Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11238-01-00 according to DIN EN ISO/IEC 17025:2018

Period of validity: 29.05.2019 to 08.02.2021 Date of issue: 29.05.2019

Holder of certificate:

ContiTech Luftfedersysteme GmbH
Philipsbornstraße 1, 30165 Hannover

Tests in the fields:

Endurance tests of air spring systems and rubber suspension components and measurement of force and deformation characteristics; corrosion tests, burst pressure tests, climate chamber testing

Abbreviations used: see last page

Within the given test fields the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the following: the modification, development and refinement of 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.

DIN EN 13597 2008-04	Railway applications - Rubber suspension components - Rubber diaphragms for pneumatic suspension springs
DIN EN 13913 2003-08	Railway applications - Rubber suspension components - Elastomer-based mechanical parts
DIN EN ISO 6803 2010-01	Rubber or plastic hoses and hose assemblies - Hydraulic-pressure impulse test without flexing

DIN EN ISO 4628-1 2004-01	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system
DIN EN ISO 4628-2 2004-01	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering
DIN EN ISO 4628-3 2004-01	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting
DIN EN ISO 4628-8 2013-03	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 8: Assessment of degree of delamination and corrosion around a scribe or other artificial defect
DIN EN ISO 9227 2012-09	Corrosion tests in artificial atmospheres - Salt spray tests
DIN EN ISO 11997-1 2006-04	Paints and varnishes - Determination of resistance to cyclic corrosion conditions - Part 1: Wet (salt fog)/dry/humidity
Volvo STD 423-0014 2015-01	Accelerated corrosion test
Scania STD 4319 2012-09	Accelerated corrosion test
Volvo STD 423-0018 2004-10	Moisture resistance in tropical cabinet
Scania STD 4271 2014-05	Surface Treatment-Scribing and evaluating the extent of damage
Volvo STD 1021,2 2002-10	Scribing of a surface coated test object and evaluation of the propagation from scribe when corrosion testing

BD011xx, Vers. 1 1994-04	Bursting pressure test
HP021xx_b. Vers. 7 2015-11	Dynamic characteristics measurement - Compensation of the measured spring force considering the inertia of the moving mass
HP024xx-a, Vers. 3 2012-10	Specification MV 600/ A for railway air spring systems
HP031xx_a, Vers. 8 2014-06	Characteristics measurement of sleeve type bellows and airsprings for commercial vehicles and industrial applications
HP051xx, Vers. 2 2011-11	Simulation of static and dynamic multiaxial kinematics
HP071xx, Vers. 2 2014-09	Measurement of deformations using strain gauges
HP081xx, Vers. 2 2014-03	Determination of high product stiffness using direct displacement measurement (independent from test rig stiffness)
HP091xx, Vers. 2 2014-09	Tests with road load data - Conversion of a measured acceleration signal into a displacement signal
WPxx1xx_c, Vers. 6 2011-11	Durability tests on seesaw test rigs

DAkkS Deutsche Akkreditierungsstelle

Characteristic Parameter within the flexible scope of accreditation

Type of test	Test range	Measurement uncertainty[2)]	Typically test methods
Life cycles, characteristic curve, burst pressure:			
- force	-500 kN - 500 kN	±1%	DIN EN ISO 6803 DIN EN 13597, DIN EN 13913, BD011xx, Vers. 1 HP021xx_b, Vers. 6 HP024xx_a, Vers. 3 HP031xx_a, Vers. 7 HP051xx, Vers. 2 HP021xx, Vers. 2 HP031xx_a, Vers. 7
- moment	-60 kNm to +60 kNm	±1%	
- pressure [1)]	-0,9 bar to 100 bar	±1%	
- distance (product deformation)	-1000 mm to +1000 mm	±2%	
- angel	-30° to +30°	±1%	
- length (product dimension)	1,0 mm to 1000 mm to 10 mm to 150 mm to 250 mm to 600 mm to 1000 mm	 ± 0,025 mm ± 0,04 mm ± 0,08 mm ± 0,1 mm ± 0,25 mm	
- weigth	1,0 kg to 250 kg to 5 kg to 20 kg to 50 kg to 250kg	 ± 0,01 kg ± 0,02 kg ± 0,04 kg ± 0,2 kg	HP081xx, Vers. 2
- mass flow	0 - 1200 l/min (iN)	±2%	WPxx1xx_c, Vers. 6
Corrosion test			
- chamber volume	400 und 1000 l		DIN EN ISO 9227 DIN EN ISO 11997-1 Volvo STD 423-0014 Scania STD 4319
- density	0,01 g/cm³ to 3 g/cm³	± 0,001 g/cm³	
- pH-value	0 to 14 pH	± 0,1 pH	
- electrical conductivity	0,002 mS/cm to 0,2 mS/cm	± 0,0002 mS/cm	
- rust grade	Ri0 to Ri5	± 0,5 Ri	
climate chamber			
- temperature - humidity	- 60°C to +120°C 10% - 100% rel. F	±2°C ±2%	DIN EN ISO 6803 DIN EN ISO 11997-1 DIN EN 13597, DIN EN 13913, Volvo STD 423-0014 Scania STD 4319

Note:

1) Pressure is given as relative value according to ambient pressure of 1,013 bar (mean value).

2) The measurement uncertainty of the value measured is given for a coverage interval of 95% (k=2).

Abbreviation used:

DIN	German Institute for Standardization
EN	European Standard
ISO	International Organization for Standardization
WP, HP, BD	Standard of ContiTech Luftfedersysteme GmbH (ContiTech Air spring systems)