

VDA

Test Procedure for OEM Part Packagings

4535

This non-binding recommendation defines the goal for standardisation of test procedures for finding a suitable packaging for handling, storage and transport.

The matrix serves as a template for internal and external packaging concepts.

The recommendation is the project result of the VDA Center of Competence (CoC) Packaging.

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1 Purpose

The matrix serves as a template for internal and external packaging concepts. The goal is the standardisation of test procedures for finding a suitable packaging for handling, storage and transport.

2 Field of Application

The test method to be selected is oriented to the shipping conditions or to the demands of the supply chain on the package.

The concrete application is agreed upon between the process partners.

The method is applied e.g. in:

- New packaging concepts
- Cost-intensive OEM parts
- OEM parts with delicate surfaces
- OEM parts with danger of deformation (e.g. body parts)
- OEM parts with increased complaint levels

3 Terms / Abbreviations

Short designations

- OEM Original Equipment Manufacturer
- OES Original Equipment Service
- OT Original parts
- TUL-Test Transport, handling, storage (Transport Umschlag Lagerung) test where defined loads on packages are tested.

4 Performance and Documentation

Before carrying out the test, the process partners must agree on the specific testing scenario. The test is performed by the process partner responsible for the packaging (development and/or performance).

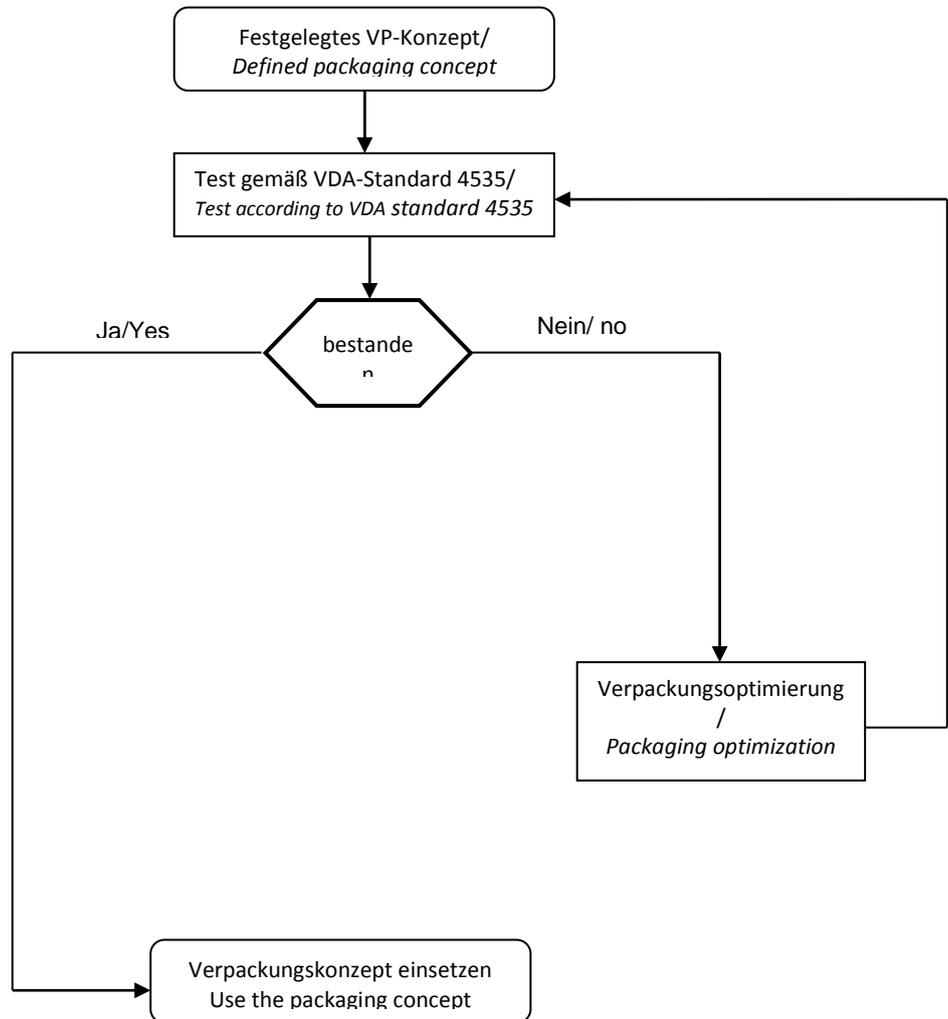
The test result must be documented in the test protocol in Annex 5.3.

