

Motor Oil Viscosity Analysis

Understanding the viscosity of motor oil is crucial for ensuring it performs effectively as a lubricant in internal combustion engines. Proper viscosity control is essential to reduce friction, prevent wear, and maintain engine efficiency under various operating conditions.

Test Equipment:

Instrument: Viscometer or Rheometer (Brookfield RVDVNX)

Torque Range: RV

Spindle: YULA-15E

Accessories: Enhanced UL Adapter, TC-550SD Programmable Refrigerated Bath

Speed Settings:

10, 20, 30 RPM (10W-40 motor oil)

5, 10, 15 RPM (20W-50 motor oil)

Test Method:

The Enhanced UL Adapter was used with the Brookfield RVDVNX Viscometer, controlled by RheocalcT software for automated data acquisition.

The test temperature was maintained at 25°C by immersing the Enhanced UL Adapter sample chamber in the TC-550SD Programmable Refrigerated Bath.

Observations:

Figure 1: Shows relatively constant viscosity for both motor oils at 25°C over the tested speed ranges.

Viscosity Results:

10W-40 Motor Oil: 179 cP (Red Data)

20W-50 Motor Oil: 337 cP (Black Data)

Conclusion:

The viscosity measurements confirm that both motor oils maintain consistent viscosity at 25°C across the tested speeds. The higher viscosity of 20W-50 motor oil indicates its suitability for applications requiring thicker lubrication compared to 10W-40 motor oil.



Motor Oils: 20W-50 (Green) & 10W-40 (Red), 25C, RVDVX, UL Adapter

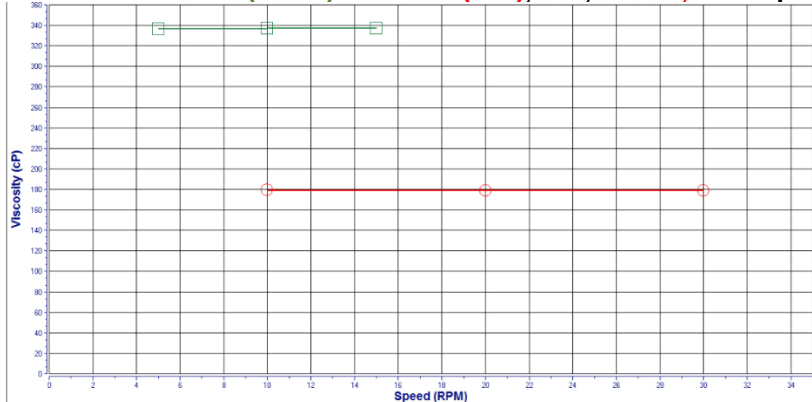


Figure 1: Motor Oils at 25°C