

HOT METAL EXTRUSION DIES.

The extrusion operation normally begins with a solid round bar. This bar is cut into short pieces called billets. The billet is prepared according to the requirements of the end product. The billet is then heated to the extrusion temperature by various methods of heating.

The heated billet is next coated with a powdered glass during transfer to the extrusion press. At that time the billet is moved into the container and put under high pressure which forces the metal through the die to produce the desired shape.

The product, still hot, is now air-cooled or rapidly water quenched.

INDUSTRY

Structural metal extrusion
Hot metal extrusion

PRODUCT

Rokide Ceramic Coatings

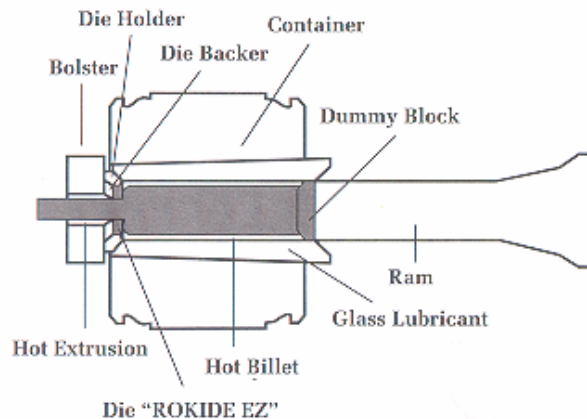
MATERIAL

EZ Coatings
(Zirconia)



Additional operations maybe performed based on the product being produced, but this first stage of the process is vital to controlling the quality and integrity of the extrusion.

Die performance at high temperature proved to be a major problem.



The use of the ROKIDE process provides the die user several important benefits:

1. The ROKIDE EZ coating is inert at high temperatures with the metals being extruded.
2. The coating provides high temperature insulation preventing washout at the corners and other critical surfaces allowing multiple uses of the original die blank. Dies are recoated after each use.
3. Users of ROKIDE EZ coatings have reported that the coated dies allow longer extrusions to be made without the problem of die seizure or failure.
4. The ROKIDE system is a low investment process providing ease of operation and low maintenance which is critical for an in-house production operation.

Typical application conditions:

Extruded Products: Titanium, stainless steels, alloy steels

Extrusion Pressure: 100,000 - 180,000 psi

Extrusion Temperature: 1700° - 2350°F

Extrusion Presses: 2000 - 7000 tons

BACKGROUND

To solve wear and corrosion problems in difficult application environments, SAINT-GOBAIN GRAINS AND POWDERS has years of experience in many fluid handling (pump) applications in other industries.

ROKIDE is frequently specified as a wear and corrosion solution to extend the life of pump parts in many industries.

In the ROKIDE 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 and chemically inert coating that can be used as sprayed or finish ground to a specified tolerance.

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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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