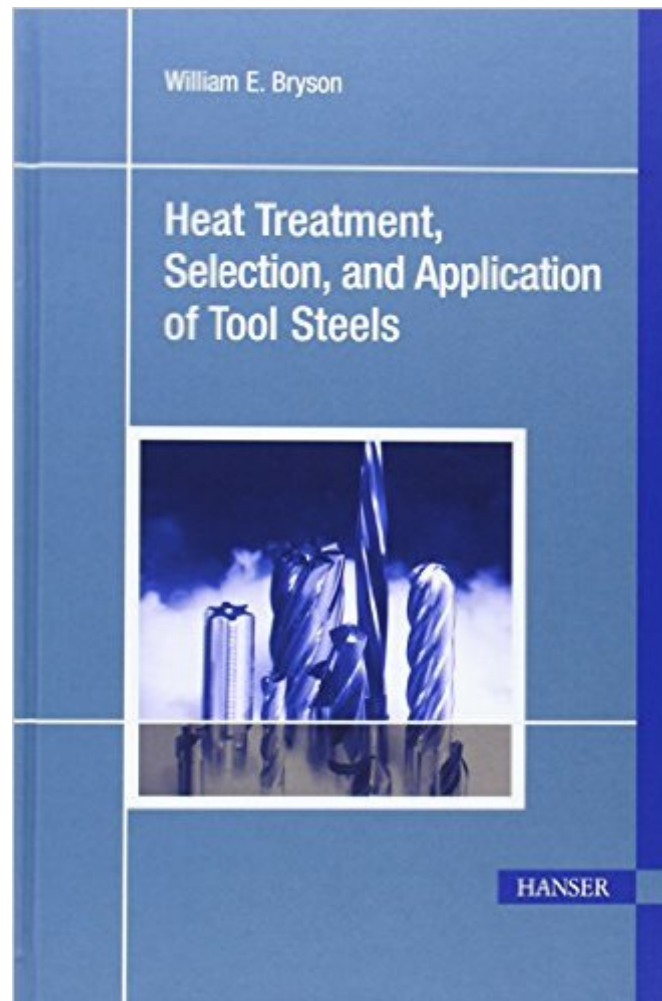


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# Heat Treatment, Selection, And Application Of Tool Steels 2E



## Synopsis

In a few short years, this has become the established reference for tool makers, heat treaters, and engineers seeking step-by-step recipes for properly heat treating a wide range of tool steels, plus practical information about machinability, shock resistance, wear, and extending tool life. Now, the completely revised and expanded second edition of this best-selling title is available. It has been extensively updated and includes the following significant additions: an entirely new chapter on the popular powdered tool steel CPM 10V; a thorough section on carburizing thoroughly describes the process and its benefits; a section on cryogenic treatment which has been completely rewritten to describe the theory and process; and a comprehensive glossary of related terms. As in the first edition, valuable tables of properties, attributes, qualities and shortcomings of popular tool steels are also included.

## Book Information

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## Customer Reviews

Anyone who enjoys metalworking and is searching for introductory information on heat treating will find this book is a thing of beauty. To quote the preface, "This is not a book about metallurgy, but a book that describes in simple terms what happens to metal during heat treatment!" Right from the start ("Chapter 1. What is Steel" and "Chapter 2. Exactly What is Heat Treatment Doing?") the author explains step-by-step how to treat the major classes and most common alloys of tool steel. If you want to know the how and why of hardening, tempering and annealing at a level that will allow

you to really do it yourself, look no further. The book decodes the naming conventions, explains the differences between air, water and oil steels, offers insight into the effects of various alloys and provides full recipes for hardening, quenching and tempering the most used steels. He goes on to discuss the effects of subsequent operations such as grinding, welding and EDM. The back is filled with tables with data for all the steels you're ever likely to use. I had tried a few projects prior to finding this book with mixed results, mostly because it's impossible to tell "straw" from "pale amber" without going through an old-fashioned apprenticeship. This book offers exact instructions, temperatures, soak schedules and tips that produce excellent results. On finding the link to recommend this book to a friend, I was shocked to find that it had such a low reader rating (3/5 stars). Of the six other reviews here, three are the arrogant sarcasm of people who have so much free time that they read about other people's vacations. Regarding the fourth, if you are as well versed in 16th century texts on metallurgy as in the "cutting edge" of technology, then this book is not for you either.

I bought this book about a year ago in order to understand the heat treating process of common tool steels. It is a well written set of "recipes" for the hobby and home shop machinist. It is not a canonical text on metallurgy. So far I have used it to heat treat several projects that I used A2 (air hardening) tool steel in. I found the directions easy to follow and got the desired results without any mistakes. As always, one should follow the manufacturers recommendations for a particular steel. The manufacturer specifies the "what". This book specifies the "how" (and some of the "why"). I highly recommend this book. -David Utidjian-

I ordered this book based on a recommendation from John Saunders (NYCCNC). I found the material to be organized in a very easy to consume format and the author's style was direct and concise. I am a home hobbyist and work on small projects. This book helped me understand the why and how of heat treatment as opposed to a "do this" approach. Best summary is, this book taught me how to fish, and didn't just give me one which is how a lot of material on the net is organized.

This book was chosen by my Tech College instructor. It was a required reference for Heat Treatment class where we actually heat treated our final class project, a tool we will be using for years after we graduate. It helped me to learn the concept and purpose the same way I would teach my children to do something... Start with the basic definitions and apply them as we progress. Then reinforce the

previous methods and definitions as we progress deeper into understanding not just the "How" but also the "Why". The book is also a reference for "on the job", so the reader can properly heat treat with expected results.

This book is easily understood by a large number of machinists that have a basic understanding of the English language and is very helpful in choosing a particular tool steel and offers a good selection of heat treating methods that are available. More in depth information is available in the Machinery Handbook and books written in far more technical language, but for a large number of machinists this book will be adequate, offering a basic understanding of Tool Steels and Heat Treating methods. I showed my copy to a good friend that is a mechanical engineer and he is ordering a copy as well as he marveled at the simplicity of the temperature and heat treating graphs.

Learned more from this book than in 6 months of research online, in other books, and from manufacturers specs and recommendations. I feel like I understand a lot of the why's behind the techniques now and am getting better results with my heat treating. I make small scale stuff including shop tools, woodworking tools, and knives.

This is a book that is aimed at home heat treatments, for example ones that can be done using a small furnace by home machinists or gunsmiths. It does not cover all steels but will give enough information that you can research other materials online. The book is on my shelf for reference.

I bought this book and Practical Heat Treating at about the same time. I bought the other book because I read a free download of chapter 2 and that convinced me it was worth the extra money... and it was worth it to me. If I were to do it again, I read this book and the chapter 2 download before deciding to buy the other book. This book is excellent for the layman working with the specific steels listed in the text. There are many aspects of this book that are superior to Practical Heat Treating, but believe me, they do not overlap that much. I read this book nearly cover to cover in a weekend. It never lost my interest as it was very well written. I am happy to add it to my library.

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