

Experimental tests on a drop impact tester

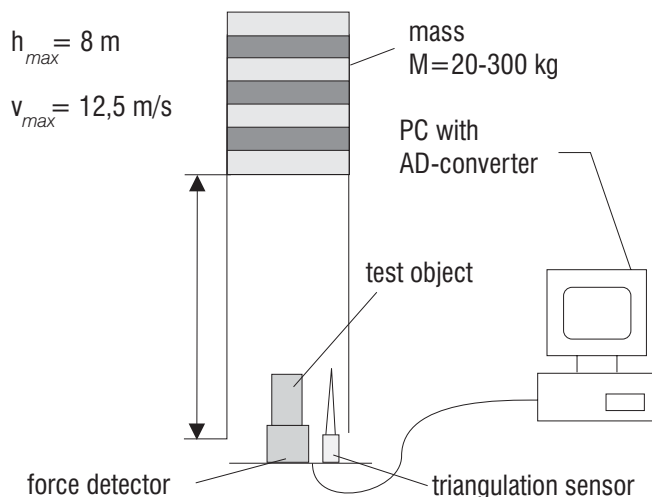
In the automotive industry manufacturers go to great lengths to improve the passive safety of all vehicles in a collision.

The so-called crash absorbers join the fenders with the longitudinal bearers and taken overall they can absorb energy through fixed bumpers and plastic deformation. In addition, attempts are made to reduce the vehicle weight through new designs and the use of new materials. The effect of the actual accident event can be replicated on special drop impact testers. Through the variation of the dropped weight and the height, the impact speed can reach 12.5 m/s (45 km/h). Apart from the force, the deformation is recorded during the collision with a fast triangulation sensor.

Reasons for the system selection

- Non-contacting and therefore wear-free.
- Large base distance, easy fitting and operation.
- High accuracy and system response.
- Rugged, economical system implementation.

Principle



Measurement system setup

1 x ILD 1605-200

1 x PC 1605-3

1 x Ps1605

Option: Vibration resistance

Technical details

- Measuring range: $\pm 100 \text{ mm}$
- Accuracy: $\pm 1 \text{ mm}$
- Resolution: 1 mm
- Bandwidth: 10 kHz (-3 db)

Ambient conditions

- Temperature: $18^\circ\text{C} - 25^\circ\text{C}$
- Medium: air
- Interference fields: none

