

Staple Yarn Sizing Requirements for Different Loom Types

Sizing agents for air jet, projectile, and rapier looms must meet similar requirements to provide adequate adhesion, lubrication, and cohesive strength to the warp yarns. However, some differences in the specific characteristics are significant for each type of loom.

Air Jet Looms

For air jet looms, sizing agents must have excellent film-forming properties to ensure that the warp yarns are well-coated and protected, as the high-speed air jet insertion can significantly stress the yarn. They must also reduce friction and static buildup to facilitate smooth yarn insertion and minimize breakage.

Projectile Looms

In projectile looms, the sizing agent should provide good adhesion and abrasion resistance, as it needs to withstand the friction and impact of the projectile as it pulls the yarn across the shed.

Rapier Looms

In rapier looms, the sizing agent must offer good flexibility and elasticity to allow the yarn to be easily gripped and released by the rapier tapes without causing excessive abrasion or deformation.

Each type of loom places unique demands on the sizing agent, and the properties of the sizing agent should be tailored to the specific weaving process and loom type to optimize weaving efficiency and fabric quality.