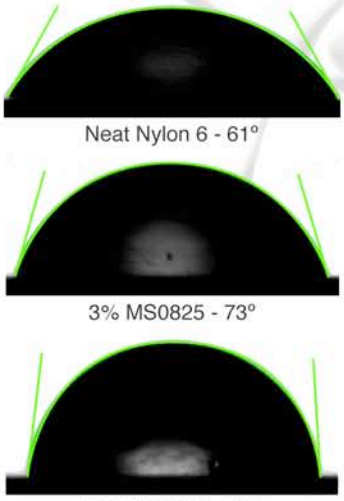
Hybrid Plastics®

Superior Technology for Superior Products

MS0825 Nanoreinforced® Nylon 6

Nanoreinforced® nylon utilizes POSS® technology to achieve increased hydrophobicity, increased oil resistance, improved toughness and easier processability through structural control at the nanometer level. POSS®'s nanoscopic size, dispersion, and chemical structure lead to these enhancements which can be realized in any grade of nylon.



Water contact angle measurements of MS0825 nylon 6

ENHANCED HYDROPHOBICITY

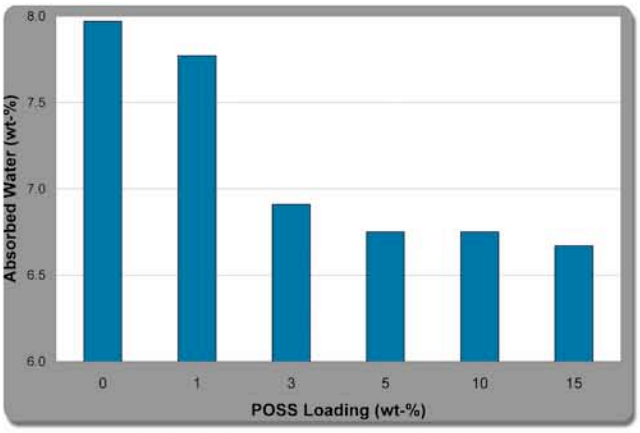
The hydrophobic properties of POSS® synergistically combines with nylon's morphology to create a nano-rough surface that is both hydrophobic and low friction. The technique is ideally suited to masterbatching. These water contact angle images demonstrate the differences for nylon and Nanoreinforced® nylon. Water contact angle increases with POSS® content, and follows standard rules of mixing when let down from a masterbatch. Hydrophobicity enhancements lead to improved durability as well due to reduced hydrolytic degradation.

FASTER PROCESSING

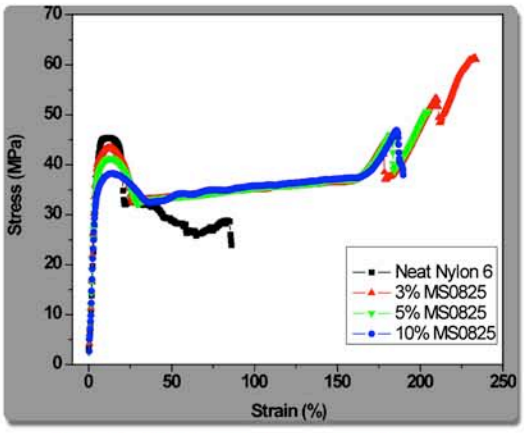
The lubricity effect that is imparted by the POSS® increases melt flow and decreases the screw torque required during compounding and during masterbatch let down.

INCREASED TOUGHNESS

Even at low loading, POSS® provides nano-scale reinforcement. Mechanical characteristics are maintained or improved compared to that of the base nylon resin grade.



Comparative water saturation level.



Tensile test results of Nanoreinforced® nylon

SUGGESTED APPLICATIONS

Nanoreinforced® nylon has uses in textiles, packaging, film and fiber applications. It is available as 10 wt-% masterbatches. Custom compounding is also available.

WARRANTY

The information contained herein is believed to be accurate and reliable. However, the user is responsible for determining the suitability and use of the final formulations/products. Hybrid Plastics® warrants that its products will meet specifications, but not merchantability or fitness for use.

Hybrid Plastics, Inc. • 55 WL Runnels Industrial Drive • Hattiesburg, MS 39401 • USA
Telephone: 601-544-3466 • Facsimile: 601-545-3103
www.hybridplastics.com