



Ceramic Liner

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Ceramic liners offer longer run times, lower operating costs and reduced risk exposure when compared to operating with chrome iron liners. The ceramic sleeve material is manufactured from alumina oxide, known for its wear resistance, and has proven run times in all types of operating conditions. The outer hull material for large bore liners is manufactured from alloy steel to increase yield strength and aid in fatigue resistance. Ceramic liners are corrosion resistant and have a smoother surface finish for reduced friction and heat. Combining these features, the extensive history of NOV in ceramics and proprietary pump technology, results in a liner unmatched by any other in the industry. NOV ceramic liners are field proven as the longest running liner (up to 16,000 hrs.) ever manufactured.

- NOV also manufactures Zirconia sleeved liners to accommodate particular customers requests.



Supreme Liner

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The Supreme liner is manufactured using only the highest-grade materials. The outer section, or shell, is manufactured from high strength carbon alloy steel. The shell is heat-treated to provide optimum mechanical properties providing the end user with longer liner and piston life. The inner section of the liner, or the liner sleeve, is manufactured from a proprietary high chrome iron alloy that has excellent abrasion, erosion, and corrosion resistance.



Bushing X-tractor

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The current method for removing the liner bushing on a 9P100, 10P130, 12P160 or 14P220 can take three mechanics up to 8 hours to remove one bushing. The Bushing X-tractor uses a hydraulically actuated cylinder to remove the liner bushing which provides a consistent straight pull resulting in bushing removal in minutes instead of hours. This significantly reduces maintenance downtime, requires fewer mechanics and provides a much safer work environment.



Self-Aligning Rod with Dual Cooling Tubes

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The self-aligning rod resolves misalignment issues between the crosshead and fluid end of the mud pump. In addition, it reduces piston side loading for increased piston run times. The self-aligning rod increases liner life on all types of liners and reduces downtime due to less frequent piston and liner replacement. The dual cooling tubes on the self-aligning rod provide more uniform coolant delivery, increasing piston run times.