



IS 14635 : PART 1 : 2020 FLUOROPOLYMER DISPERSIONS AND MOULDING AND EXTRUSION MATERIALS PART 1 DESIGNATION SYSTEM

Fluoropolymer materials specifically polytetrafluoroethylene (PTFE) and similar products used widely in industrial applications. Known for its unique physical and chemical properties, PTFE offers an unmatched combination of chemical resistance, thermal stability, low dielectric constant, and low friction, making it ideal for high-demand environments. Its applications range across industries, providing critical functionality in products such as gaskets, seals, chemical coatings, electrical insulators, and high-performance automotive parts. Given these roles, users of PTFE materials expect a level of durability and reliability that withstands environmental and operational extremes.

Consumers and industries that rely on PTFE and fluoropolymer materials have high expectations regarding the material's purity, durability, and stability across a wide temperature range. These materials are expected to maintain their physical integrity and performance when exposed to chemicals, high pressure, or heat, as well as deliver reliable performance in specific applications, such as insulation in electrical systems or protective linings in chemical processing equipment. Moreover, safety is a priority, as fluoropolymer materials are increasingly scrutinized for potential contaminants. The presence of harmful compounds, such as perfluorooctanoic acid (PFOA), which can have environmental and health implications, is strictly controlled.

The BIS standard meets these consumer expectations through a structured set of safeguards that promote consistency and reliability. First, the standard provides a detailed classification and designation system. It categorizes fluoropolymer materials based on key attributes, such as density, thermal stability, tensile properties, and the presence of additives or fillers. This classification allows consumers to identify specific materials suited to their needs with confidence. Furthermore, the standard prescribes rigorous testing and quality assurance protocols, covering essential properties such as tensile strength, dielectric performance, and thermal stability. These specifications are accompanied by sampling methods and testing procedures that verify each batch's compliance with the expected properties, ensuring that the materials can reliably perform under anticipated conditions.

Another important aspect of the standard is its focus on safety, especially regarding contaminants. Given the rising concerns around environmental and health risks associated with some fluoropolymers, the BIS standard sets strict limits on PFOA and its salts.