

LatheCity  
Safely Working with Benchtop Lathes – Booklet II  
**Working with Exotic Materials On Lathe & Mill**

1<sup>st</sup> Ed. January 2012

2<sup>nd</sup> Ed. July 2012

3<sup>rd</sup> Ed. February 2013

ISBN-10: 0985136073

ISBN-13: 978-0-9851360-7-9

US Registered copyright: pending

Pages 95

Images 47

Tables 2

Text boxes 16

Size 8.5 x 11 x 0.25 inch

Weight 10-3/4 lbs. (300 g)

Binding Spines

Grayscale LASER print

Available from:

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**Synopsis.** Described in detail is how to work safely with difficult to machine and exotic materials on a metal lathe and mill; and, where to purchase those materials in small quantities. In addition, a section about cutting tools and materials properties is included. Textboxes explain some of the chemistry, material science, and nanoscience background.

Materials discussed include: Alloy Steel, Aluminum, Bronze, Brass, Solid Carbide, Cast Iron, Steel, Ceramics – Macor, Cork, Copper, Free Machining Materials, Pure Manganese, Magnets (Superalloys), Plastics, Rocks, Sandwich Structures – Hardened Steel, cutting High Speed Steel, Stainless Steel, Styrofoam, Sterling Silver, Tool Steel, Ledloy, Titanium, Wax, and Wood

Convince your wife/friend about spending thousands a year on greasy equipment: make her/him a pair of earrings cut from Sterling Silver or Titanium or machine your own solid carbide tools. How that can be done is described here.

The author is a physical-chemistry college teacher and hobby machinist, as you probably are. This booklet of the LatheCity book series is, however, written for more advanced homeshop machinists.