



**HOT, COLD, WET OR DRY, GRAPHALLOY®  
BEARINGS WORK WHEN OTHERS FAIL.**



## Replacing Ball Bearings in High Temperature Applications

### **GRAPHALLOY® self-lubricating bearings keep the wheels rolling for a manufacturer of specialty powders**

When a major manufacturer of alumina powders contacted us because of a high rate of sealed ball bearing failures in their oven carts, we knew GRAPHALLOY® bearings would solve the problem.

#### ***Sudden stops ruin equipment and material***



Our customer manufactures high purity alumina powders and specialty powders designed for a wide range of markets including lighting, watches & jewelry, health & medicine, plasma TV and microelectronics. The manufacturing process for the powders consists of loading pans of powder mixture onto a train of carts which are then driven by an electric motor through a series of ovens. Each cart has four casters, with bushings, that ride on rails into the ovens. It is critical that the carts move through the heating process in a smooth manner, at a constant speed so that the blocks of powder do not break.

The sealed ball bearings on the carts were losing lubrication and sticking due to the high oven temperatures. This was causing the wheels to lock and the carts to come to a sudden stop. The electric motor would continue trying to drag the carts through the oven. As a result, the powder blocks would break and the cart wheels developed flat spots from sliding rather than spinning. Since the carts would not move freely, the electric motor would overload and fail. The carts would then have to be manually pulled through the ovens.



#### ***Greaseless GRAPHALLOY Solution***

Our engineers reviewed the application and recommended one of our self-lubricating GRAPHALLOY grades to replace the sealed ball bearings. Our customer tested the GRAPHALLOY bearings on two carts. During the test, the customer told us they randomly pushed carts by hand and only two carts moved smoothly when pushed: the carts with the GRAPHALLOY bearings installed. Since the customer changed all his cart bearings to GRAPHALLOY, he estimates saving thousands of dollars annually in replacement parts, maintenance costs, product waste and downtime.

Consider the advantages of GRAPHALLOY for your next application:

- Self-lubricating
- Temperature extremes (-400° F to +1000° F/-240° C to 535° C)
- Extended operation
- No downtime