IS 15827:2019

Greenhouse Cladding Films

Greenhouse Cladding Films are **UV-stabilized**, multilayered cladding films used in greenhouses and polyhouses. These films are primarily composed of **low-density polyethylene (LDPE) or linear low-density polyethylene (LLDPE)**, enhanced with ethylene copolymers, stabilizers, and additives. The films provide essential functions such as **UV blocking, light diffusion, anti-drip, anti-sulfur, and anti-dust properties.** These features help optimize light transmission, regulate temperature, and maintain humidity within cultivation structures, fostering a controlled environment for plant growth.

Durability of Greenhouse cladding films is crucial, with a **lifespan** of at 2-3 years expected to minimize frequent replacements. The films must offer optimal **light transmission** (85-90%) and uniform light diffusion for efficient photosynthesis. Additionally, customers expect protection against **UV radiation** to prevent crop damage. The films should have superior mechanical strength, resistance to tearing, and freedom from defects. Functional features like anti-drip properties to prevent moisture buildup and anti-sulfur and anti-dust features are essential to maintain a clean and healthy environment for crops.

How IS 15827:2019 Meets These Expectations:

IS 15827:2019 addresses these requirements through strict material specifications, mandating the use of **UV stabilizers** and durable polymers like **LDPE and LLDPE**. The standard ensures films meet performance benchmarks, including **tensile strength** (≥20 MPa) and elongation (≥700%), making them resistant to mechanical stresses. The films are also required to have optimal light transmission and diffusion, alongside **infrared (IR) effectiveness** (50-70%) to regulate temperature. Functional features such as **anti-drip, anti-sulfur, and anti-dust** properties are mandatory, ensuring that the films maintain a clean and efficient growing environment. Finally, rigorous testing protocols ensure the films' long-term durability and consistency in performance. By categorizing films into **six types (A through F),** the standard allows users to select products that match their specific cultivation needs, whether for basic protection or specialized applications requiring advanced features like anti-sulphur properties or enhanced UV blocking capabilities.