

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 addition, 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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FLUID END EXPENDABLES

EMSCO

FC-2200

8 x 15

	LINERS		ZIRCONIA LINERS	LINER GASKETS	PISTONS				PISTON RUBBER			
SIZE	PART NUMBER		PART NUMBER	PART NUMBER	URETHANE BONDED	RUBBER BONDED	N'DURALL BONDED	REPLACEABLE RUBBER	PART NUMBER			
5"	TS-2200-50HP		TS-07551500	G-882 *	LLU-50-B15	LL-50-B15	HPW-50-B15	I-50-B15	TM-50-BR			
5 1/2"	TS-2200-54HP		TS-07551550	G-882 *	LLU-54-B15	LL-54-B15	HPW-54-B15	I-54-B15	TM-54-BR			
6 "	TS-2200-60HP		TS-07551600	G-882 *	LLU-60-B15	LL-60-B15	HPW-60-B15	I-60-B15	TM-60-BR			
6 1/4"	TS-2200-62HP		TS-07551625	G-882 *	LLU-62-L15	LL-62-L15	HPW-62-L15	I-62-L15	TM-62-LR			
6 1/2"	TS-2200-64HP		TS-07551650	G-882 *	LLU-64-L15	LL-64-L15	HPW-64-L15	I-64-L15	TM-64-LR			
7"	TS-2200-70HP		TS-07551700	G-882 *	LLU-70-L15	LL-70-L15	HPW-70-L15	I-70-L15	TM-70-LR			
7 1/2"	TS-2200-74HP		TS-07551750	G-882 *	LLU-74-L15	LL-74-L15	HPW-74-L15	I-74-L15	TM-74-LR			
8"	TS-2200-80HP		TS-07551800	G-882 *	LLU-80-L15	LL-80-L15	HPW-80-L15	I-80-L15	TM-80-LR			
VALVES, SEATS, SPRINGS							GASKETS					
		4 WEB DESIGN		3 WEB DESIGN		FULL OPEN (1)		FULL OPEN (2)			PART NUMBER	
VALVE		TS-U5B-LP		-		TS-0965M		TS-8-V1		VALVE COVER GASKET		TS-6323-0125-00
SEAT		TS-8-DDB2		-		TS-1360M		TS-8-S1		WEAR PLATE GASKET		TS-6323-0127-00
SPRING		TS-5710-110		-		-		TS-5710-115L		EXTENSION ROD SEAL		TS-7602-2160-09
INSERT (Urethane)		TS-8-WI		-		TS-8-MI		TS-8-FI		EXTENSION ROD BAFFLE		TS-6323-0129-00
INSERT (Rubber)		TS-8-WR		-		-		-		-		-
PISTON ROD & EXTENSION ROD												
ROD CLAMP		PISTON ROD STUD	PISTON NUT	THREADED TYPE PISTON ROD		CLAMP TYPE PISTON ROD		SUB ROD		THREADED TYPE EXTENSION ROD		CLAMP TYPE EXTENSION ROD
TS-6323-0058-20		N/A	TM-NUT1	N/A		TS-6323-0117-20		N/A		N/A		TS-6323-0059-10
FLUID END MODULE												
SUCTION MODULE STUDDED			DISCHARGE MODULE STUDDED			MODULE SEAL SET			STUDS & NUTS SET			
TS-6323-0109-00			TS-6323-0108-00			TMFC22-SEALKIT			TMFC22-STUDSETS TMFC22-STUDSETD			

TSC does not warrant or represent that any of such information is accurate, or that any products listed are compatible with each other.
Any deviations from the OEM products should be verified as to compatibility.