Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-11272-01-01 according to DIN EN ISO/IEC 17025:2018

Valid from: **21.01.2026**

Date of issue: 21.01.2026

This annex is part of the Accreditation Certificate D-PL-11272-01-00.

Holder of the Accreditation Certificate:

VDZ GmbH Kompetenz- und Prüfzentrum für Verpackung und Transport
Giselherstraße 34, 44319 Dortmund

with the location

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Giselherstraße 34, 44319 Dortmund

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

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

Tests in the fields:

mechanical and climatic environmental simulation tests on loading units, packages, packaging materials (packaging aids) and technical products as well as climatic, shock, vibration and shock tests and their combination

Flexible Scope of Accreditation:

Within the indicated test areas the testing laboratory is permitted without being required to prior inform and obtain approval from DAkkS

[Flex A] to use standardised or equivalent test methods listed here with different issue dates.

[Flex B] to have the free choice from standardised or equivalent test methods.

The test methods listed are examples. The testing laboratory has an up-to-date list of all test methods within the flexible scope of accreditation. The list is publicly available on the website of the testing laboratory.

The flexible accreditation of category [Flex B] applies to the test areas defined in the table:

Test item	Type of testing	Test parameter	Exemplary test methods
Packaging, packages, packaging materials, devices, components, and technical products	Pressure test Compression test Stacking test	Stability and resistance under compressive loading	DIN EN ISO 12048 ASTM D642
	Vibration test Shock test Bouncing test	Resistance to sudden shocks, transferred forces, and accelerations Structural stability under impact scenarios Durability of the structure	ASTM D4169 DIN EN 60068-2-27 ASTM D4728 ISTA 3E
	Horizontal shock	Resistance/durability under impact loading	DIN EN ISO 2244 ASTM D880
	Drop test	Resistance under free-fall impact conditions	DIN EN 22248 ASTM D5276
	Climate and temperature test	Performance following climatic pretreatment	DIN EN ISO 2233 ASTM D4332
	Vacuum test	Resistance under low air pressure, stability and reliability during pressure drop	DIN EN ISO 2873 ASTM D6653

1 The following test methods are characteristic of compression tests, crush tests, and stacking tests [Flex B]:

ASTM D3575 2014	Standard Test Methods for Flexible Cellular Materials Made from Olefin Polymers
ASTM D4577 2019 (Reapproved 2023)	Standard Test Method for Compression Resistance of a Container Under Constant Load
ASTM D642 2020	Standard Test Method for Determining Compressive Resistance of Shipping Containers, Components, and Unit Loads
DIN 55440-1 2019-10	Packaging test – Determination of compression resistance – Part 1: Test with constant conveyance speed
DIN EN ISO 12048 2001-04	Packaging – Complete, filled transport packages – Compression and stacking tests using a compression tester
DIN EN ISO 2234 2002-12	Packaging – Complete, filled transport packages and unit loads – Stacking tests using a static load
DIN EN ISO 3037 2013-12	Corrugated fibreboard – Determination of edgewise crush resistance (unwaxed edge method)

2 The following test methods are characteristic of vibration tests, shock tests, and bouncing tests [Flex B]:

ASTM D3332 1999 (Reapproved 2016)	Standard Test Methods for Mechanical-Shock Fragility of Products, Using Shock Machines
ASTM D4169 2016	Standard Practice for Performance Testing of Shipping Containers and Systems
ASTM D4728 2012	Standard Test Method for Random Vibration Testing of Shipping Containers
ASTM D5487 2016	Standard Test Method for Simulated Drop of Loaded Containers by Shock Machines
ASTM D7386 2016	Standard Practice for Performance Testing of Packages for Single Parcel Delivery Systems
ASTM D999 2008 (Reapproved 2015)	Standard Test Methods for Vibration Testing of Shipping Containers

