

# Krytox® Case History

## PTA PLANT EXTENDS LIFE OF CRITICAL CENTRIFUGE BEARINGS WITH DUPONT™ KRYTOX® LUBRICANTS

**“THE KRYTOX® GREASE IS ADHESIVE AND RESISTANT TO WASHOUT FROM STEAM. ON EQUIPMENT STRIP-DOWN, THE BEARINGS ARE IN GOOD CONDITION, AND RELUBRICATION INTERVALS NOW EXTEND TO EVERY THREE MONTHS.”**

**—STEVE JOHNSTON, PTA PLANT ENGINEERING & MAINTENANCE MANAGER**



### INCREASED UP TIME

#### Problem:

- Limited operational life
- Harsh chemical environment
- High temperature applications
- Frequent lubrication

#### Solution:

- Krytox® performance in extreme environments
- Significantly increased lubrication intervals

High-grade stainless steel centrifuges are critical in the manufacture of Purified Terephthalic Acid (PTA) made at DuPont-Sabanci (Wilton, UK). These centrifuges—Broadbent Solid Bowl Decanters—separate PTA crystals from the manufacturing solvent. PTA is a key raw material that is processed into a feedstock for the manufacture of many familiar products with a global impact on everyday living—plastic sheeting, food packaging, videotapes, PET bottles and much more.

### Identifying the Problem

Centrifuge bearings were traditionally lubricated with a range of grease products including soap-thickened mineral, synthetic or silicone. The operational life of these products was limited by its inability to stand up to harsh chemicals and high temperature environments. Lubrication was a weekly event, affecting costs through production downtime, shortened machine life and frequent maintenance. Bearing failures resulted from corrosion, oxidation, soap breakdown and deposits. The use of non-Krytox® PFPE grease improved the lubrication schedule only slightly, to every four weeks.

### Solving the Problem

The PTA plants compared their previous PFPE lubricants with DuPont™ Krytox® GPL 227 grease. The outcome: strong support for the superior performance of Krytox®. The product can extend lubrication intervals up to three times longer, while offering reliable and consistent performance in high temperature and pressure conditions. It meets rigid specifications for safety and performs under mechanical stress and wear. Since 1998, the company has consistently and exclusively used Krytox® in bearing lubrication at its PTA plants.

### Achieving Results

With Krytox®, the limiting factor on centrifuge life is no longer the failure of trunnion support bearings, says Steve Johnston, Engineering & Maintenance Manager at the DuPont Sabanci PTA plant at the time of the Krytox® conversion. Johnston remarks, “Centrifuge reliability is a key factor in maximizing PTA plant production capability and minimizing maintenance speed. The use of Krytox® has greatly reduced a major cause of unscheduled centrifuge repair.”



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