and window seals Appendix 08: Test method for determining the fire-resistance of foam materials Appendix 10: Test method for determining the fire-resistance of interconnecting gangway rubber flanges Appendix 11: Test method for determining the fire-resistance of rigid thermoplastic materials Appendix 12: Test method for determining the fire-resistance of floor coverings

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

1.1.4 Heat release

ISO 5660-1 2015-03	Reaction to fire tests - Heat release, smoke production and mass loss rate - Part 1: Heat release rate (cone calorimeter method) and smoke development rate (dynamic measurement)
DIN EN ISO 1716 2018-10	Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value)
DIN EN 13823 2015-2	Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item

1.1.5 Melting behaviour, flaming droplets/particles

UN-R 118 2017-10	Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles Appendix 7: Test to determine the melting behaviour of materials
Directive 95/28/EC 1995-10	Directive 95/28/EC of the European Parliament and of the Council of 24 October 1995 relating to the burning behaviour of materials used in the interior construction of certain categories of motor vehicle Appendix V: Test to determine the melting behaviour of materials
NF P 92 - 505 1995-12	Safety against fire - Building materials - Reaction to fire tests - Dripping test

1.2 Secondary fire symptoms *

1.2.1 Optical gas density

ISO 5659-2 2017-11	Plastics - Smoke generation - Part 2: Determination of optical density by a single-chamber test
AITM 2.0007_ 2009-04_3	Gas density according to ABD 0031 issue G, table 2 AITM2.007 A/B
AITM 2.0008_ 2009-04_4	Gas density for electrical and non-electrical cables according to ABD 0031 issue G: Table 3 (**AITM 2.0008A /***AITM 20008B)

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

CS/FAR-25 2017-08	Gas density according to CS/FAR§25.853(d) & App. F, Part V, § (b)
BSS 7238 1997-06	Gas density according to test method BSS 7238

1.2.2 Flue gas toxicity

DIN EN 2826 2011-05	Aerospace series - Burning behaviour of non-metallic materials under the influence of radiating heat and flames - Determination of flue gas components
DIN 5510-2 Annex C 2009-05	Preventive fire protection in rail vehicles - Part 2: combustion behaviour in addition to phenomena of materials and components and fire - classification, requirements and test methods Annex C - toxicity (*withdrawn standard*)
EN 45545-2 Annex C 2016-02	Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components - Annex C (normative) - Test methods for determination of toxic gases from railway products
AITM 3.0005_ 2011-06_2	Toxicity according to ABD 0031 issue G, table 4 Applicability to set A/B
IMO FTP CODE 2012-09	FTP Code: International Code for Application of Fire Test Procedures, 2010 Resolution MSC.307(88) Annex 1 - Fire test procedures: Part 2: Smoke and toxicity test
BSS 7239 1988-01	Toxicity according to test method BSS 7239

1.3 Behaviour of building components *

1.3.1 Fire resistance

UN-R 34 2016-10	Uniform provisions concerning the approval of vehicles with regard tot he prevention of fire risks Annex 5: Testing of fuel tanks made of plastic material - Section 5: Resistance to fire

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

1.4 Behaviour of components *

1.4.1 Seat testing

DIN 5510-2 - Annex A (seat testing) 2009-05	Preventive fire protection in rail vehicles - Part 2: fire behaviour and fire side effects of materials and components - classification, requirements and test method Annex A (seat testing) *(withdrawn standard)*
DIN EN 16989 2018-08	Railway applications - Fire protection on railway vehicles - Fire behaviour test for a complete seat
DIN EN 45545-2 - Annex A 2016-02	Railway applications - Fire protection in rail vehicles - Part 2: Requirements for fire behaviour of materials and components - Annex A (normative) - Standard vandalism test for seat coverings
DIN EN 45545-2 - Annex B 2016-02	Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components - Annex B (normative, fire test methods for seats)
DIN 54341 1988-01	Testing of seats in railways for public traffic - determination of burning behaviour with a paper pillow ignition source
UIC 564-2 1991-01	Regulations relating to fire protection and fire-fighting measures in passenger-carrying railway vehicles or assimilated vehicles used on international services Annex 13: Test method for determining the fire behaviour of the seats
CS/FAR-25 2017-08	Kerosene burner test on model seat according to 14 CFR Part 25 §25.853 (c) and Appendix F Part II, Amdt. 116, Change 20
AITM 2.0009_ 2012-01_2	Kerosene burner test on model seat