DIN EN 60068-2-6 2008-10	Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)
DIN EN 60068-2-27 2010-02	Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock
DIN EN 60068-2-31 2009-04	Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens
DIN EN 60068-2-64 2020-09	Environmental testing – Part 2-64: Tests – Test Fh: Vibration, broadband random and guidance
DIN EN ISO 2247 2002-12	Packaging – Complete, filled transport packages and unit loads – Vibration tests at fixed low frequency
DIN EN ISO 8318 2002-12	Packaging – Complete, filled transport packages and unit loads – Sinusoidal vibration tests using a variable frequency
DIN EN ISO 13355 2017-03	Packaging – Complete, filled transport packages and unit loads – Vertical random vibration test
ISTA 1A 2016-01	Non-Simulation Integrity Performance Test Procedure – Packaged-Products 150 lb (68 kg) or Less
ISTA 1B 2016-01	Non-Simulation Integrity Performance Test Procedure – Packaged-Products over 150 lb (68 kg)
ISTA 1C 2014-03	Non-Simulation Integrity Performance Test Procedure – Extended Testing for Packaged-Products 150 lb (68 kg) or Less
ISTA 1D 2014-03	Non-Simulation Integrity Performance Test Procedure – Extended Testing for Packaged-Products over 150 lb (68 kg)
ISTA 1E 2014-03	Non-Simulation Integrity Performance Test Procedure – Unitized Loads of Same Product
ISTA 1G 2014-03	Non-Simulation Integrity Performance Test Procedure – Packaged-Products 150 lb (68 kg) or Less (Random Vibration)
ISTA 1H 2014-03	Non-Simulation Integrity Performance Test Procedure – Packaged-Products over 150 lb (68 kg) (Random Vibration)
ISTA 2A 2012-01	Partial Simulation Performance Test Procedure – Packaged-Products 150 lb (68 kg) or Less

ISTA 2B 2012-10	Partial Simulation Performance Test Procedure – Packaged-Products over 150 lb (68 kg)
ISTA 2C 2012-01	Partial Simulation Performance Test Procedure – Furniture Packages
ISTA 2D 2014-03	Partial Simulation Performance Test Procedure – Flat Packaged-Products for Parcel Delivery System Shipment
ISTA 2E 2010-01	Partial Simulation Performance Test Procedure – Elongated Packaged-Products for Parcel Delivery System Shipment
ISTA 2F 2011-01	Partial Simulation Performance Test Procedure – Performance Testing of Shipping Containers for LTL Shipment, National Motor Freight Classification Item 180
ISTA 3A 2018	General Simulation Performance Test Procedure – Packaged-Products for Parcel Delivery System Shipment 70 kg (150 lb) or Less
ISTA 3B 2013-01	General Simulation Performance Test Procedure – Packaged-Products for Less-Than-Truckload (LTL) Shipment
ISTA 3E 2017-04	General Simulation Performance Test Procedure – Unitized Products of Same Product
ISTA 3F 2012-01	General Simulation Performance Test Procedure – Packaged-Products for Distribution Center to Retail Outlet Shipment 100 lb (45 kg)
ISTA 3H 2014-01	General Simulation Performance Test Procedure – Products or Packaged-Products in Mechanically Handled Bulk Transport Containers
ISTA 3K 2013-01	General Simulation Performance Test Procedure – Fast Moving Consumer Goods in the European Retail Supply Chain
ISTA 6-AMAZON.COM-SIOC 2018-03	Ships in Own Container (SIOC) for Amazon.com Distribution System Shipment
ISTA 6-AMAZON.COM- Over Boxing - 2018-03	e-Commerce Fulfillment for Parcel Delivery Shipment
ISTA 3L 2024	Generalized E-commerce Retailer Fulfillment Test
GB/T 4857.23 Issued 2021 Implemented 2022	Packaging – Basic Tests for Transport Packages – Part 23: Vertical Vibration Test Method

3 The following test methods are characteristic of horizontal impact tests [Flex B]:

ASTM D5277 1992 (Reapproved 2015)	Standard Test Method for Performing Programmed Horizontal Impacts Using an Inclined Impact Tester
ASTM D880 1992 (Reapproved 2015)	Standard Test Method for Impact Testing for Shipping Containers and Systems
DIN EN ISO 2244 2002-12	Packaging – Complete, filled transport packages and unit loads – Horizontal impact tests
DIN ISO 10531 2000-03	Packaging – Complete, filled transport packages – Stability testing of unit loads

