

# DROP TOWER TESTING

## STRENGTH SUBSTITUTION AND CRASH TESTS FOR VEHICLE PARTS AND COMPONENTS

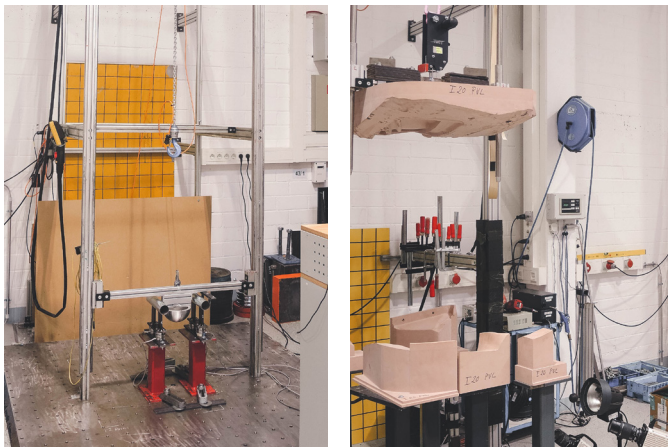


## YOUR GLOBAL MOBILITY ENGINEERING EXPERTS

Particularly during the early stages of development it is often not possible for component testing to be carried out at complete vehicle level, due to the unavailability of prototypes.

In addition, high-speed crash and strength tests require long lead times and entail heavy costs.

With our drop towers, we offer a low-cost means of testing the dynamic strength of vehicle parts and components, and moreover one that can be very quickly implemented.



On the basis of the load case to be validated, we use CAE simulation to develop a suitable impactor. Working with high-precision machinery, this is then produced in-house, in a suitable material and with the calculated weight.

Alternatively, we also use conventional crash impactors and dummies, for instance heads or full bodies.

### Technical data:

- Drop speed up to max. 10 m/s
- Load weight up to max. 500 kg
- Impact of the test specimen, guided or unguided
- Load direction from outside (test specimen) or inside (impactor)
- Sensor positioning on test specimen and impactor
- Recording tests using high-speed cameras

The components that can be tested by these means are as many and varied as the different test load cases:

### Areas of application:

- Crash substitute tests on **door trims**
- Impact of a torso on a **driver-side airbag** (steering wheel) that opens immediately before contact
- Static and dynamic strength testing of **seat belt guides**
- Testing **front axle control arms**
- Protection from load testing, e.g. impact strength of the **rear seat backrest**
- Lateral impact simulation with wheel rim on **rocker panel** in the door area
- **Front hood** hinge deformation
- Testing the weld seams in the **pillars**
- 3-point bending test for **material cards**
- **Crash box** testing

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