



TECHNICAL  
BULLETIN  
#105

## Dispersion of Lubricant in NYCAST® NYLOIL, NYLOIL FG, NYLOIL MDX, and NYLOIL MBX-BLUE

NYCAST NYLOIL, NYLOIL-FG (food grade cast type 6 nylon), NYLOIL MDX, and NYLOIL MDX-Blue (premium bearing grades) all contain an internal lubricant system formulated into the nylon during the casting process. This lubricant package is completely encapsulated within the nylon, yielding a polymeric material which is dry to the touch yet provides its own lubrication in service. The result is an engineered plastic bearing material with higher limiting velocities and increased PV capacity without the need for external lubrication. NYCAST NYLOIL'S additional benefits include increased modulus, reduced moisture absorption, and lower coefficient of friction.

These significant increases in physical properties and performance areas are a direct result of the high level of homogeneity of the lubricant system as it is dispersed in the NYLOIL casting. Billions of microscopic droplets are evenly dispersed through a proprietary process which takes full advantage of the lubricants effects without weakening the polymeric structure. Ineffective dispersions would create localized concentrations of lube pockets which reduce the overall strength of the polymer in these areas. NYCAST NYLOIL materials are the result of a significant process development effort, and the advanced manufacturing controls employed assure that a homogeneous dispersion is obtained.

The photo-micrographs below were obtained from samples of NYCAST NYLOIL. These photographs were obtained at the magnifications indicated from actual samples of NYLOIL castings. Note the small lubricant particle size and consistency of particle size, and the high level homogeneity of the lubricant dispersion in the samples. It is clearly seen that as surfaces wear away in service, new lubricant droplets are continuously exposed providing constant and consistent lubrication at mating surfaces.

