

ENVIRONMENTAL & VIBRATION VALIDATION TESTING (ENVIVA)



Location: Flanders Make vzw - Lommel

DESCRIPTION

The amount of electrical and electronic components in vehicles increases year after year. All these components are subject to both thermal and mechanical stresses. To ensure trouble-free operation these components need to be tested simultaneously as malfunctions may only appear in certain thermal/mechanical settings.

Our EnViVa test lab is equipped with an electro-dynamic shaker in combination with a climate chamber and solar simulation. This allows us to provide you with a complete mechanical and thermal test.

The mechanical test can be carried out in both vertical and horizontal directions, using our slip table. The climate chamber allows us to set temperature and humidity and the solar system simulates the so-called 'outdoor spectrum' of UVA and UVB.

Optionally, our EnViVa test lab is available for NVH purposes like resonance research and modal analysis.

TECHNICAL SPECIFICATIONS

- **Electrodynamic Shaker & Horizontal Sliptable**
 - Frequency range: 5Hz to 2200Hz
 - Force: Sine 40kN; Random 40kN rms; Shock 80kN
 - Max Acc: Sine 90G; Random 63G rms; Shock 180G
 - Max Vel.: Sine 2.4m/s; Shock 4.6m/s peak
 - Max Disp.: Sine 100mmp-p
 - Max Payload : 600kg, including fixture
 - Armature diameter: 440mm
 - Head-expander: 750mm X 750mm
 - Horizontal Sliptable: 750mm X 750mm, low friction
 - Input Signals: sine, sweep, random, sine-on-random, shock and time history road load data
 - Object sizes: from small battery chargers to full size EV battery packs
- **Climate chamber**
 - Chamber size: approx. 1150L (W: 1100mm, D: 1100mm, H: 950mm)
 - Temperature range: -40°C to +180°C
 - Temperature ramp rate: Heating: 5.5K/min and Cooling: 4.5K/min
 - Humidity range: 10% RH to 95% RH
- **Solar simulation**
 - Radiation 1 X 2500W metal-halide-lamp
 - Intensity approx. 400W/m² to 1150W/m²
 - Regularity of 5% related to the reference level
 - Spectral power distribution according to DIN75220, incl. UVA & UVB

OUR OFFER

Using this test infrastructure, we offer:

- Combined Environmental and Vibration simulation testing
- Durability performance for both Mechanical and Thermal tests
- Vibration research to determine the resonance state of specimens

NVH & DURABILITY TESTING



INTERESTED?

Contact contact_MotionS@flandersmake.be for more information.