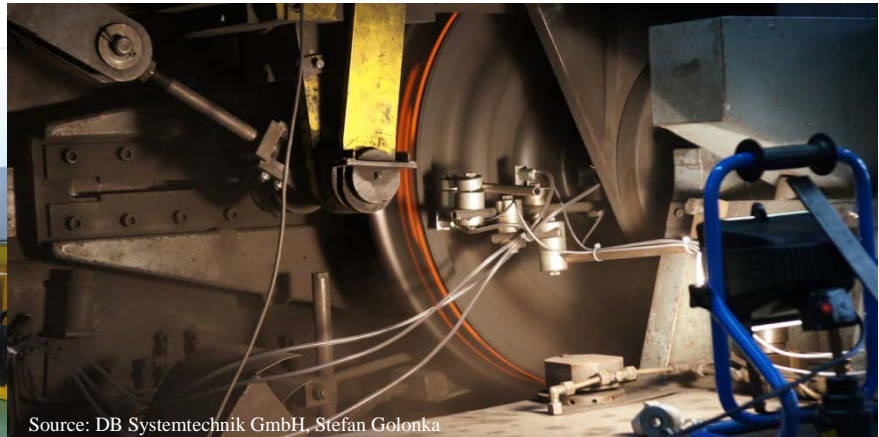




Source: DB Systemtechnik GmbH, Andreas Assfalg



Source: DB Systemtechnik GmbH, Stefan Golonka

## Brake system testing

### Tests on the friction test rig

If a disc brake (pad or brake disc) or a block brake (brake block / railway wheel) fails, railway operations may be seriously disrupted. It is therefore important to verify the performance of the friction partners in laboratory tests and operational trials.

DB Systemtechnik uses test procedures accredited to DIN EN ISO/IEC 17025 in this respect. We carry out approval tests to DIN / EN / UIC or in accordance with vehicle-specific criteria. Our test rig subjects the friction partners (pad / brake disc / brake block / wheels) to the same loads applied to them during operation (mass to be decelerated for each test object and contact force). If a friction partner demonstrates excessive wear during operation or is prone to increased crack formation, for instance, this load is initially simulated in order to provide a precise diagnosis. To rectify the problem, the driving profile is then modified on the basis of the diagnosis or one friction partner replaced with another.

The test rig operates at speeds of 0 to 2200 rpm (equivalent to 360 km/h). Forces up to 65 kN can be simulated for the brake discs and forces up to 100 kN for the block brake.

#### Our services

- Recording of an individual driving profile (data logger), adaption on the test rig to determine and minimise actual wear data (life cycle costs)
- Substitution of brake pads: replacement of existing brake pad with another
- Simulation on the test rig of speed-dependent interaction of a train's other braking systems (blending)
- Adaption on the test rig of the actuator used in the vehicle (incorporation into test rig control)
- A measuring device (UER-T) from the Fraunhofer Institute is available to analyse the thermomechanical residual stresses on railway wheels
- Thermographic camera to assess heat distribution on brake discs
- Testing brake block, also for shuntage

#### Your benefits

- Inspection and solution tailored to your needs
- Use of the original actuator increases the transferability between test rig and vehicle
- Cost savings: minimisation of actual wear and life cycle costs
- Increased service life of discs in km
- Less wear

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