



MOBILIZE®

Medical Grade Surface Friction Reduction Technology

Mobilize® is a proprietary high molecular weight polymeric additive designed to provide permanent friction reduction and improve process stability in various thermoplastic resins

Biocompatible per ISO 10993-5
Suitable for Polyamides, PEBA's, TPU, Polyolefins, Styrenics,
Polyesters, Polycarbonates, TPE
Compatible with all pigments and radiopaque fillers

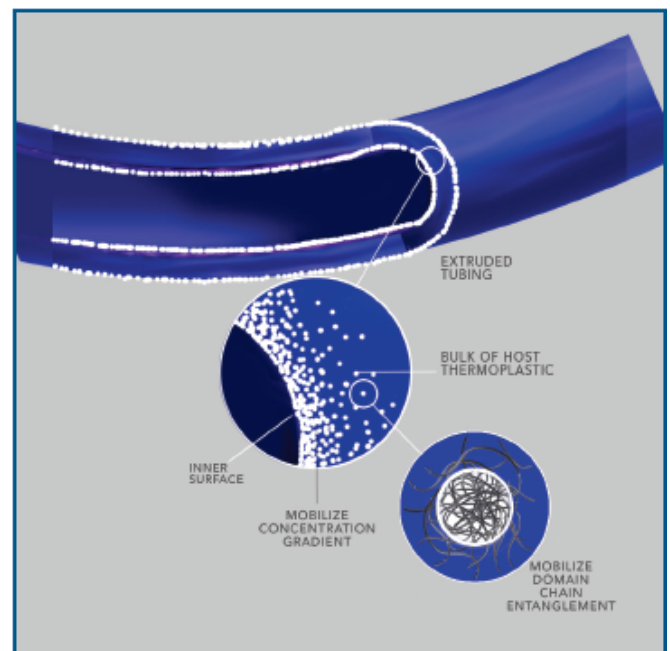
Mobilize® Provides

- 20 - 40%+ reduction in Coefficient of Friction (CoF)
- Potential elimination of FEP, PTFE, HDPE liners
- Minimal impact on bonding
- Integrated lubricity without migration under normal operating conditions
- Ease of entry into the body and devices through the catheter
- Lower CoF for gears and other sliding components



How does it work?

During compounding, it forms a stable morphology of small droplets dispersed throughout the host thermoplastic. In later extrusion or molding Mobilize® moves towards surfaces, creating a concentration gradient with more Mobilize® active near the surface and minimal Mobilize in the bulk of the item. In extruded tubing, Mobilize activates on both the inner and outer surfaces.



Once the thermoplastic melt has cooled and solidified, Mobilize® is firmly anchored. Its high molecular weight allows for chain entanglement with the host thermoplastic. Unlike low molecular weight oils, Mobilize® does not migrate, bloom, or leach from parts under normal operating conditions.

Tested and Proven Performance

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® has minimal effect on the bulk properties of Pebax but improves its lubricity by significantly reducing the force required to insert and retract tubing through a 90° bend of PFA conduit immersed in water at 37°C.

Table 1. 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. Insertion and retraction force of Pebax 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



Compounding Solutions is a global leader in custom engineered thermoplastic compounds, color concentrates and additive masterbatches for medical applications. We produce compounds of the highest quality and consistency in our controlled production area and offer complimentary technical expertise, full regulatory support, and MOQs of just 1kg in an optimized process built for speed.