4 The following test methods are characteristic of drop tests [Flex B]:

ASTM D5265 2009 (Reapproved 2016)	Standard Test Method for Bridge Impact Testing
ASTM D5276 2017	Standard Test Method for Drop Test of Loaded Containers by Free Fall
ASTM D6179 2014	Standard Test Methods for Rough Handling of Unitized Loads and Large Shipping Cases and Crates
ASTM D6344 2004 (Reapproved 2017)	Standard Test Method for Concentrated Impacts to Transport Packages
DIN EN 14149 2003-11	Packaging – Complete, filled transport packages and unit loads – Impact test by rotational drop
DIN EN 22248 1993-02	Packaging; complete, filled transport packages; vertical impact test by dropping
DIN EN ISO 8611-1 2012-10	Pallets for materials handling – Flat pallets – Part 1: Test methods
DIN EN ISO 8611-2 2016-08	Pallets for materials handling – Flat pallets – Part 2: Performance requirements and selection of tests
DIN EN ISO 8611-3 2012-10	Pallets for materials handling – Flat pallets – Part 3: Maximum working loads

5 The following test methods are characteristic of climate and temperature test [Flex B]:

AFNOR - NF S 99-700 2022	Solutions isothermes autonomes pour produits de santé – Methode de qualification des performances thermiques
ASTM D4332 2014	Standard Practice for Conditioning Containers, Packages, or Packaging Components for Testing
ASTM E171 / E171M 2011 (Reapproved 2020)	Standard Practice for Conditioning and Testing Flexible Barrier Packaging
ASTM F1980 2021	Standard Guide for Accelerated Aging of Sterile Barrier Systems and Medical Devices
ASTM F2825 2018	Standard Practice for Climatic Stressing of Packaging Systems for Single Parcel Delivery
DIN EN 60068-2-1 2008-01	Environmental testing – Part 2-1: Tests – Test A: Cold
DIN EN 60068-2-2 2008-05	Environmental testing – Part 2-2: Tests – Test B: Dry heat
DIN EN 60068-2-30 2006-06	Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)
DIN EN IEC 60068-2-38 2022-09	Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test
DIN EN 60068-2-78 2014-02	Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state
DIN EN ISO 2233 2001-11	Packaging – Complete, filled transport packages and unit loads - Conditioning for testing
ISTA 7D 2007	Temperature Test for Transport Packaging
ISTA 7E 2010	Testing Standard for Thermal Transport Packaging Used in Parcel Delivery System Shipment
MIL-STD 810H 2019	Environmental Engineering Considerations And Laboratory Tests

6 The following test methods are characteristic of vacuum tests [Flex B]:

ASTM D6653/D6653M 2013	Standard Test Methods for Determining the Effects of High Altitude on Packaging Systems by Vacuum Method
DIN EN 60068-2-13 2000-02	Environmental testing – Part 2: Tests; test M: Low air pressure
DIN EN ISO 2873 2002-12	Packaging – Complete, filled transport packages and unit loads – Low pressure test

7 Other test methods [Flex A]:

ASTM D3078 2002 (Reapproved 2013)	Standard Test Method for Determination of Leaks in Flexible Packaging by Bubble Emission
ASTM D6055 1996 (Reapproved 2019)	Standard Test Methods for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates
ASTM F1886/F1886M 2016	Standard Test Method for Determining Integrity of Seals for Flexible Packaging by Visual Inspection
ASTM F1929 2015	Standard Test Method for Detecting Seal Leaks in Porous Medical Packaging by Dye Penetration
ASTM F2096 2011	Standard Test Method for Detecting Gross Leaks in Medical Packaging by Internal Pressurization (Bubble Test)
ASTM F3039 2015	Standard Test Method for Detecting Leaks in Nonporous Packaging or Flexible Barrier Materials by Dye Penetration
ASTM F88/F88M 2015	Standard Test Method for Seal Strength of Flexible Barrier Materials
DIN 55423-6 2017-01	Transportation chain for meat and meat products – Part 6: Pallet made from polyethylene, 800 mm × 1200 mm × 160 mm; Construction, requirements and test
DIN EN ISO 4180 2020-03	Packaging – Complete, filled transport packages – General rules for the compilation of performance test schedules
VDI 2700 Blatt 14 2011-09	Securing of loads on road vehicles – Determination of coefficients of friction

Abbreviations used:

AFNOR	Association française de normalisation
ASTM	American Society for Testing and Materials
DIN	German Institute for Standardisation
EN	European Standard
GB/T	National Standards of the People's Republic of China
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ISTA	International Safe Transit Association
MIL-STD	US Military Standard
VDI	Association of German Engineers