



Q&A

Daniel HERRING

THE HEAT TREAT DOCTOR
THE HERRING GROUP INC

GS: As the “Heat Treat Doctor” how has your work impacted the industry?

DH: I feel my greatest contribution is having the opportunity to share the technical knowledge and practical insights I have gained in the industry over that last 25 years or more with the current and (hopefully) next generation of heat treaters.

GS: Please tell us about your background and education.

DH: My father was a machinist and my next-door neighbor worked for a heat-treating equipment manufacturer (Lindberg), hence my early fascination with metals. As an undergraduate student at the University of Illinois I was interested in high temperature metals, which is one of the reasons I was drawn into heat-treating. I did graduate work at the Illinois Institute of Technology (in mathematics) where I am now an Associate Research Professor at IIT’s Thermal Processing Technology Center.

GS: What services do you offer?

DH: The HERRING GROUP, Inc. offers consulting services (heat treating & metallurgy, problem solving), technical services (in-house education, technical presentations & writing) and marketing services (market studies, new product development).

GS: You are a prolific writer. How many books or papers do you think you’ve written? Were they all on heat-treating?

DH: I have just finished my fifth book and have been fortunate enough to publish over 500 technical articles. It is interesting that you asked if all of them were on heat-treating. Only the two (2) most recent ones deal with heat-treating (*Vacuum Heat Treating and Principles of Heat Treatment*). I have written a book of poems, a book on an Apple computer operating system and a book on mathematics.

GS: Your new book on vacuum heat-treating will be available soon. Please tell me more about that.

DH: *Vacuum Heat Treatment* is my fourth book and I am extremely fortunate that it is scheduled for publication by BNP Media and Industrial Heating in late September. It should be available at the Furnaces North America show, which I believe is October 2nd & 3rd in Nashville. The focus of the book is on principles, practices and applications and provides the reader with practical advice and a wide range of technical and engineering information with plenty of application examples so that engineers, heat treaters, supervisors, metallurgists and others can make informed decisions about how to heat treat and what equipment features are necessary to do their job. Currently there is a 20% discount for preorders, which are available at http://store.bnppmedia.com/store/aec_online/hvac.Index.html.

GS: What are some of the changes you’ve seen in manufacturing during your career?

DH: The greatest single change is in the way parts are produced, namely the on-demand nature of our industry. Gone are work-in-process inventory and building large numbers of components for stock.

GS: How has heat-treating changed?

DH: In simplest terms, the art of heat-treating has become the science of heat treatment. Years ago there was more trial and error and lower expectations – a feeling that bad parts were inevitable. By contrast today, the emphasis is on absolute quality assurance, repeatability and control. We know what to expect and how to get it.

GS: Since we’re a gear publication, could you discuss some of the issues that would be of particular interest to our readers?

DH: Gear manufacturing is a dynamic subject and fraught with challenges from a material, design, heat-treating and application end-use perspective. My simple advice is heed the words of your metallurgists, remember that microstructure is everything, do not ignore trace element chemistry, normalize-normalize-normalize and if you carburize, try low pressure vacuum technology, you’ll be pleased you did.

GS: You’ve won many awards. Which one are you most proud?

DH: Believe it or not, I have won few awards for my work. I have found that people in the trenches seldom have time to look up and those looking down fail to take notice. One particularly humorous award, however, is my induction into the AGA “Hall of Flame” for some 25 years of service and educational training to the industry. 🌟

TO LEARN MORE:

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