Refiner Plates for Higher Quality at Lower Costs

J&L Fiber Services refiner plates improve fiber quality and reduce energy costs in fiberboard applications.

Bi-Directional and Uni-Directional plate designs can be customized to include Venturi and ProGuard features to increase refiner efficiency and fiber quality.

Bi-Directional
- Excellent fiber quality
- Pumping and Holdback interaction
- Reversible for longer plate life
- Higher specific energy required

Uni-Directional
- Lower specific energy required
- Good fiber quality
- Enables higher throughput
- Improved refiner stability

FiberPro
- Lower specific energy required
- Excellent fiber quality
- Can be utilized for all raw materials
- Many different patterns available
- New designs can be tailored based on specific needs
- Venturi inlet
- ProGuard dam configuration
**Lower Specific Energy Design for Good Fiber Quality.**

The Venturi design principle enables a proprietary bar and groove configuration that creates a turbulent flow of steam to delicately break down chips and gently treat separated fibers. The design is especially unique because it enables lower specific energy consumption and optimized fiber characteristics simultaneously.

**Venturi Features**
- Simultaneously changing bar, groove and depth dimensions
- Curved bar edges for longer cutting edge length
- Steeper angle pattern design
- Bar and groove shape creates strong, non-breakable refining bars

**Venturi Benefits**
- Lower specific energy requirements for excellent fiber quality
- More gentle disintegration of chips and fiber bundles results in longer fibers with less shives and a lower amount of fines
- High turbulence of steam and fiber flow in the grooves minimizes carbon and pitch build-up
- Longer plate life due to improved utilization of refining surface
- Suitable for all raw materials

**Optimized Surface Dam Layout for Lower Shive Content.**

The ProGuard design principle introduces a customized surface dam layout to safe-guard final fiber quality from shives. This unique dam layout features a variable amount of surface dams depending on final product requirements and bar angles used.

**ProGuard Features**
- Strategically located surface dams at outer periphery
- Surface dam density can vary based on fiber quality targets
- Sloped dam style for improved flow characteristics

**ProGuard Benefits**
- Number of surface dams is optimized for required fiber quality at lowest possible specific energy consumption
- “Holdback” dam layout eliminates large and thick shives from final pulp
ProGuard design has strategically located surface dams to improve deshiving efficiency.

With the ProGuard feature, the customized dam density and configuration prevent fiber bundles from getting through unrefined.

ProGuard Holdback layout of dams eliminates large and thick shives from final fiber mix.

Venturi zone inlet eliminates plugging and carbon scaling in the grooves due to high flow turbulence.

Venturi design delivers a longer fiber development zone and creates steam flow turbulence helping to create chip and fiber interaction between the plates’ bar edges.

Venturi’s bar and groove shape creates very strong, non-breakable refining bars.

Final product with FiberPro plates
Why Use J&L Fiber Services Alloys for your Fiberboard Needs?

J&L Fiber Services alloys empower you with an important process control tool for your refining operations. Our alloys help create plates that can maintain sharp bar edges and enable a superior edge condition throughout the life of the plate. Also, our alloys make it possible to maintain critical plate dimensions for a longer time. This means improved fiber quality, reduced energy cost, longer plate life and less maintenance downtime.

We have the broadest alloy selection with 50 available. In fact, as other companies decrease their roster of alloys we are continually expanding ours. J&L Fiber Services alloys are designed to meet your wear resistance and bar strength requirements.

When looking to match alloys to your specific applications, consider the following benefits of our flagship products:

**JL50**
One of our mainstay alloys, it is known for higher hardness and wear resistance.

**JL55**
Heat treated alloy providing a combination of wear and breakage resistance properties that can be applied to a wide variety of applications.

**JL72**
Ultra-high chrome alloy with 45% carbide and heat-treated up to 64Rc for exceptional wear and erosion resistance.

**JL60**
Premium white iron alloy with higher chrome and a greater carbide content for more abrasive and erosive environments.

**JL65**
Heat-treated version of the JL60 offering higher wear resistance for abrasive environments.

**JL74**
A specialty high chrome white iron with 50% carbide volume, heat-treated up to 65Rc for the ultimate level of abrasive wear resistance and erosion resistance.

While our current premium alloy offerings perform very well, we are continually developing new technologies to meet increasing demands for higher throughput, longer plate life and better fiber quality to improve refiner performance.
Fiberboard Alloy Bend Strength Comparison
(lb x 100)

Fiberboard Alloy Abrasion Resistance - Lower is better
(mg weight loss)