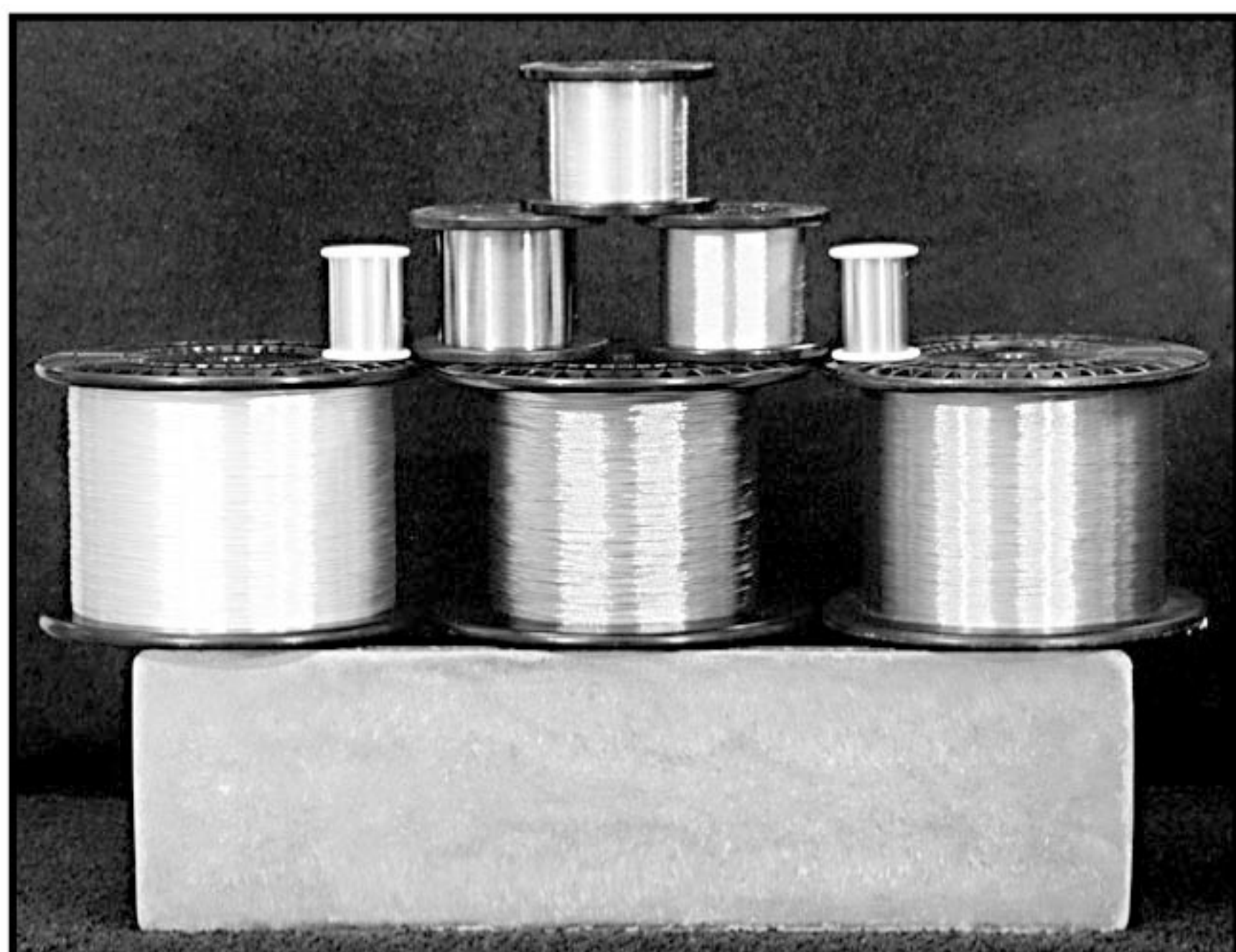


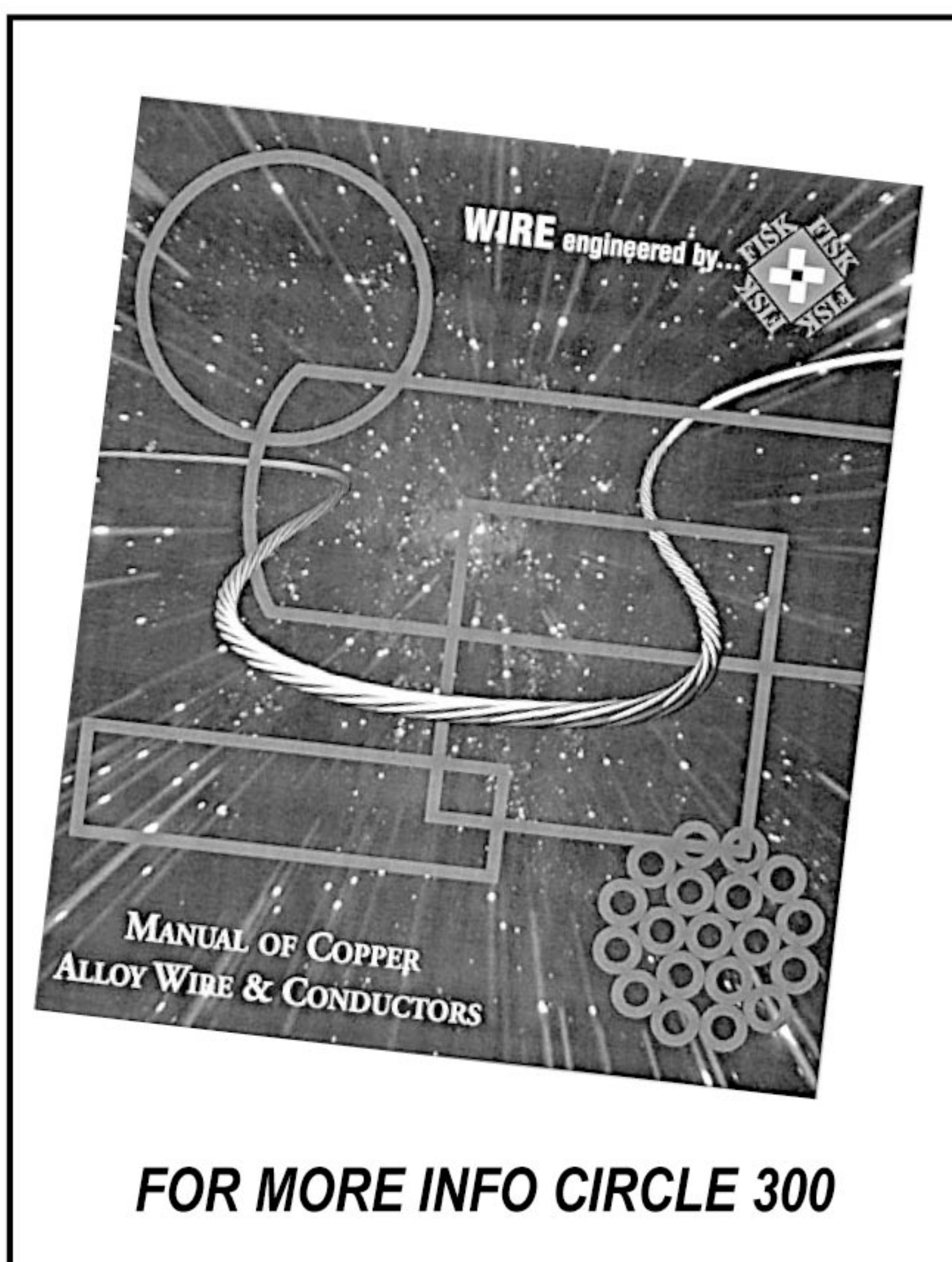
Cadmium-Free Conductors



left — **BRIAN FISK** V.P. ENGINEERING
right — **ERIC FISK**, PRESIDENT



**SPOOLS OF PERCON CONDUCTORS
MADE FROM A CAST ALLOY BAR**



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As a young mechanical engineer working in the manufacturing engineering department of a large producer of aircraft accessories in the early 1950's, I had my first encounter with cadmium.

Many of the products we produced were components of large aircraft. Some were made to the customer's prints and specifications. We were a large job shop.

Often, the specifications called for exotic materials. Our department considered cadmium to be exotic. Luckily the company was big enough to have a couple of metallurgical engineers. They spoke in terms we poor benighted heathen did not use nor understand.

I learned very little about the stuff except that it was light-weight and had properties different from aluminum. I assumed that the weight was what made it so attractive to aircraft engineers.

All that was before cadmium got a bad name. Already banned in many countries in Europe and Asia, can the USA be far behind? As an anticipated carcinogen, who would want to knowingly increase anyone's risk of cancer?

Heretofore, copper alloy conductors use cadmium to increase the strength of the copper without a significant loss in conductivity. These alloys and their performance specifications are the current standard of the industry. **Fisk Alloy Conductors, Inc.**, Hawthorne, NJ, USA a unit of **Fisk Alloy Wire, Inc.**, has developed and now offers conductors made with environmentally "green," cadmium-free copper alloys that meet all performance specifications for finished wire and cable.

Eric Fisk, President, says, "Percon[®] alloys are part of the company's commitment to continuous product and process improvement." (*Editor's note: Percon is short for Performance Conductor.*) The firm was started 32 years ago by his father **John Fisk** who was a risk taker willing to experiment with new alloy ideas.

The world was not then, nor is it now, overpopulated with companies willing to do this kind of development for the copper wire industry.

