



CADBURY – Sweet Processing

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Cadbury Ltd.



Cadbury is one of the world's most renowned chocolate manufacturers, whose innovative approach to chocolate production helped create the building blocks for today's confectionary chocolate industry. The company, founded by John Cadbury, began humbly as a store selling tea, coffee, hops, mustard, cocoa and drinking chocolate. As drinking chocolate increased in popularity, Cadbury opened its first factory in Crooked Lane, Birmingham. Over the next 100 years, the company remained a family business, passed down through generations. In 1962, Cadbury became a publicly traded company. Cadbury merged with Schweppes in 1969.

When it comes to their chocolate manufacturing, Cadbury is one of the few companies that still process raw cocoa beans into the finished chocolate bars you see for sale. Cadbury does not make any chocolate products for any other confectionary company.

The Chirk Production Facility

The Cadbury production facility, located at Chirk near Wrexham, North Wales, houses a cocoa bean processing facility with a floor space of 160,000 sq. ft. (14,864 sq. m). The Chirk site produces over 7,000 tonnes of finished product (drinking chocolate) and around 4,000 tonnes of bulk material (cocoa liquor, cocoa butter, cocoa powder), for use at other Cadbury manufacturing sites, per annum.



The Challenge

Quality lubrication is essential to Cadbury's chocolate manufacturing process. By nature, chocolate is an exceptionally fine and abrasive product. Without regular equipment maintenance and proper lubrication, chocolate contamination of the lubrication system can cause harm to equipment. In the past, their lubrication process was overlooked with little or no control over lubrication requirements.



The Solution

Cadbury Ltd. enlisted the help of AV Technology to monitor and handle their equipment maintenance. In 2001, Paul Needham of AV Technology, and Reliability Engineer for Cadbury, learned about Petro-Canada's food-grade lubricants. With help from Petro-Canada's sales representative, Jim Ross, Needham switched the lubricant used in Cadbury's Duyvis Cocoa Presses to Petro-Canada's PURITY™ FG AW 46 Hydraulic Fluid. The hydraulic system in the cocoa press has a capacity of 1,015 litres and works at a system pressure of 510 bars. With this pressure system, and the product's fine, abrasive powders, a strong lubricant was chosen to protect the equipment.

“Working with Petro-Canada has been excellent across the board,” said Needham. “Throughout our ten years working together, customer service – from technical help to delivery lead time – has been first-rate.”



The Results

Running eight lines, Needham is conscious of cost savings, down-time and fluids replacement.

After successfully testing PURITY FG on cocoa presses, Needham made the decision to use Petro-Canada food-grade lubricants for all applications across the Chirk production facility.



“Switching to Petro-Canada’s PURITY FG has reduced costs, increased our up-time and improved the performance of our equipment,” said Needham. “We have over 10 years of experience with Petro-Canada and we are pleased with the performance that their Purity FG AW 46 Hydraulic Fluid has provided.”



About PURITY FG

Petro-Canada PURITY FG lubricants provide industrial strength protection for food processing applications in food processing plants. Collectively the lubricants are formulated to provide numerous benefits, including longer-lasting protection, excellent wear performance and, for the greases, high resistance against water washout.

PURITY food-grade lubricants also fit perfectly into Hazard Analysis and Critical Control Points (HACCP) and Good Manufacturing Practice (GMP) plans. In addition, they carry a full set of food-grade credentials which include NSF H1 standards for incidental contact and are acceptable for use in Canadian food processing facilities.

Petro-Canada blends and packages more than 350 different lubricants, specialty fluids and greases that are exported to more than 60 countries on six continents. Our lubricants are formulated using base oils produced through the HT purity process, which produces 99.9% pure base oils – among the purest in the world. As the world's largest producer of white oils, Petro-Canada is focused on going beyond today's standards.

Petro-Canada then blends these crystal-clear base oils with high-performance additives to deliver exceptional performance.

With more than 30 years of experience in blending Groups II and III base oils, the company delivers a diverse line of innovative lubricants to meet an ever increasing range of international specifications. Petro-Canada specializes in offering customers products and services proven to increase productivity and lower operating costs, lubrication consolidation, technical leadership and training.

To contact one of our global locations, visit

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