



PERFORMANCE ADDITIVES

CASE STUDY

BETTER PERFORMANCE BRINGS BETTER BUSINESS SUCCESS

Increasing Part Durability with Inhance Performance Additives

Challenge: A molder of polyurethane wanted to increase the durability of their belt scrapers. Their customer in the mining industry had numerous belt conveyors in their operations, and frequently had to shut down to replace blade scrapers. This was an added cost and limited production. Inhance's solution significantly increased the lifespan of the scrapers, and the customer was able to retain existing accounts -- and gain new business.

"...BY INCORPORATING OUR INHANCE PERFORMANCE ADDITIVES IN MOLDED PARTS, WE SAW A DURABILITY INCREASE OF 3 – 6 TIMES LONGER THAN THAT ACHIEVED BY SCRAPERS MADE WITHOUT THESE ADDITIVES ... OUR CUSTOMER HAS SINCE PICKED UP SEVERAL NEW ACCOUNTS BECAUSE OF HIS HIGH ABRASION-RESISTANT PRODUCTS"

CHALLENGE

Belt conveyor systems are widely used in mining operations to transport bulk material from mines to processing facilities. A problem with many conveyor belt systems is "conveyor carryback." This is when some of the fine materials stick to the conveyor belt and get carried back beyond the discharge point. This can create a host of maintenance and operations issues including seized rollers, shorter belt life, worn out parts, and maintenance shut downs. Carryback is often minimized through use of belt scrapers. These are semi-flexible polymeric strips or sheets (blades) that scrape residual material from belts just after the discharge point.

PROCESS / COLLABORATION

The polyurethane molder contacted Inhance to evaluate our line of Performance Additives. A sample of INHANCE® UH-1080, surface modified ultra-high

molecular weight polyethylene (UHMW PE) powder was provided. The molder made several samples using different levels of the additive to assess processing and field performance. Since the molder did not have in-house test facilities, Inhance agreed to carry out the evaluation of the abrasion resistance of the samples. Results from ASTM D5963 testing were shared with the molder.

RESULTS

Due to the encouraging results of the abrasion resistance results, the molder produced several test blade scrapers. The molder's customer was pleased with the durability increase equivalent to 3 – 6 times longer service life than the current scrapers.



PERFORMANCE ADDITIVES

KEY BENEFITS

- By incorporating Performance Additives, durability of molded parts increased 3-6 times, leading to increased revenue.
- Increased life of the blade scrapers, resulting in reduction of spend on replacement parts.

APPLICATIONS

- Aqueous and solvent-based coatings, adhesives, and sealants
- Epoxies, urethanes, acrylics, hydrocarbon rubber, and elastomers
- Thermoplastics, including engineering resins and high-performance plastics
- Bulk molding compounds (BMCs), sheet molding compounds (SMCs), and composites



Inhance Technologies Performance Additives can increase durability of molded parts.



Inhance Technologies solutions can be applied in a number of industries to improve product performance and sustainability.

INHANCE

INHANCE TECHNOLOGIES

16223 Park Row, Suite 100

Houston, TX 77084

T: 800-929-1743

E: info@inhanceproducts.com

©2013