



## IS 17731:2021 – Agro-Textiles Laminated Woven Orchard Protection Covers

Orchards face several challenges, including damage from hail, heavy rain, excessive sunlight, and pests, which can result in significant crop loss. Laminated woven orchard protection covers address these issues by offering a barrier against harmful elements, thereby supporting sustainable agricultural practices. It Safeguards crops from extreme weather conditions such as hail, heavy rain, and strong winds. By maintaining optimal conditions for crop growth, the covers also improve yield and fruit quality. These covers also reduces the need for chemical pest control, contributing to environmentally friendly farming reduces the need for chemical pest control, contributing to environmentally friendly farming hence leading sustainability.

Laminated woven orchard protection covers are used for:

- **Orchard Protection:** Covering fruit-bearing trees such as apple, mango, and citrus orchards to shield them from environmental damage.
- **Vineyards and Plantations:** Protecting grapevines and other high-value plantations.
- **Nurseries:** Ensuring safe growth of saplings in controlled conditions.
- **Horticulture Farms:** Guarding delicate and high-value crops like flowers and exotic fruits.

Laminated Woven Orchard Protection Covers Should have following characteristics:

- **Weather Protection:** It Safeguards crops from extreme weather conditions such as hail, heavy rain, and strong winds.
- **UV Resistance:** Laminated covers should block harmful ultraviolet rays, preventing crop damage and enhancing yield quality. Material used for these should also be UV Resistant.
- **Pest and Bird Control:** They should acts as a physical barrier against pests and birds, reducing crop loss.
- **Durability:** The woven design and lamination should provide strength and resistance to tearing, ensuring long-term use.

Based on the thickness and mass, in g/m<sup>2</sup> and type of reinforcement at edges of woven fabric, the material have been classified into four types which helps selection of proper type of protection covers for specific applications.

IS 17731:2021 specifies the requirements for laminated woven agro-textile covers designed for orchard protection. Various tests covered in this standard include Breaking Strength before and after UV exposure, impact strength, light transmittance, light diffusion and thermicity etc. Thus it ensures uniformity in quality, durability, and performance, making these covers reliable

for agricultural use. The standard also ensures that these covers meet the necessary durability and effectiveness criteria to withstand diverse environmental conditions.