



IS 13656 : 2019 Internal Combustion Engine Crankcase Oils for Automotive Application (Diesel and Gasoline)

Internal Combustion Engine Crankcase Oils are essential **lubricants** used in vehicles powered by diesel or gasoline engines. Their main function is to **reduce friction** between moving engine parts, **preventing wear** and **overheating**. These oils also help clean the engine by trapping dirt and deposits, protect metal components from rust and corrosion, and maintain engine temperature.

In essence, crankcase oils are vital for keeping engines running smoothly, efficiently, and for a longer lifespan by ensuring proper lubrication, cleanliness, and protection.

IS 13656: 2021, addresses different classifications of crankcase oils, with distinct sections dedicated to diesel and petrol engine oils. It categorizes oils based on different performance level categories tailored to the needs of various engine types and operating conditions.

Consumers expect crankcase oils to meet key quality parameters:

- **Smooth Engine Performance:** Proper viscosity ensures the engine operates smoothly under varying temperatures, preventing strain or wear.
- **Longer Oil Life and Fewer Oil Changes:** The oil's stability under high temperatures prevents breakdown, extending oil life and reducing the frequency of oil changes.
- **Protection Against Wear and Tear:** By reducing friction and protecting parts from corrosion, the oil helps prevent engine wear, reducing the risk of breakdowns and costly repairs.
- **Cleaner, More Efficient Engine:** The oil's cleaning properties prevent sludge and deposits, improving fuel efficiency, reducing emissions, and keeping the engine cleaner.
- **Less Engine Noise and Vibration:** By minimizing foaming and emulsification, the oil ensures smoother lubrication, leading to quieter engine operation.

IS 13656:2019 meets these needs by defining performance standards and physico-chemical properties essential for engine oils. Key specifications include **viscosity index, kinematic viscosity, total base and acid numbers, flash point, pour point, evaporative loss, foaming tendency, and sulphated ash**. These parameters, along with prescribed testing methods, help ensure engine compatibility and reliability across different oil categories.

The standard also recommends suitable packaging and prescribes specific marking requirements to ensure quality compliance, which enhances transparency and builds trust between consumers and manufacturers.

Adhering to IS 13656:2019 enables manufacturers to produce crankcase oils that enhance engine performance, extend engine life, and reduce environmental impact, ensuring reliability for both diesel and gasoline engines.