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CREATING IDEAS &
DRIVING INNOVATIONS

Mechanical Testing on Vehicle Components

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Crash Test Facility

- **Approach**
  - Investigation of energy absorption behavior and ductility of structures and materials
  - Validation of simulation results
- **Test types and components**
  - Full vehicle crash tests according to current standards (e.g. FMVSS 208, offset & pole impact)
  - Full scale tests with VRUs (pedestrians, cyclists)
  - Sled tests on components and pulse tests
  - Low and high speed tests on CMS (acc. to IIHS, RCAR, ECE-R42)
  - Customized test configurations (e.g. kerbstone impact)
- **Acceleration track: 50 m**
- **Crash block mass: 120 t**
- **Drive train based on fly wheel**
- **Film pit at crash block**

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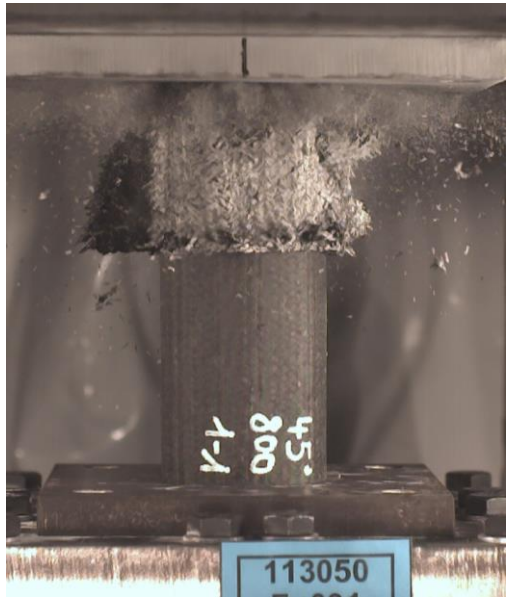
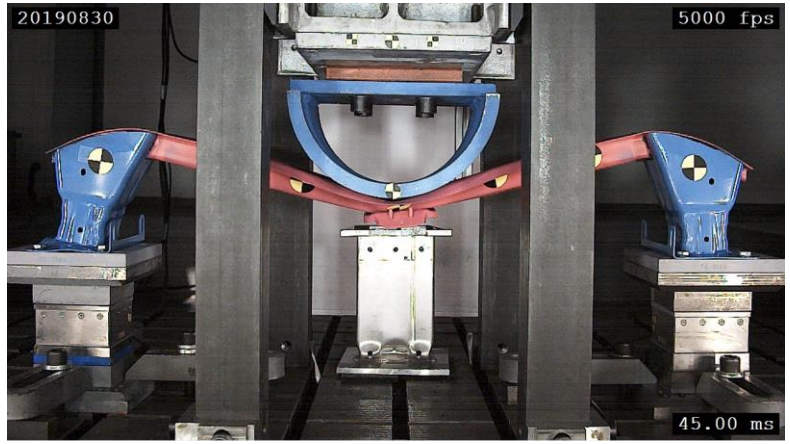
Drop Tower Test Benches

- **Approach**
  - Investigation of energy absorption behavior and ductility of structures and materials
  - Highly repeatable and fast testing
- **Test types and components**
  - Axial crashes (e.g. on profiles, extrusions, hat profiles)
  - 3-point-bending tests (e.g. on profiles, extrusions, hat profiles, CMS acc. to RCAR Structure)
  - Impact tests (e.g. on hoods, doors, side walls)
- **Drop height: 9.5 m**
- **Impact velocity: 45 km/h**
- **Drop weights: max. 800 kg**
- **Impactor surface: 300 x 600 mm²**





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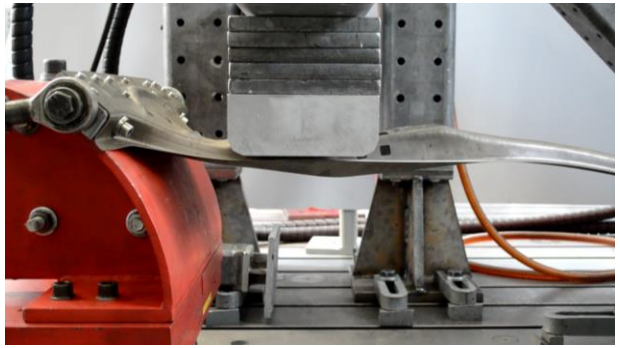
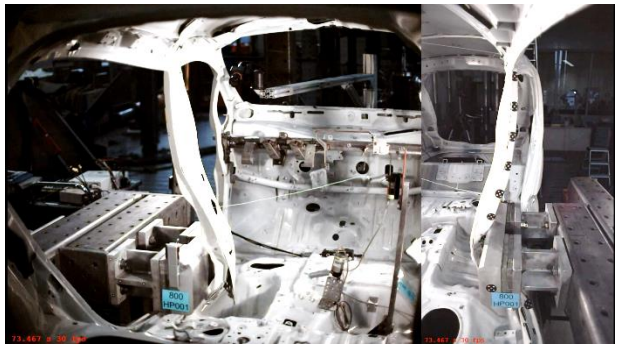
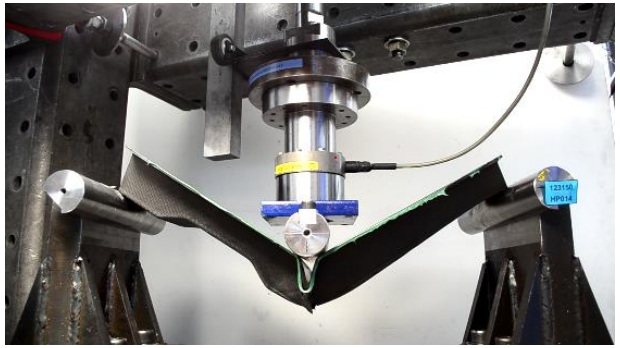
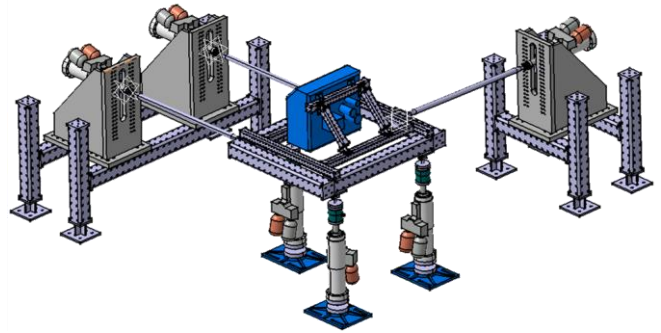
Servohydraulic Test Center







- **Approach**
  - Investigation of fatigue and durability behavior
  - Investigation of energy absorption behavior and ductility of structures and materials
  - Investigation of vehicle comfort characteristics
  - Quasi-static intrusion tests with high forces
- **Test types and components**
  - Fatigue and durability testing of vehicles, vehicle structures and components
  - Safety testing of electric components and systems according to the test specification IEC/EN 61373
  - Quasi-static intrusion tests on B-pillars, doors, sidewalls etc. (e.g. FMVSS 214)
  - Customized component testing
- **Force: F_{max} 350 kN**
- **Stroke: s_{max} 1000 mm**
- **Frequency: f_{max} 150 Hz**



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