



INTERNATIONAL  
CYBERNETICS

NAC-DFT™

# Runway Friction Tester



## Evaluate Runways Regularly with the NAC-DFT™ Continuous Friction Measurement Device

The NAC-Dynamic Friction Tester (NAC-DFT™) is an aerodynamic tow-behind continuous friction measurement device (CFMD), actively in use testing airport runways and bridges around the world.

The NAC-DFT™ has already been approved by the FAA and complies with ASTM E2340 Standard Test Method for Measuring the Skid Resistance of Pavement. It creates and measures the frictional force between an ASTM E1551 test tire operated at a 12% slip while towed across the runway surface.

### Friction is key to safety!

Regular measurement of runway friction is essential to safety. The FAA Advisory Circular on runway friction states:

Regardless of pavement type or surface treatment, runway friction characteristics will change over time depending on type and frequency of aircraft activity, weather, environmental issues, and other factors. In addition to ordinary mechanical wear and tear from aircraft tires, contaminants can collect on runway pavement surfaces to decrease their friction properties. Contaminants such as rubber deposits, dust particles, jet fuel, oil spillage, water, snow, ice, and slush all cause friction loss on runway pavement surfaces. Rubber deposits occur in the touchdown areas on runways and can be quite extensive. Heavy rubber deposits can completely cover the pavement surface texture thereby causing loss of aircraft braking capability and directional control when runways are wet.

As to the frequency of testing, the FAA advises: "Every runway for jet aircraft should be evaluated at least once each year. Depending on the volume and type (weight) of traffic on the runways, evaluations will be needed more frequently, with the most heavily used runways needing evaluation as often as weekly, as rubber deposits build up."



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## Working Principle

The NAC-DFT™ is a portable CFME testing trailer able measure surface friction, drag, and travel distance, through contaminants accounting for longitudinal and lateral acceleration at 12% slip braking. It is self-contained with on board power supply, control unit, and water tank. The DFT's high profile and long chassis can facilitate movement and measurement at up to 100 km/h (60 mph).

The NAC-DFT™ collects reliable friction values continuously and the results are displayed graphically. The data collection software uses touchscreen controls for user convenience and runs using Microsoft Windows. Data results can be automatically displayed in either Mu or RCR values and automatically displayed in an easy-to-read bar chart. The software includes contaminant type drop down menu, listing over 14 different types that align with the Notice to Air Missions (NOTAM) reporting system. All data is transmitted wirelessly or via direct serial cable to the tow vehicle laptop or tablet.

## NAC-DFT™ Features

- ✓ State-of-the-art precision engineering
- ✓ Leader in reliability and environmental friendliness
- ✓ Built-to-last design dramatically reduces maintenance and operating expenses



## Industry Standards

ASTM E2340 Standard Test Method for Measuring the Skid Resistance of Pavements and Other Trafficked Surfaces Using a Continuous Reading, Fixed-Slip Technique

ASTM E1551 Standard Specification for a Size 4.00-8 Smooth Tread Tire

NAC-DFT intellectual property and assignment to ICC - U.S. Patent and Trademark Office (USPTO) (U.S. Patent No. 9,053,930) for the measurement of Runway Friction, Measure Fluid Drag and Rolling Friction).

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