



IS 8654 : 2019 Automotive hydraulic brake fluid, heavy duty - Specification (Third Revision)

Product Definition:

Automotive hydraulic brake fluid, heavy duty, is a specialized fluid used in the braking systems of **heavy-duty vehicles**, such as trucks, buses, and commercial vehicles. Its primary function is to transfer force from the **brake pedal** to the brake components through the **hydraulic lines**, ensuring effective **stopping power** under varying conditions.

The standard outlines the **specifications for heavy-duty automotive hydraulic brake fluid**, used in hydraulic braking systems such as **disc and drum brakes**. The standard defines the product, emphasizing its role in **ensuring safe and effective braking performance** across a **wide temperature range**.

Quality Parameters Expected by Consumers:

Quality expectations by **consumers** for brake fluid include **high boiling points**, minimal viscosity changes under varying temperatures, and stability under extreme conditions. Additionally, consumers often expect **long shelf life**, **corrosion resistance**, **compatibility with brake system materials** (like rubber seals and metal components), and **minimal evaporation** to avoid brake system failures.

Brake fluid should also remain **clear, free of sediments, and compatible with rubber parts** to ensure smooth operation.

How IS 8654:2019 Ensures These Expectations:

IS 8654:2019 addresses these consumer expectations by prescribing stringent **performance requirements**. The fluid must maintain a **high equilibrium reflux boiling point (ERBP)** and **wet ERBP**, crucial for preventing vapor lock. The fluid must pass rigorous **corrosion tests** to protect metal components and **compatibility tests** with brake system materials. The standard also includes parameters for **viscosity**, **pH value**, and **fluid stability** to maintain reliability in extreme conditions. Furthermore, it ensures that the fluid resists **oxidation** and maintains **stability** over prolonged use, which is critical for the heavy-duty application in **commercial vehicles**.

By adhering to the IS 8654:2019 specification, manufacturers can provide a product that meets consumer demands for **high-quality, reliable, and long-lasting brake fluid** suitable for **heavy-duty vehicles**. It is a critical guideline for manufacturers and users to ensure that the brake fluid used in **commercial vehicles**, trucks, and buses meets the necessary **safety standards**.