1.4.2 Cables and insulated wires

UIC 564-2 1991-01	Regulations relating to fire protection and fire-fighting measures in passenger-carrying railway vehicles or assimilated vehicles used on international services Annex 09: Test method for determining the reaction to fire of electrical cables
CS/FAR-25 2017-08	45° testing according to CS/FAR§25.855(d)/§25.853 (h) & App. F, Part I, § (a)(2)(ii) & (iii) In compliance with EASA CS-25.853 (a) and Appendix F Part I
CS/FAR-25 2017-08	60° cable testing according to CS/FAR§25.853(a)/§25.855(d)/ §25.1713(c) & App. F, Part I, § (a)(3) In compliance with EASA CS-25.853 (a) and Appendix F Part I
AITM 2.0004_ 1993-09_1	45° Bunsen burner test ABD-0031 issue G
AITM 2.0005 1993-10_1A	60° small burner test for determining fire resistance of insulating material for electrical wiring according to ABD 0031 issue
UN-R 118 2017-10	Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles Annex 10: Test to determine the resistance to flame propagation of electrical cables

1.4.3 Tubes and hoses

EN ISO 15540 2002-01	Ships and marine technology - Fire resistance of hose assemblies - Test methods
DIN EN ISO 7840 2019-06	Small craft - Fire-resistant fuel hoses
TRbF 131-2 1992-09	Fire test for fuel hoses
Volvo STD 1027, 5171 1997-09	Fire test for fuel hoses

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

1.4.4 Further test methods for materials

DIN EN 2824 2012-01	Aerospace series - Burning behaviour of non-metallic materials under the influence of radiating heat and flames - Determination of smoke density and gas components in the smoke of materials - Test equipment apparatus and media
DIN EN 2310 1991-09	Aerospace series - test methods for the flame resistance classification of non-metallic materials
ABD 0031 2005-08	Fire Test to Aircraft Material - Airbus Standard

Sections 1.1 to 1.4 depending on the field of application in conjucton with:

EN 13501-1 2018	*Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*
DIN EN 45545-2 2016-02	*Railway applications – Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components*

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019

2 Tests of reaction to fire of construction products, for which the reference to a relevant harmonised technical specification is not required (point 3. Annex V, (EU) Nr. 305/2011)

2.1 Reaction to fire

EN ISO 1182 2010	Reaction to fire tests for construction products - Non-combustibility test
EN ISO 1716 2018	Reaction to fire tests for construction products - Determination of the gross heat of combustion
EN ISO 9239-1 2010	Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source
EN ISO 11925-2 2010	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
EN 13823 2010+A1:2014	Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item
	in conjuction with:
EN 13501-1 2018	*Classification of building products and designs to their fire behaviour - Part 1: classification with the results from the exams for fire performance of building products*

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

Abbreviations used:

ABD	Airbus Directive
BSS	Boeing Safety Standard
DIN	Deutsches Institut für Normung e.V.
DBL	Daimler Benz Liefervorschrift
FAR	Federal Aviation Regulation
FMVSS	Federal Motorvehical Safety Standard
GMW	General Motors
IMO FTP	International Maritime Organisation - Fire Test Procedures
NF P	Norme française - normes des marches
TRbF	Technische Regeln für brennbare Flüssigkeiten
UIC	International Union of Railways
UL	Hausverfahren der Underwriters Laboratories Inc.
UN-R	Wirtschaftskommission der Vereinten Nationen für Europa
U.T.A.C	Union Technique de L'automobile du Motorcycle et du Cycle
VDE	Verband der Elektrotechnik Elektronik Informationstechnik e.V.

-Translation-

Abbreviations used: see last page

Valid from: 24.07.2019
Date of issue: 24.07.2019