

Summer 2007

## Extending J&L's Groundbreaking PowerCast™ Technology to Your Refiners

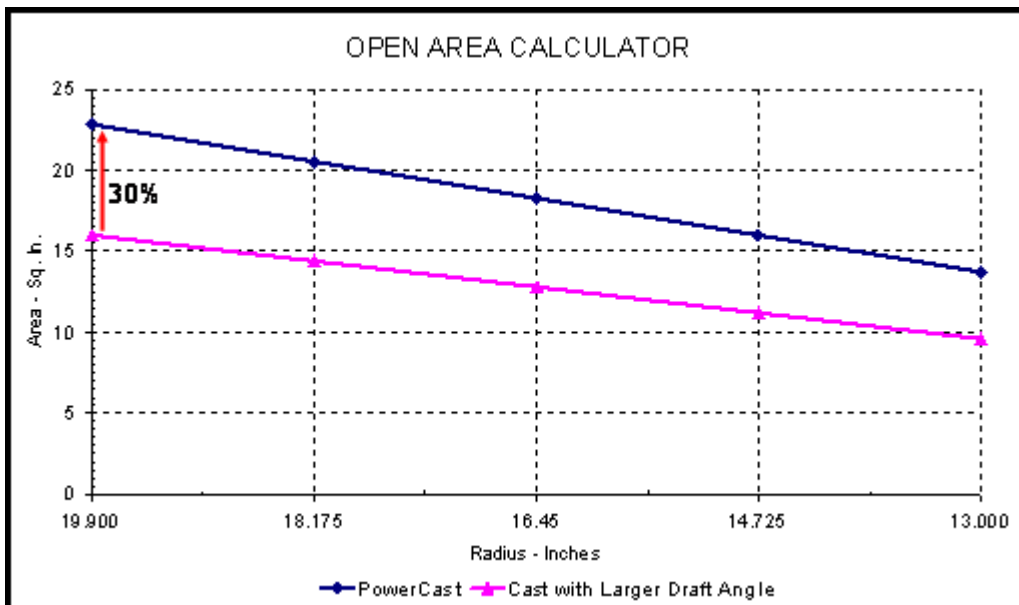
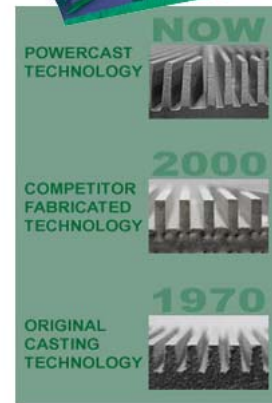
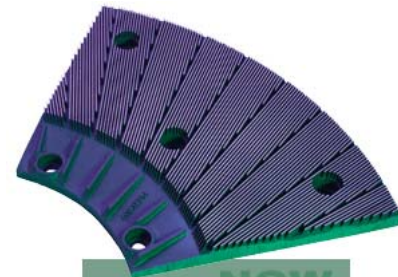
J&L's groundbreaking PowerCast™ technology, first applied to J&L's Ultra-Bar™ patterns for ultra-low intensity refining designs, is now being used throughout low consistency refining applications. PowerCast technology utilizes a virtually Zero-Degree bar draft angle and superior high-strength cast alloys to maximize bar height.

What does this mean to you? J&L is applying PowerCast's Zero-Degree draft angle designs to:

- OCC
- MOW/Recycled Fiber
- NSSC
- Unbleached SWD
- Unbleached HWD
- Bleached SWD

Demanding applications requiring low and medium intensity refining can benefit from greater open area and taller bar heights. PowerCast patterns are the solution for high contaminant furnishes such as OCC, NSSC, or high Kappa USWK with high shive levels. This technology can be incorporated into the current product lines that J&L is already utilizing in the industry including Reverse Flare™ designs, cutback patterns for energy savings, and overhung patterns for high flow applications.

PowerCast patterns maximize the open area of the grooves while maintaining tall bar heights for maximum plate life. The cross-sectional open area of a PowerCast design is 30% greater than a cast plate with a larger draft angle.



The added benefit of a virtually constant groove width from the top of the bars to the base means that the plate will be less prone to plugging as the plate wears. As cast plates with larger draft angles wear, the bars widen and the groove narrows which can result in plugging in contaminant laden furnishes. A comparison of the affects of bar wear on groove width is shown in the following chart, starting with the same original pattern (new refiner plate bar code = 2.0/16" bar width, 3.0/16" groove width, 5.5/16" bar height):

	Cast Plates with Larger Draft Angles at Half Bar Height	PowerCast™ at Half Bar Height
Bar Width (16ths)	2.4	2.0
Grove Width (16ths)	2.5	3.0
Bar Height (16ths)	2.75	2.75

A cast pattern with a larger draft angle worn to one-half the original bar height will result in a groove width change of nearly 0.5 sixteenths on an inch. The PowerCast pattern bar code does not significantly change, maintaining virtually the same bar and groove width throughout the life of the plate.

The greatest advantage of using a PowerCast design is to maintain the low intensity refining that best matches the fiber type. Cast patterns with larger draft angles have had to compromise to maintain capacity and not plug when running highly contaminated furnishes. Typical OCC/recycle and semi-chem hardwood furnishes require low intensity refining (0.75-1.5 W-sec/m), these can also be the most troublesome contaminated pulps. The PowerCast design allows the groove width to be maintained throughout the life of the plate which allows for a tighter pitch. The result is a greater number of bars for lower intensity refining in a high capacity, non-plugging refiner plate.

To optimize your demanding applications with the new J&L PowerCast technology, contact your local J&L representative or visit our website at [www.jlfiberservices.com](http://www.jlfiberservices.com) and submit your request to our applications experts.

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