

NVH laboratories



DESCRIPTION

Noise and vibration measurements are performed either in Laboratory and [test-tracks](#). The NVH laboratories are used to reproduce NVH issues at vehicle level and also at system and sub-system level.

Measurements, assessments and troubleshooting activities are performed in our facilities.

Semi anechoic vehicle dynamometer

The vehicle semi anechoic chassis dyno is used to perform any type of tests that requires no extraneous noise and vibration events. The room is completely isolated from the rest of building and the dyno roller is capable to reproduce the driving conditions existing in the tests tracks. The noise absorbing wedges installed in the walls and ceiling avoid noise reflection and allows measurements in a free field condition.

Facility main characteristics:

- Hemi-anechoic chamber with chassis dyno for full NVH vehicle characterization
- Room Dimensions: 14,7 m x 11 m x 5,1 m
- Cut-off frequency (ISO 3745): 50Hz
- Background noise: 22 dB(A)
- Reversible vehicle ventilation
- Temperature control : 24°C +/- 1°C
- Chassis Dyno (with 2 independent motors)
- Maximum speed: 250kmph
- Roller diameter: 1828mm
- Nominal power (temporally up to): 320kW (480kW)
- Tractive force (temporally up to): 14000N (21000N)

- Noise level: 48 dB(A) at 100kmph at 1m
- Special roller surfaces on request
- Inspection pit available
- Impact strip to perform impact noise tests
- Maximum drive axle weight: 2500kg

Modal analysis test bench

The modal analysis test bench is placed in a quiet room and is suitable to perform modal analysis over trimmed body and body-in-white. Also measurements are performed over systems and sub-systems.

Four poster bench

The four poster bench is especially useful to apply a known input to the vehicle wheels. This allows investigating vehicle multiple issues. Some examples are body resonances, system eigen modes or squeaks and rattles evaluation.