This has made Fisk unique in the development of copper alloy conductors. The company not only comes up with new alloys, but optimizes existing alloys to meet certain application requirements. Of course this is essentially

a business of producing engineered materials—a metallurgical activity.

To this end, Eric's brother **Brian**, as Vice President Engineering, is ably assisted by **Dr. Joseph Winter**, Director of Technology, and **Dr. Joseph Saleh**, Chief Metallurgist.

Though strip makers may lead in developing new alloys, their rolling processes work the material in only one dimension, in contrast to the drawing process applied to wire which works the wire on its whole circumference, producing surface textures and mechanical properties not found in strip rolling.

So the Fisk team is able to take alloys developed for other applications, optimize them as heavy-gauge rod and process them into finished conductors to meet the product challenges of high-tech wire and cable customers

This is the kind of product development that must go hand-in-hand with process development. It is one thing to buy copper bars to one's strict specifications, and another thing to process it into wire and strands that meet the wire customer's specifications.

That fact has led to the development of the talent to design and build the required proprietary production equipment. (*Unk Herb used to say that for many new ideas to get into production, product and process developments are interdependent—like a bear climbing a tree. Call his front legs product development, and his hind legs process development. Each must progress in their turn if the top is to be reached.*)

Eric reveals that part of their success in the global market with these cadmium-free alloys is due to advances in information technology (IT). For without their IT investment and utilization of the traceability and data access so provided, the work of alloy process and product development would be all the more difficult and lengthy.

While its focus is on American customers, in support of the global effort to eliminate heavy metals from industrial and consumer products, Fisk has licensed its wire technology for cadmium free alloys to other quality producers in Europe and Asia. The company welcomes inquiries from others who are equally committed.

For more info **Circle 300.**

www.fiskalloy.com

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