Power Energy Vehicle Environmental Laboratory

PEVEL
GSPEL Laboratory

GVSC's Ground Systems Power and Energy Laboratory (GSPEL) Team operates the Power & Energy Vehicle Environmental Laboratory (PEVEL) which enables GVSC to perform vehicle-level performance and durability testing on both wheeled and tracked vehicles. The PEVEL's reconfigurable dynamometers can support up to a 5-axle wheeled vehicle with 34,000 lbf·ft (per wheel) and tracked vehicles up to 42,000 lbf·ft (per side). The PEVEL offers controlled environmental conditions with temperatures ranging from -60 to 160 °F, humidity levels from 0 to 95 %Rh, wind speeds up to 60 mph, and solar load up to 1,200 W/m²

PEVEL Testing Capabilities

- Transient Road-Load Profiles
- Vehicle Acceleration
- Fuel Economy
- Full-Load Cooling
- Speed on Grade
- HVAC Validation
- Engine Cold-Start Evaluation
- Alternator Load Testing

PEVEL - Test Cell Interior

Tracked Vehicle Performance Testing

Wheeled Vehicle Performance Testing

Test Chamber Overview

Powertrain Specifications

Wheeled Vehicle Dynamometers

- Speed: 0-1,000 RPM
- Torque: 0-34,000 lbf-ft (per wheel)
- Power: 0-160 hp (per wheel)
- Wheel Stations: up to 10 wheels (5 axle)

Tracked Vehicle Dynamometers

- Speed: 0-1250 RPM
- Torque: 0-42,000 lbf-ft (per side)
- Power: 0-800 hp (per side)

Environmental Control

- Temperature: -60 to 160°F
- Wind: 0-60 mph
- Solar: 0-1,200 W/m^2
- Humidity: up to 95% RH

General Information

- Chamber Door: 14 ft (W) x 14 ft (T)
- Dimensions: 20 ft (W) x 20 ft (T) x 75 ft (L)
- Floor Capacity: up to 100 tons
- Crane: 25 tons
- Multiple Vehicle Build-up Bays

U.S.ARMY DEVCOM GROUND VEHICLE SYSTEMS CENTER

FOR FURTHER INFORMATION:
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