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J&L's C90 Alloy, There's No Comparison

Since the introduction of J&L's C90 alloy in 1989, mills have experienced anywhere from a 25% increase in plate life to over six times their normal life when upgrading to C90!

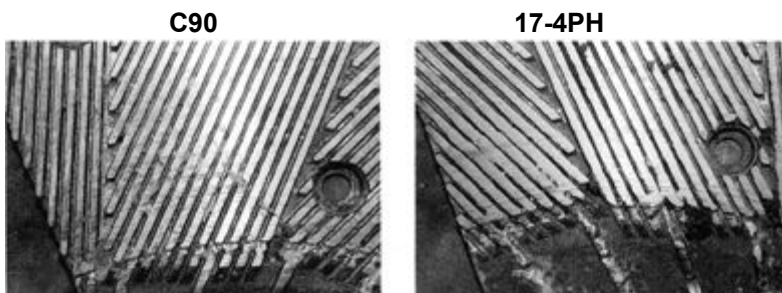
If your low consistency (LOCO) refining process is experiencing diminished fiber quality, refiner operation or decreased plate life and you haven't converted to J&L's C90, you may want to give it a trial run. Maintenance of a sharp bar edge and resistance to breakage are two key LOCO alloy requirements. It is proven that using J&L's C90 can help optimize refining performance and greatly increase plate life.

Maintenance of a sharp bar edge is critical. A sharp bar edge influences the development of fiber properties as well as the maintenance of a given quality level over a period of time.

Due to the expanded use of fine bar, low intensity designs, the need for a breakage resistant alloy is often a requirement. Plate clashing can also be a problem in low consistency refining. Plate clashing generates heat which can cause breakage in some alloys. Tramp materials are common with high usage of secondary fiber. Metal and stones often enter the system and can cause breakage.

Low carbon stainless steels are used most often in LOCO applications because they resist breakage very well. Plate fracture can be eliminated with the virtually unbreakable 17-4PH alloy. However, it is also the least effective of all the alloys when it comes to wear-resistance.

Fortunately, J&L solved the issue of wear resistance with the introduction of the revolutionary patented surface heat-treated C90 alloy in 1989. Since then, C90 has gained widespread acceptance as the premium alloy for low consistency refining applications, where breakage and abrasive wear are the major causes of refiner plate failure. Not only does it match the fracture-resistance of the 17-4PH alloy, it also offers much more wear-resistance, comparing favorably with cast 440 grade stainless steel (which, however, provides significantly lower breakage resistance). C90 incorporates a case hardened outer shell to 56Rc hardness compared to 38Rc hardness of 17-4PH. Also, C90 also exhibits superior performance in two other areas of concern: corrosion- and cavitation-resistance. No other alloy compares!



The pictures above show close-ups of the ID section of each plate. It is clear that plate clashing and abrasion has occurred; however, the response of the C90 plate (left) to these common refining conditions

is quite different from that of the 17-4PH plate (right). The bar surfaces and bar edges of the 17-4PH plate are deformed and smeared, resulting in blockage or complete closing of the groove area and limited throughput. The C90 material, under the same conditions, remains open at the ID (and OD, not shown) of the plate because bar deformation has been eliminated. Bar height is also maintained for greater flow capacity.

The benefits of C90 have become even more evident through the industry's increased utilization of the alloy. To experience improved refining conditions and increased plate life for yourself, discuss with your J&L representative if C90 is the right alloy for you.

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