

RIVO MULTITRADE OPTICAL SYSTEMS

The pressure plate of the melt fiber machine cannot hold the tail fiber



Overview

Proven Solutions for Troubleshooting Nonwoven Equipment Issues: A The first step is to ensure all machine components, especially rollers and metal surfaces.

Key Takeaways

The pressure plate may fail to hold the tail fiber due to insufficient melt pressure, improper filtration, inadequate lubrication, or uneven cooling during spinning. Common Causes

1. **Insufficient Melt Pressure:** The extruder must generate enough pressure to push the polymer melt through the spinneret and maintain fiber continuity. If the pressure is too low, the tail fiber may not be held firmly by the pressure plate, causing slippage or breakage .
2. **Filtration Resistance:** Filters or breaker plates with excessive resistance can reduce melt flow and pressure. A clogged or overly fine filter may prevent the melt from reaching the spinneret uniformly, weakening the tail fiber's grip .
3. **Cooling and Solidification Issues:** Rapid or uneven cooling can cause the fiber to solidify inconsistently, reducing the friction or adhesion needed for the pressure plate to hold the tail fiber. Hollow or complex-profile fibers are particularly sensitive to cooling rates .
4. **Lack of Lubrication or Fiber Oiling:** Dry fibers generate static electricity and have high friction, making it difficult for the pressure plate to maintain grip. Applying appropriate oil or lubricant to the fiber can improve cohesion and reduce slippage .
5. **Mechanical Misalignment:** If the pressure plate or spinneret assembly is misaligned, the tail fiber may not contact the plate evenly, leading to poor holding force .

Recommended Solutions

- **Increase Melt Pressure:** Adjust the extruder screw speed or metering pump to ensure sufficient pressure for continuous fiber formation .
- **Check and Clean Filters:** Ensure the filter or breaker plate is not clogged and has adequate open area to allow uniform melt flow .
- **Optimize Cooling:** Adjust quench air or cooling medium to achieve uniform solidification without premature hardening .
- **Apply Fiber Oil:** Use proper oiling techniques to reduce static and improve fiber cohesion at the pressure plate .
- **Inspect Alignment:** Verify that the pressure plate and spinneret are correctly aligned to maintain consistent contact with the tail fiber . By addressing these factors, the pressure plate should be able to hold the tail fiber effectively, ensuring stable melt spinning and consistent fiber quality.

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