



KAL TIRE'S TIRE TESTING

1. THE DRIVERS AND THE TESTING TECHNOLOGY

The independent tire testing group was led by an international race car driver, tire tester and leading driving instructor. His team includes rally champions, advanced driving instructors and vehicle development testers as well as former RCMP and military officers with extensive driving experience. The drivers had the qualifications to drive a vehicle with consistent precision, every time.

To ensure accurate results, even the most minute variables, such as track and wind temperature, were monitored. Identical vehicles were used and tests were repeated numerous times at identical speeds, always with the driver not knowing the specifics of the tire being tested at the time. In addition, vehicle driving assist systems were disengaged for testing.

The data was gathered using industry-leading testing technology (factory calibrated annually) to measure precise driving lines, speed, GPS information and G-Force measurements of each vehicle.

2. THE TESTS

BRAKING: To test the braking distance of each tire, a vehicle approached a marked line at a consistent speed and the braking distance was measured in metres. The approach speed varied by driving surface to closely represent how most Canadians would drive on that surface. The vehicles were tested at a consistent speed 90 kilometres per hour on dry pavement, 70 km/hour on wet surfaces, and 30 km/hour on ice surfaces.

CORNERING: The cornering test demonstrates the lateral traction capabilities of the tire over dry, wet and icy surfaces. A vehicle was driven in a 60 meter radius circle, and speed was slowly and progressively increased until the tire could no longer hold the corner, and lost traction.

ROAD NOISE: The road noise of a tire was measured with a decibel meter on a marked stretch of road at a set speed. Using a decibel meter, the peak decibel rating was recorded for each tire.

HYDROPLANING: Hydroplaning was measured with repeated runs through a puddle that was maintained at a depth of 4 centimetres. Starting at 80 km/hour, the speed of the vehicle was increased in increments of 5 km/hour over repeated runs until the tires lost traction or the vehicle reached 100 km/hour.

SLUSH STRAIGHT-LINE STABILITY: Straight-line stability on slush was measured by accelerating the vehicle at increasing speeds through a large patch of loose slush and snow until traction loss occurred.

SLUSH CORNERING: Slush cornering was tested with a corner set up with 5-7cm of slush consistent throughout. Slush was raked in between vehicles to keep it consistent. The vehicle drove into the slush at a speed of 30 km/hour and increased in increments of 5 km/hour until traction loss was observed.

3. THE DRIVING CONDITIONS

This is not a test track. This is Canada.

Kal's Tire Testing put 19 of our most popular tires to the test in the rugged, natural winter conditions drivers face every day.

Rough winter highway

Temperature and weather conditions: Average daytime temperature was 0.6 C. Weather conditions were mainly sunny with some overcast cloud cover throughout the day.

Conditions: Dry, cold pavement. With cracks in the tar, undulations in the pavement as well as uphill and downhill stretches, an airport runway simulated a rough highway surface ideal for testing dry braking conditions in the cold.

Tests performed: Dry braking.

Slick intersections and black ice

Temperature and weather conditions: Average daytime temperature hovered between 1.5 and 1.6 C. Testing was conducted in the early morning and evening to avoid the influence of sun on the lakes. Weather conditions were clear and crisp.

Conditions: Slippery compact snow on a frozen lake mimicked icy road conditions. Pure ice on a second frozen lake mimicked slick icy intersections and patches of black ice.

Tests Performed: Braking on ice and cornering on ice.

Slush

Temperature and weather conditions: Average daytime temperature was -9.8 C. Low morning cloud and early morning frost turned into a bright, cold and sunny day.

Conditions: Frigid temperatures as well as ice, fog and just enough humidity on uneven pavement, with sections both bare and slushy, created the perfect opportunity to conduct a variety of tests.

Tests performed: Slush straight line stability, slush cornering and dry cornering.

Highway puddles

Temperature and weather conditions: Average daytime temperature was 2.75 C. Weather conditions were mainly sunny with some overcast cloud cover throughout the day.

Conditions: Wet conditions on undulating pavement, along with the help of a water truck, created the kind of highway puddles and hydroplane conditions drivers face when they hit road ruts on a cold and rainy day.

Tests performed: Hydroplane resistance, wet braking and wet cornering.