

FACT SHEET

# DRIVELINE TESTING

Intertek San Antonio can support all your driveline testing needs

**For more than 60 years, the Intertek automotive testing facilities in San Antonio, Texas have been providing customer focused, independent testing services for the automotive, fuel and lubricant industries. Services are conducted by more than 300 qualified staff members**



The Intertek Transportation Technologies Driveline Department, based in San Antonio, has more than 100 years of combined engineering experience in Driveline performance, durability, efficiency testing and test development.

We collaborate with industry leaders such as OEM's, suppliers, and steering committees to understand and how to best achieve our client's goals.

Our staff focuses on meaningful test matrix development, accurate fixture design and fabrication, precise mechanical setup, sizing of instrumentation, along with understanding test hardware and test system limitations.

ULTRA (Universal Laboratory Testing Resource Apparatus) was designed to accommodate today's rigorous demands for Driveline performance testing and development. Each of the three AC dynamometers are capable of operating either as a motor or absorber with the ability to rotate bi-directionally throughout their entire speed range.

Driveline power is produced using a 425 kW (570 HP) motor with maximum peak torque of 1,610 Nm up to 2500 rpm. Above 2500 rpm, constant power is generated to 3500 rpm with reduced power to 8,500 rpm. Matching motoring/absorbing dynamometers

have a maximum power rating of 410 kW each (550 HP) with the maximum torque per dynamometer of 2,610 Nm up to 1500 rpm and constant power from 1500 rpm to 2800 rpm with reduced power to 4000 rpm.

The AC dynamometers are capable of either steady state or transient testing as required to suit our customer's needs.

Intertek's new test cell was designed to carry out a variety of Driveline testing, such as efficiency and development of Driveline systems or subsystems on a 49.5m<sup>2</sup> bedplate.

Dual range torque meters, Accuracy Class – 0.03, are available from 113 Nm (83 lb-ft) up to 2,600 Nm (1,916 lb-ft) capacity. Additional torque meters are available and sized according to test requirements.

Tests are conducted with industry leading equipment, statistical analysis techniques, and data acquisition using high precision instrumentation calibrated according to ISO 17025 specifications and National Instruments® DAQ hardware/software.

Thousands of tests have been performed in the Driveline Department utilizing dynamometer, engine and bench test rigs. Testing includes ATF testing of MERCON®V and MERCON®LV DEXRON®-VI ATF DEXRON®HP DEXRON®

DCT/MTF, TES-439 Off-Highway, TES-389, TES-295, and TES-468 On Highway fluids. Gear Lubes testing has been conducted to SAE J-2360, API GL, DEXRON® Gear Oil 75W-90, DEXRON® LS Gear Oil 75W-90, along with DEXRON® High Performance Hydraulic Fluid.

Gear lube testing includes D 5662 Seals, D 6121 (L37) - Low Speed High Torque, D 8165 (L37-1) - Low Speed High Torque, D 7038 (L33-1) - Rust protection, D 7452 (L42) - High Speed Shock Loading, and D 5704 (L60-1) Oxidation evaluations.

Driveline Department experience exists with bench, analytical, and seals testing, KRL Shear, Vane Pump Wear, FZG Wear, Four Ball Wear, Ford One Way Clutch Wear, DEXRON® Plate Clutch Friction DEXRON® Band Friction, MERCON® Clutch Friction Durability, Allison Graphite and Paper Friction, Allison TES-389 Friction, DEXRON® Low Speed Friction, Anti-Shudder Durability (ASD), Oxidation – Transmission, ABOT, DKA CEC L-48, DEXRON® Cycling and DEXRON® Aeration.

**750,000+**  
**SQUARE FEET**

Intertek San Antonio has a footprint with plenty of space to handle tests of all sizes



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Driveline testing capabilities range from passenger car through heavy-duty vehicle drivelines

### Test Configurations

Traditional or Hybrid/Electric

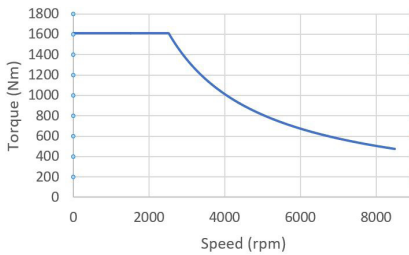
- All Wheel Drive
- Front Wheel Drive (FWD)
- Rear Wheel Drive (RWD)
- Driveline subsystems
  - Transmissions
  - Transfer case
  - Axles

### Test Cell Capabilities

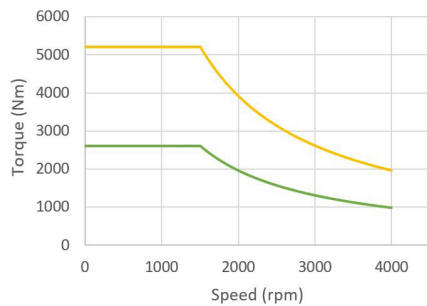
- Efficiency
- Benchmarking
- Development
- GHG2 testing
- Steady State
- Dynamic

### Key Features

- Hybrid/Electric Drivelines
  - ABC-150 (+8 to 420 VDC, 125kW)
  - AV-900 (+8 to 900 VDC, 250kW)
  - Additional power supply options available
- Cold/Hot testing
- High precision fluid conditioning systems
- 24/7/365 operation



Input Dynamometer Curve



Output Dynamometer Curve

**100+**  
**DYNAMOMETERS** Eddy-current and motoring test cells

### FOR MORE INFORMATION

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