INTRODUCTION

LINERS

When it comes to mud pump fluid end expendable parts, TSC Manufacturing and Supply, LLC. has it all.

TSC mud pump liners are designed and manufactured to meet or exceed original equipment specification and API standards for almost all types of mud pumps in use today. With advanced technology, metallurgical control and rigid inspection, we offer unmatched performance and durability according to customer testimonies in the most severe drilling conditions, both triplex and duplex liners are available in a wide range of sizes.

HIGH CHROME SLEEVE LINER

The outer hull, or body, of the liner is manufactured using high-strength forging. TSC uses forgings exclusively to ensure consistent quality. The sleeve is centrifugally cast in the TSC facilities by skilled craftsmen. It has the maximum amount of chrome for the base metal and TSC adds molybdenum to increase the hardness depth. The sleeve is then inserted into the hull at a tightness at exceeds its counterparts. The TSC liner is rated to match the pressure rating of the pump per liner size.

TSC mud pump liners are unsurpassed in quality and reliability.

Features

- Rated for all drilling operations.
- Bore hardness is 62-69 Rockwell.
- "HP" lip design to prevent inner sleeve slippage.
- Extremely long service life.

CHROME-PLATED LINER

TSC chrome-plates the same outer hull in lieu of the sleeve to maximum thickness. The hulls are then machined and polished to a mirror finish.

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INTRODUCTION

ZIRCONIA CERAMIC LINER

TSC's zirconia liners offer lifetime cost savings, significantly longer service, better performance and safer operation than those made of more commonly used alumina ceramic.
In addtion, TSC's zirconia liner is a proprietary Zirconium-based matrix that has significantly improved mechanical characteristics.
Zirconia has three important property advantages compared to alumina.

- Zirconia exhibits better impact strength.
- Zirconia is harder than alumina.
- Zirconia can be honed to finer surface finishes than alumina. Finished to 4 RMS, the zirconia liners provide a surface finish that is three to four times finer than alumina.

All three of these property advantages translate to lower ownership costs. The improved wear directly extends the service life of the sleeve, while the improved impact strength reduces significantly the costs of replacing broken liners in the field. The surface finish improvements, meanwhile, have an indirect effect. The finer surface finish means less friction with the elastomer-and-metal pump pistons, which in turn extends piston life and reduces pump-cooling requirements.

- Reduced liner and piston wear.
- Increased impact characteristics.
- Lower thermal load on the liner wash system.
- Higher thermal ratings.
- HP design with shoulder-on-hull to prevent sleeve slippage.
- ID tolerances of +.010"/-.000".
- Surface finish of 4-8 RMS.
- Hardness is HV 0.3 kg/mm – 1100/1200 (92-94 Rc).
- Improved performance for high temperature applications.
- Liner sizes are available from 4"-8" for all popular mud pumps.

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