5 Annexes

5.1 Annex 1 (VDA Recommendation 4535): Matrix for OEM Part Packaging Test Procedure

Test procedure	Drop test I	Drop test II	TUL test	Vibration test	Shipping test	Impact test
Shipping conditions	Individual packaging Truck, rail, air and sea freight	Individual packaging Air freight	Multi-pack Individual packaging Truck, rail, sea freight	Multi-pack Individual packaging Truck, rail, air and sea freight	Multi-pack Individual packaging Truck, rail, air and sea freight	Multi-pack (e.g. pool pallet) Individual packaging Truck & rail
Definition / Principles	For ready-to-ship packages with defined transport position	For ready-to-ship packages without defined transport position	For ready-to-ship fork-liftable packages	For ready-to-ship packages	For ready-to-ship packages	For ready-to-ship fork-liftable packages
Referenced Documents	DIN EN 22 206	DIN EN 22 206 DIN EN 22 248	DIN ISO 2244 Working instructions TUL Test	ASTM 4728 DIN ISO 13355:2003-10		DIN ISO 2244 UIC Loading Guidelines, table 4
Test Procedure	5 cycles: 1 Critical corner 2 Critical edge 1 to 2 * surfaces *(optional 1 tipping test) < 10 kg (22.0 lb): 800 mm (31.5 inch) < 20 kg (44.1 lb): 600 mm (23.6 inch) < 30 kg (66.1 lb): 500 mm (19.7 inch) < 50 kg (110.2 lb): 300 mm (11.8 inch) < 70 kg (154.3 lb): 200 mm (7.9 inch)	10 cycles: 1 Critical corner 3 Critical edge 6 surfaces < 10 kg (22.0 lb): 800 mm (31.5 inch) < 20 kg (44.1 lb): 600 mm (23.6 inch) < 30 kg (66.1 lb): 500 mm (19.7 inch) < 50 kg (110.2 lb): 300 mm (11.8 inch) < 70 kg (154.3 lb): 200 mm (7.9 inch)	Vibration test for ready-to-ship fork-liftable packages < 1,000 kg Packages < 150 kg Securing of the package against falling using straps. Abrupt setting-down of truck forks for ready-to-ship fork-liftable packages > 1,000 kg	Case-by-case test procedure	Case-by-case test procedure	According to the guideline
Application	Cube-shaped packages: - Drop on face - Drop on edge - Drop on corner Sacks & bags: - Flat side - Narrow side - End	Cube-shaped packages: - Drop on face - Drop on edge - Drop on corner Sacks & bags: - Flat side - Narrow side - End	30 boards (L=2000mm, W=100 - 150 mm, H=15-20mm) are placed on a level surface (distance between the boards approx. 1000 mm). For better adhesion of the boards, the use of full-surface rubber pellets (thickness 2-5mm) on the underside is to be recommended.			

5.2 Annex 2 (VDA Recommendation 4535): Sequence of the Test Procedure



5.3 Annex 3 (VDA Recommendation): Protokoll Testverfahren gemäß VDA-Empfehlung 4535 / Test procedure record according to VDA-standard

Die Außenflächen der Kartonagen sind vor dem Testverfahren gemäß der DIN 22206 zu kennzeichnen. Vor Durchführung der Prüfungen müssen sich die Prozesspartner über das jeweilige Prüfszenario abstimmen.

The outer surfaces of the cardboard boxes must be marked before the testing procedure according to VDA standard. Before performing the test, the process partners must agree on the specific testing scenario.

Lieferant / Supplier

Lieferanten Nr./ Supplier No.

Lieferant / Supplier

Prüfobjekt Test object

Teilenummer / Part number

Abmessungen / Dimensions x x mm

Gewicht / Weight kg

Primärverpackung / Primary packaging

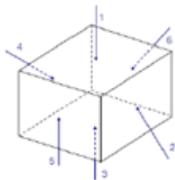
Bezeichnung / Description

Qualität / Quality

Abmessungen / Dimensions x x mm

Gewicht / Weight kg

Kennzeichnung nach relevanten DIN-Normen
Labelling according to DIN standards



Version 1.1

Dokumentation / Documentation

Prüfprozeduren / Test procedures

- Falltest I / Drop test I
- Falltest II / Drop test II
- TUL Test / TUL test
- Vibrationstest / Vibration test
- Versandtest / Shipping test
- Aufpralltest / Impact test

Ergebnis / Result

- Test bestanden / Test passed
- Test nicht bestanden / Test failed

Bemerkungen / Comments

-
-
-
-

Datum / Date

Name, Vorname / Surname, first name

Abteilung / Department