

Lubricious solutions in:

- Polyolefins
 - * LDPE
 - * LDPE
 - * HDPE
 - * PP
- Styrenics
 - * CPS
 - * HIPS
 - * SAN
 - * ABS
- Polyester
 - * PET
 - * PBT
- Polycarbonates
- Polyamides
 - * 6
 - * 6/6
 - * 6/10
 - * 12
 - * 6/12
- Polyurethanes
- Thermoplastic Elastomers
 - * Hytrel
 - * Pebax
 - * SBCs

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Find us on:



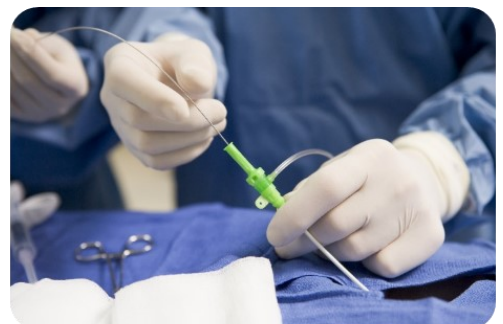
Lubricious Compounds for Surface Friction Management

Compounding Solutions has taken a major step forward in the field of friction as it relates to medical device technology. We are very pleased to bring Mobilize to the industry! This unique and proprietary blend is an additive which our team researched and tested to provide our customers with a low cost alternative to other more traditional lubricious materials.

Advantages of Mobilize:

- Ease of entry into the body
- Improved extrusion process stability
- Potential alternative to FEP, PTFE, HDPE liners
- Biocompatible
- No adverse effects on bondability
- Compatible with radiopaque fillers like bismuth subcarbonate, bismuth oxychloride, barium sulfate, and tungsten
- Can be custom colored

Results from independent third party testing (Page 3) indicate Mobilize can achieve an extremely low coefficient of friction at a reasonably low loading level without affecting original properties of the base material. Mobilize offers significant reduction in the force required to insert or retract device components, which improves handling for physicians.



In extrusion operations, the addition of Mobilize improves process stability and allows for higher production rates. Mobilize can reduce device manufacturing costs by increasing acceptable yield and replacing multiple tubing extrusion layers with a single material.

MOBILIZE

Surface Friction Management Technology

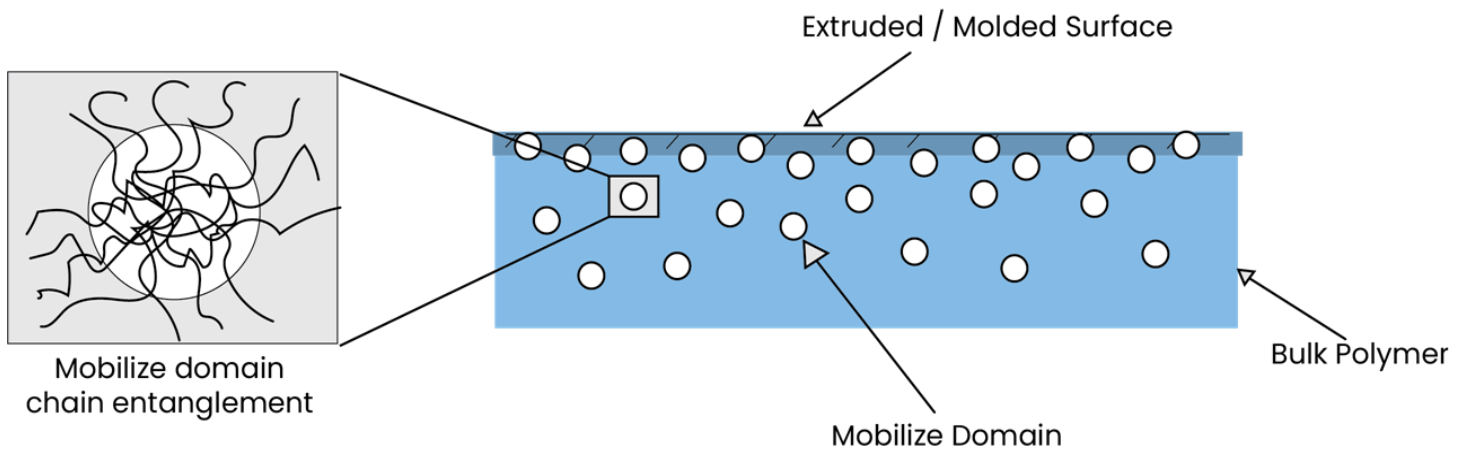
What is Mobilize?

- High molecular weight polymeric additive with chain mobility that is compounded into various thermoplastics.

How does it work?

- Mobilize is immiscible with host thermoplastics. During compounding it forms a stable morphology of small droplets dispersed throughout the host thermoplastic .
- During extrusion or molding of parts Mobilize migrates towards surfaces creating a concentration gradient with more Mobilize active near the surface and a minimal Mobilize remaining in the bulk of the article.

Mobilize Surface Activation



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- A small fraction of Mobilize is required for surface activation, leaving bulk properties of the thermoplastic unchanged.
- Unlike low molecular weight oils, Mobilize does not migrate, bloom, leach or rub off from solidified parts because Mobilize chains entangle with the host thermoplastic.

Surface Friction Management in PEBA

Compounding Solutions evaluated the physical and mechanical properties of Pebax compounded with Mobilize lubricious additives. The results, shown below in Tables 1 and 2, indicate Mobilize improves lubricity and has minimal effect on the bulk properties of Pebax.

Table 1. Physical and mechanical property comparison of Pebax with and without Mobilize.

Test	ASTM Standard	Units	Pebax 6333 SA01 MED	Pebax 6333 SA01 MED Mobilize
Melt Flow Index	D1238	g/10min	14.4	19.6
Density	D792	g/cc	1.02	1.02
Hardness	D2240	Shore D	62	60
Tensile Strength	D638	psi	5070	4000
Elongation at Break	D638	%	430	370
Flexural Modulus	D790	kpsi	45.2	41.4
Tear Strength	D624	lb _f /in	1060	1030
Peel Test	Internal Method	lb _f /ft	7.43	7.6

Table 2. Pushability and retractability of Pebax tubing with and without Mobilize.

Sample Description	Max Insertion Force (N)	Average Insertion Force (N)	Max Retraction Force (N)	Average Retraction Force (N)
Pebax 6333 SA01 MED, Mobilize	0.382	0.093	-0.194	-0.142
Pebax 6333 SA01 MED, Natural	0.495	0.163	-0.319	-0.172
HDPE	0.740	0.325	-0.515	-0.253

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See Safety Data Sheet for Health & Safety Consideration