

## **Polyester Polymer Filament Size for Polyester Yarn on Waterjet Looms**

A water-dispersible polyester polymer filament size for successfully weaving polyester yarn on a waterjet loom requires specific chemistry and properties, including water resistance to prevent blistering. Here are the key considerations:

### **1. \*\*Water Dispersibility\*\*:**

- The sizing agent should be able to disperse uniformly in water, allowing for easy application onto the polyester filaments. This ensures even coverage and adhesion for effective weaving.

### **2. \*\*Adhesive Properties\*\*:**

- The sizing agent needs strong adhesive properties to bond well with the polyester yarn. This adhesion is essential for forming a protective coating on the yarn surface, reducing friction during weaving.

### **3. \*\*Biodegradability\*\*:**

- Considering environmental impact, using biodegradable sizing agents is beneficial. Such agents degrade naturally after use, contributing to sustainable textile production practices.

### **4. \*\*Film Formation and Stability\*\*:**

- The sizing agent should form a stable film on the polyester yarn surface, offering lubrication and protection. This film must withstand the waterjet weaving process's high pressures and mechanical stresses.

### **5. \*\*Water Resistance and Blistering Prevention\*\*:**

- To prevent blistering, the sizing agent must provide adequate water resistance. This property ensures that the sizing remains intact and does not blister or degrade when exposed to water during the weaving process.

### **6. \*\*Chemical Compatibility with Polyester Yarn\*\*:**

- The chemistry of the sizing agent should be compatible with polyester fibers to ensure effective interaction and adhesion. Flexibility, strength, and abrasion resistance are crucial for successful weaving.

## 7. **\*\*Blistering Prevention Mechanisms\*\***:

- The sizing agent should contain additives or components that enhance water resistance and prevent blistering. These may include crosslinking agents or hydrophobic compounds to reinforce the sizing's protective properties.

By carefully formulating a water-dispersible polyester polymer filament size with the right chemistry, adhesion properties, water resistance, and blistering prevention mechanisms, textile manufacturers can achieve successful weaving of polyester yarn on a waterjet loom. This ensures efficient production processes and high-quality finished fabrics.