



IS 8008:2022 Injection Moulded/Machined Polyethylene Fittings for Water Supply — Specification

The **IS 8008:2022** standard defines the specifications for **injection-molded and machined polyethylene (PE) fittings used in water supply** systems. These fittings are designed for connection to PE pipes as per IS 4984 and can handle operating pressures up to 2.0 MPa (20 bar) at a reference temperature of 27°C. The fittings range from 20 mm to 2,500 mm in diameter and include bends, tees, reducers, ferrule reducers, pipe ends, sandwich flanges, reducing tees, and end caps. The standard ensures that the fittings are made from non-toxic, durable materials that do not alter water quality, ensuring safe potable water supply applications.

Consumers expect PE fittings to meet high durability, reliability, and safety standards. Key quality parameters include material strength (PE 63, PE 80, PE 100), resistance to internal pressure and creep rupture, proper wall thickness, and seamless joint welding. The fittings should have high resistance to microbial growth, corrosion, and environmental stress cracking. Performance factors such as melt flow rate (MFR), carbon black content for UV protection, oxidation induction time for aging resistance, and overall migration limits ensure that the material remains stable and does not leach harmful substances into the water. The standard also requires fittings to have precise dimensional tolerances and visual appearance free from defects to maintain compatibility with pipes and ensure easy installation.

The standard addresses these consumer expectations by setting strict material, dimensional, and performance requirements. It mandates the use of certified PE resin, limits rework material to 5%, and specifies test methods for mechanical strength, pressure resistance, and material stability. The fittings must undergo hydraulic testing at different pressures and temperatures to verify long-term performance. Additionally, marking and traceability provisions ensure that each fitting is properly labeled with manufacturer details, pressure rating, SDR, and batch number, enabling quality control. By enforcing stringent testing, manufacturing, and marking requirements, IS 8008:2022 ensures that PE fittings provide safe, efficient, and long-lasting performance in water supply systems.