

## LNPT™ COMPOUNDS WEAR AND FRICTION SOLUTIONS MEDICAL DEVICES

For a medical device, whether it be a drug delivery pen or a laparoscopic surgical tool, repeatable and efficient motion is critical to performance. The friction between moving parts plays a large role in how a device is perceived and accepted by both consumers and healthcare professionals. LUBRICOMP™ and LUBRILOY™ compounds can help deliver the performance required.



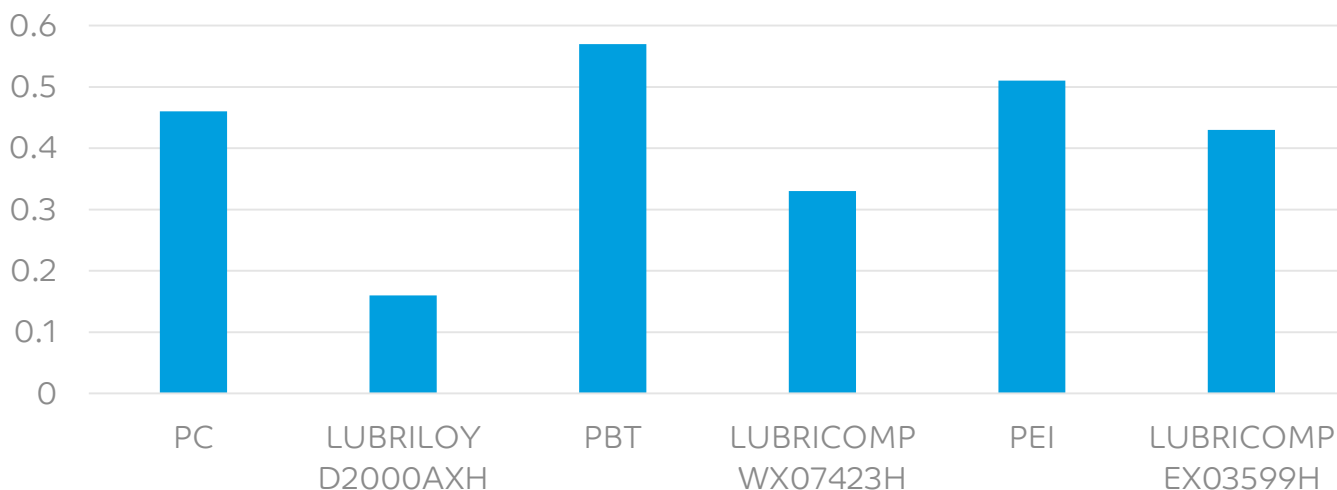
### GROWING LIST OF DEMANDS

The demands on wear and friction materials for medical devices grow as sterilization and cleaning techniques evolve, parts get smaller and thinner, and market trends move towards more consumer friendly styling and colors. Add the heightened emphasis on system cost optimization and the need for innovative internally lubricated thermoplastic solutions expands.

### INTERNALLY LUBRICATED COMPOUNDS

The addition of an internal lubricant to a thermoplastic material can reduce the coefficient of friction between two plastic parts, allowing them to slide past each other smoothly with minimal wear. Traditional lubricants like medical grade silicone and PTFE can be combined with advanced PC copolymer technology to deliver the required performance in thin wall parts.

### DYNAMIC COF VS STEEL

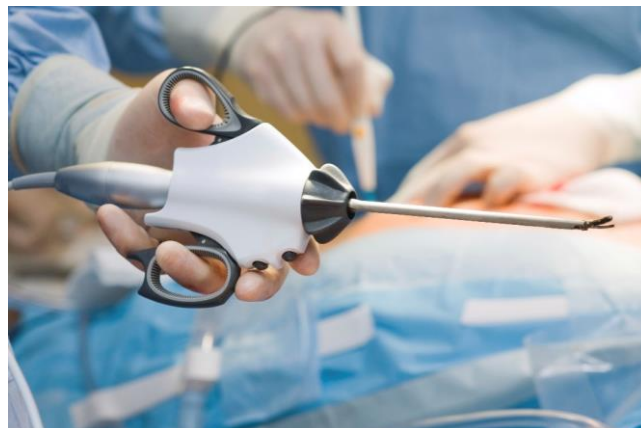


ASTM3702- mod. @ RT, 50 fpm, 40psi  
\* Wear factor [10<sup>-10</sup>. in<sup>5</sup>.min/ft.lb.hr]

# WEAR AND FRICTION SOLUTIONS MEDICAL DEVICES

Example applications:

- Surgical stapler internals
- Laparoscopic surgical tool internals
- Trocar latches
- Insulin pen dials, screw, and sleeve
- Inhaler dose counter buttons
- Fluid coupling quick disconnect



## LUBRICATED COMPOUNDS FOR HEALTHCARE APPLICATIONS

	Grade	Description	Features
Super structural	LUBRICOMP DCI06APW	PC Copolymer, 30% carbon fiber, silicone	High modulus, thin wall , low friction: FM: 20.6 GPa, MVR: 28 cm <sup>3</sup> /10 min
	LUBRICOMP EX10405H	PEI, 30% carbon fiber, PFPE	FM: 17.3 GPa, Improved “slip-stick”, USP Class VI lubricant
Structural	LUBRICOMP WFL34H	PBT, 20% glass fiber, 15% PTFE	FM: 7.5 GPa, low wear and COF, chemical resistance
	LUBRICOMP DFL34EH	PC, 20% glass fiber, 15% PTFE	FM: 6.2 GPa, low wear and COF
Non-structural	LUBRICOMP EX03599H	PEI, PFPE	HDT: 213C, Improved “slip-stick”, low squeak, lower COF than ULTEM™ HU1010, USP Class VI lubricant
	LUBRILOY D2000AXH	Alloy lubricated PC	Non-halogenated lubricant, good impact and surface finish, low wear and COF, tight dimensional tolerance
	LUBRICOMP DL003EXJ	PC, 15% PTFE	Low wear and COF, tight dimensional tolerance
	LUBRICOMP DX07404H	PC, PFPE	Improved “slip-stick”, low squeak, lower COF than LEXAN™ HPS1, USP Class VI lubricant
	LUBRICOMP WX07423H	PBT, PTFE & silicone	Low wear and COF, short break-in, chemical resistance
	LUBRICOMP WX12001J	PBT, PTFE	Low wear and COF, chemical resistant
	LUBRILOY K2000XXH	Alloy lubricated POM	Low wear and COF, chemical resistant

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