IS 3614 : 2021 Fire Doors and Door sets

Fire doors are essential safety features designed to prevent the spread of fire and smoke within buildings, providing critical protection for occupants and property. Governed by the **IS 3614:2021 standard, fire doors** must meet stringent requirements for materials, design, construction, and installation to ensure performance in high-risk scenarios. Typically used in industrial, commercial, and residential settings, especially in high-occupancy buildings, these doors are pivotal in compartmentalizing areas to limit fire spread.

Key consumer expectations for fire doors revolve around safety, reliability, and durability. High-quality fire doors are rated for specified fire-resistance durations—common ratings include **FD30 (30 minutes), FD60 (60 minutes), FD90 (90 minutes), and FD120 (120 minutes), FD180 (180 minutes)** representing the door's ability to withstand fire exposure without failure for these time periods. Intumescent seals, which expand when exposed to high temperatures, close gaps between the door and frame to prevent smoke and flames from penetrating. Smoke seals are also essential, as they stop toxic smoke from spreading—smoke inhalation is often a primary cause of fire-related casualties.

Durability is another critical quality factor, especially in the materials used. Fire doors are typically constructed from galvanized steel or seasoned hardwood with a minimum steel sheet thickness of **1.2 mm to 1.6 mm**, depending on the desired fire rating. Hardware components such as hinges, latches, and automatic closing devices are fire-rated, tested, and certified to endure high temperatures and operational demands over the door's lifetime.

Proper labeling and BIS Mark provide consumers with assurance that the fire door meets regulatory standards for fire resistance and mechanical durability. The Bureau of Indian Standards (BIS) mark on compliant fire doors signifies adherence to IS 3614 standards, underscoring the product's readiness for emergency use and the highest standards of safety.