



Dynamic & Passive Safety Testing

SGS AUTOMOTIVE SERVICES

It is essential for the automotive industry to produce vehicles which are safe and comfortable. Dynamic and passive testing involves whole vehicle assessments, including component parts, assembly systems and sub-systems, to ensure protection against wear and tear and challenging conditions.



Child Seat
Testing



Seat
Testing



Off-Road
Work Machines



Endurance of Interior
and Exterior Parts



Seat Belt
Testing



Airbag
Testing

SGS's automotive dynamic and passive services test for the effects of noise and vibration, endurance and durability, and the performance and reliability of crucial safety systems such as seats, seat belts and air bags.

CHILD SEAT TESTING

Testing is regulated under Federal Motor Vehicle Safety Standards 213 and 302 (FMVSS 213 & 302). We perform testing for strength and durability of webbing and buckle performance as well as flammability.

SEAT TESTING

- Force and strength test:
 - Height adjuster unlock strength
 - Armrest strength
 - Shoulder unlock strength
 - Backrest adjuster effort
 - Hardness distributed test
 - Side guard plate strength
 - Headrest moving effort
 - Seat track unlock effort
 - Seat track displacement
- Life cycle durability:
 - Ingress and egress test
 - Life cycle-front seat back fold flat

- Jounce durability on backrest and cushion
- Life cycle of height adjuster
- Life cycle of track and height adjuster in different temperatures
- Adjustable head restraint life cycle in different temperatures
- Seat cover abrasion resistance
- Knee test
- Seat framework durability

Applicable standards: Q/JLY J7110479B-2016, QC/T 740-2017, RQT-0110-0016, Q/SQR SS7-17-2017, Q/SQR SS7-15-2017, 87000NDS00, DVM-0110-0026, DVM-0110-0025, EQC-3267-2007, Q/AEW 1006-2013, Q/J/GAC 1250.026-2019, PF-10254 (2015), BT/SGMWVJ 08496-2020.

OFF-ROAD WORK MACHINES

Vehicles such as agricultural tractors and construction vehicles fall under the Society of Automotive Engineers' SAEJ386 standard relating to operator restraint systems. SAE J2292 covers combination pelvic/upper torso pelvic restraint systems. Compliance to these standards is voluntary as they reflect the industry accepted standard.



ENDURANCE OF INTERIOR AND EXTERIOR PARTS

Endurance tests are classified as follows:

- Static strength test
- Dynamic strength test
- Stiffness test

We deliver the following tests on these products:

- Life & fatigue testing
 - Chassis parts fatigue (hydraulic servo system)
 - Interior and exterior parts
- Body testing
 - Angle versus force measurement
 - Electric rear mirror adjust test

- Window regulator test
- Armrest force test
- Door handle/grip test
- Endurance test of gearbox, springs, brake pedal, suspension system and steering
- Four doors, hood and decklid
 - Side door key life test
 - Open/close inside/outside
 - Hood fatigue endurance test
 - Electric/manual tailgate fatigue

Applicable standards: Q/CHJ 3 C31 001, Q/CHJ 3 C10 020, Q/LIA3C25005.

WHY CHOOSE SGS?

Recognized by industry leaders for our global network of ISO/IEC 17025 accredited laboratories, we provide key account management and a rapid and professional turnaround with expertise to help you make the right choices for your markets.

SEAT BELT TESTING

Passenger cars, multipurpose passenger vehicles, trucks and buses must comply with the Federal Motor Vehicle Safety Standard 209 (FMVSS 209) in order to be sold in the US. Seat belt assemblies must also meet requirements in these areas:

- Strength and durability of webbing (breaking strength and elongation, resistance to abrasion, resistance to UV light)
- Strength of seatbelt and anchorages (corrosion and temperature resistance, strength of attachment hardware)
- Performance of buckles (latching and release, strength)
- Performance and durability of the retractor (performance of lock up mechanism)

AIRBAG TESTING

These passive safety systems must pass a variety of tests before they can be installed. Destructive tests help design and production. Static deployment testing (SDT) is done on system level and on many types of airbags in low to high room temperatures.

Applicable standards: VW 82511, VW 82517, ISO 12097-2, PF-10827, 7780Z - T02A - T000, C 011059, ES84610-13, as well as customer specified procedures.

CONTACT US

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WHEN YOU NEED TO BE SURE

SGS