



The international benchmark for cab safety

Cab testing to international standards

Testing cabs and cabins on tractors, trucks and machines

The DLG Test Center Technology and Farm Inputs tests around 200 cabs annually for operator safety, thereby ensuring that truck drivers and machine and tractor operators are afforded the best possible protection in the event of an accident.

Building on long-standing international experience and a network of high-profile experts, DLG has established itself as an expert service partner in all aspects of cab and operator safety – not only on agricultural machines but beyond. Accredited to ISO 17025, our test lab has been appointed by the Federal Motor Transport Authority (KBA) as a Technical Service for testing operator cabs in all relevant aspects.

These tests are conducted to national and international standards. Each test consists of the actual testing, the documentation of all results and photos and the preparation of a report. Upon request, we also take care of all bureaucratic procedures that are required to obtain approval from the Federal Motor Transport Authority (KBA) or the OECD Coordinating Office. We can also prepare the EC-type examination certificate.

Our test services

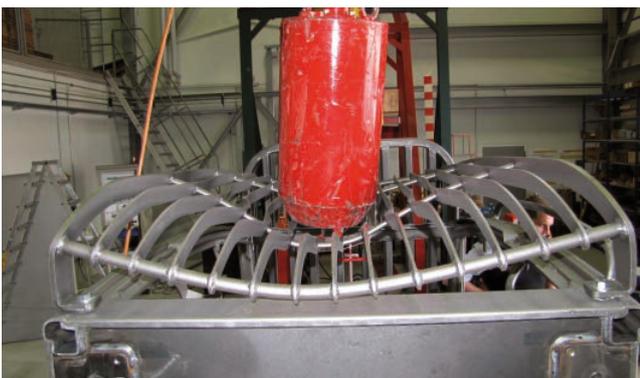
The DLG Test Center offers the following services within our extensive and internationally recognised safety tests:



ROPS – Roll-Over Protective Structure

This test examines the level of cab stability in the event of a roll-over crash. The roll-over protection structure must retain the integrity of the space for the operator in the event of a single roll-over. This minimum clear space for the operator who is buckled to the seat is defined by various standards depending on the specific type of machine or vehicle:

- Regulation (EU) 1322/2014
- ISO 3471, ISO 8082, ISO 12117-2, ISO 21299
- OECD Code (3), 4, 6, 7, 8, 9



FOPS – Falling Object Protective Structure

The FOPS test is a dynamic test of the cab roof or the above mounted protective structure against falling objects. The test is carried out to the standard that applies to the specific machine or vehicle and its required safety integrity level.

- ISO 3449, ISO 6055, ISO 8083, ISO 10262
- OECD Code 10

National and international test standards

- EU regulations
- Machine directive 2006/42/EC
- OECD standard codes
- UNECE standards
- ISO & EN standards for
 - Road construction
 - Construction machines
 - Hydraulic excavators
 - Forestry machinery
 - Fork-lift trucks
 - Special purpose motor vehicles
- Further standards
 - SAE
 - JIS
 - OSHA
 - CSA

Accreditations/Designations

- DAkKS
- KBA
- OECD
- ZLS

TOPS – Tip-Over Protective Structure

This test simulates a single tip-over of a compact excavator.

- ISO 12117-1



OPS – Operator Protective Structure / OPG – Operative Protective Guard

In this test a hydraulic cylinder applies a load to the screens on forestry machines or to the protective guards on construction machinery.

- Regulation (EU) 1322/2014
- ISO 8084
- ISO 10262



Seat belt anchorages

Seat belt anchorages are tested to standards that apply to the specific machine or vehicle.

- Regulation (EU) 1322/2014
- ISO 6683
- OECD Code 4, 6, 7, 8, 9
- UNECE-R 14



Truck cabs

Truck cabs are tested on a special test rig where a frontal crash or roll-over is simulated. These tests are carried out dynamically, using various pendulums kinds defined by UNECE-R29.03.

From 30 January 2021 onwards, all trucks (N1, N2 and N3) must comply with the UNECE-R29.03 standard when brought to market.



ROPS tests on machines of up to 100 tonnes: The DLG Test Center has two ROPS testing rigs that offer facilities for testing cabs on heavy-duty machinery with a max. weight up to 100 tonnes by applying forces of approx. 1,500kN horizontally and 2,000kN vertically.

Testing XXL cabs: The DLG Test Center also can test large cabs. The maximum dimensions of the delivered test sample, which is usually mounted to the vehicle or machine frame, and will be fixed to the clamping plate of the test rig, is 5,000mm x 5,000mm x 3,700mm (l/w/h).

Tests in cold-temperature conditions: All tests can be carried out at -18°C temperatures.

Additional DLG tests and services

- Chassis dynamometer for heavy commercial vehicles
- Tests of camera monitor systems according to UNECE-R 46
- Strength and safety tests (e.g. of rear underrun protection devices according to UNECE-R 58)
- Endurance tests
- Material tests (e.g. tensile strength, resistance to abrasion and chemicals; weathering and light stability)
- Tarp covers and curtain tests to ISO 17103
- Engine output measurements, output measurements on power take-off shafts, hydraulic systems and on the whole vehicle/machine
- Towing force measuring truck which applies variable loads and records fuel and AdBlue consumption
- Driver seat vibration measurements to Regulation EU 1322/2014 on a hydropulse test bench or on an ISO 5008-compliant test track
- We support customers in preparing the paperwork for applying the homologation of individual parts or the machine or vehicle as a whole
- Portable emission measurement system (PEMS)
- Noise level measurements (pass-by noise, noise at operator's ear, noise emission in the environment by equipment for use outdoors – 2000/14/EC)

Further information: www.DLG.org · Contact: Tech@DLG.org

DLG Test Center Technology and Farm Inputs

DLG has been testing and awarding certifications to agricultural machinery and farm inputs for over 130 years. In fact, we are one of the leading agricultural institutes to test and certify tractors, machines and utility vehicles for field and on-farm use, including farm inputs as well as forestry, municipal and garden equipment. As such, the Test Center at Groß-Umstadt generates valid information for machine users helping them to make knowledgeable purchase decisions and good use of the product. Up to now, this information has been made available to the public in more than 4,000 test reports that give farmers clear guidance on tractors and implements, livestock housing installations and udder hygiene products.

At the same time, DLG tests offer manufacturers the opportunity to view their products through the critical eye of their users: DLG tested products comply with stringent, up-to-date standards that meet user demands and take into account the manufacturers' production standards. The test methods, test profiles and standards are developed by unbiased and independent test commissions and are based on the application of state-of-the-art test techniques and facilities.

Apart from applying DLG standards in its tests, the DLG Test Center also offers extensive testing services as a part of test approval seeking procedures in compliance with relevant standards and regulations, but also with individual quality assessment programmes and customer-specific R&D requirements.



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