

ROKIDE® - COATED ROTARY VALVE COMPONENTS

Regeneration of Fly Ash Creates Excessive Wear In Pneumatic Systems

In many coal-fired power plants, fly ash, a fine particle ash sent up by the combustion of solid fuel is recovered for re-injection. A critical point in the pneumatic conveying systems used for handling this abrasive material is the rotary vane feeder used to measure the product in rotating pockets in a closed rotor. To minimize leakage, the rotary valve provides an airlock seal which is created by maintaining close machined tolerances between the rotor and wear shoe. When abrasion wears the rotor tips and housing, clearances increase and excessive leakage occurs. This type of wear can cause system shutdowns, loss of production, and the need to overhaul or replace the rotary valve.



INDUSTRY
Power

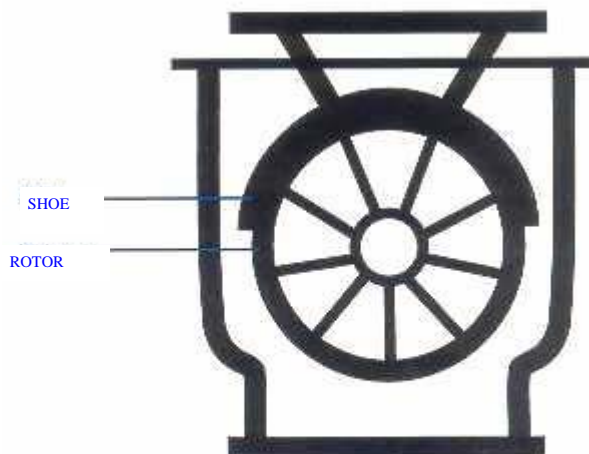
PRODUCT
Rotary Valve Component

MATERIAL
Rokide®C

The Coatings Solution

Working with a major Hawaiian power plant to solve a problem with its pneumatic conveying system handling fly ash, SAINT-GOBAIN GRAINS AND POWDERS engineered a solution to extend the life of rotors. The equipment was used in a system where fine particle fly ash was being conveyed at 8 to 12 PSI, operating at 25 RPMs in a temperature of 195° F (90.5°C).

For this application, SAINT-GOBAIN GRAINS AND POWDERS recommended its exclusive **ROKIDE® C** ceramic spray coating that is used when the size or shape of a component limits the use of solid ceramic liners. In this process, ceramic rods are melted, atomized, and sprayed at high velocity 550 ft/sc (170m/sc) on the surface to be protected. ROKIDE forms an extremely hard, flexible, chemically inert coating that can be used as sprayed or finish ground to a specified tolerance. Prior to the application of **ROKIDE® C** wear resistant coating, the customer was using cast ni-hard steel for the rotors and shoes in the rotary valve.



Blue type indicates coated parts

continued on back

The part life was 1 to 2 months. By applying SAINT-GOBAIN GRAINS AND POWDERS' ROKIDE C ceramic spray coating, the part life was substantially extended. After one year of continuous operation with ROKIDE C coating, the unit was examined and there were no signs of wear. This coatings solution has significantly improved the cost effectiveness of the power company's operation by maintaining rotary valve performance, reducing down time, and minimizing replacement costs for critical parts in their rotary valves.

Custom Engineered For Easy Installation

Each coatings solution is custom-designed, manufactured, and installed to meet the demands of your application and operation environment. In most cases, the solution is a direct replacement of the original and does not require any further equipment alterations.

Quality and Experience Give You The Competitive Edge.

As part of our Coatings Solution team, SAINT-GOBAIN GRAINS AND POWDERS offers the resources, technology, and experience to solve the most complex wear problems.

Providing Global Solutions To Your Wear Problems Solutions

Our companies are solution-oriented. We assess your problem, present realistic options, and engineer wear systems that are appropriate for your operating environment. Our expertise in material science, our computer design technology, our unique shaping capabilities, and our expertise in attachment techniques give us the technical edge when it comes to solving wear problems. No matter where you are in the world, our full line of products and technical support are as close as your nearest Coatings Solution representative. Our sales offices are located throughout Europe, North and South America, Asia, India and Australia.

Materials

- Thermal Spray Powders
- Rokide Rods
- Flexible Cord
- TUF COTE
- Hardfacing Powders
- Anticorrosion wires

Equipment

- Rokide Ceramic Spray Systems
- Master-jet Spray Equipment

Applications

- Powdered Metal Reaction Barriers
- Mechanical Parts
- Wire Drawing Capstans
- Pumps, Valves
- Thermal Barrier for Power Generation
- Anti-Corrosion Coatings

Market Served

- Powdered Metal
- Petrochemical
- Wire Manufacturing
- Aerospace
- Hot Metal Extrusion
- Land Based Gas Turbine
- Pulp & Paper Manufacturing
- Chemical Processing
- Environmental Industries
- Glass bottle manufacturing

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