

CMFS Suggested Reading Materials

DISCLAIMER:

Neither STLE, nor its Metalworking Certification Committee, approve or endorse any independent education or training programs, or publications by individuals or organizations. These listed here are in common usage. The list is not meant to be all-inclusive or exclusive, but rather to represent cross-sectional industry consensus.

Machining and Manufacturing Practice

Machinery's Handbook 25th Edition

Robert E. Green Editor Industrial Press Inc. 200 Madison Avenue, New York, New York 10016 ISBN 0-8311-2595-0 Comment: this is the end user's bible for the detail in the manufacturing business. It is also referred to as "A Reference Book for the Mechanical Engineer, Designer, Manufacturing Engineer, Draftsman, Toolmaker, and Machinist" and is also available as a CD. Can be found on www.amazon.com, or similar source.

Machining Data Handbook 3rd Edition

Compiled by the Technical Staff of the Machinability Data Center Institute of Advanced Manufacturing Sciences, Inc. 1111 Edison Drive Cincinnati, OH 45216 ISBN 0-936974-00-1. Can be found on www.amazon.com, or similar source.

Metalworking Fluids, Second Edition

Byers, Jerry, P., Ed, Published in 2006 by CRC Press (Taylor & Francis Group) and Society of Tribologists and Lubrication Engineers, ISBN-10: 1-57444-689-4.

ASM-Metals Handbook, Ninth Ed.

Vol. 16 Machining (1989) ISBN No. 0-87170-007-7. Visit the ASM website to purchase.

Modern Metal Cutting - a practical handbook

Sandvik Coromant, 1702 Nevins Road, Fair Lawn, NJ 07410 ISBN 91-972299-3-0. Can be found on www.amazon.com or similar source.

Short Run SPC

Dr. Donald J. Wheeler SPC Press, Inc. 5908 Toole Drive Knoxville, TN 37919, ISBN 0-945320-12-4. Can be found on www.amazon.com or similar source.

Tool and Manufacturing Engineers Handbook

Fourth Ed. Volumes 1-5, Society of Manufacturing Engineers, Vol.1, Machining, Thomas J. Drozda & Charles Wick, ISBN No. 0-87263-085-4, Chapter 4, Cutting Fluids and Lubricants. Excellent presentation of both stand alone and central system. Selection table is a little dated. Each section on turning, milling, drilling, tapping, etc. discusses both the machine tools and cutting tools. Visit the SME website to purchase.

Understanding Statistical Process Control, Second Edition

Dr. Donald J. Wheeler, David S. Chambers SPC Press, Inc. 5908 Toole Drive Knoxville, TN 37919, ISBN 0-945320-13-2. Can be found on www.amazon.com or similar source.

Coolants and Lubrication

Coolant Filtration, 2nd Edition - Additional Technologies

James J. Joseph, Joseph Marketing Inc. 120 Richmond Hill Court, Williamsburg, VA 23185 (No ISBN number).

Cutting and Grinding Fluids: Selection and Application, Second Edition

Society of Manufacturing Engineers. One SME Drive, Dearborn, MI 48121, 1992, ISBN: 0-87263-423-7. Visit the [SME website](#) to purchase.

Handbook of Biocide and Preservative Use

Rossmoore, H. W., Ed., Blackie Academic & Professional, an imprint of Chapman & Hall, Wester Cleddens Road, Bishopbriggs, Glasgow, G64 2NZ, UK, 1995, ISBN: 0-7514-0212-5. Can be found on www.amazon.com or similar source.

Handbook of Lubrication and Tribology, Volume II: Theory and Design, Second Edition

Edited by Robert W. Bruce, General Electric, Cincinnati, OH, USA CRC Press, 2012
HSE/UK Lubricants Association's DVD entitled, "The Safe Handling and Use of Metalworking Fluids," <http://www.hse.gov.uk/metalworking/video/index.htm>.

Lubricants and Lubrication

Mang, Theo, and Dresel, Wilfried, Eds. Wiley VCH, ISBN 3-527-29536-4. Visit the [Wiley website](#) to purchase.

Metalworking Fluids

Byers, Jerry P., Ed, Marcel Dekker, Inc., 270 Madison Ave., New York, NY 10016, 1994, ISBN: 0-8247-9201-7, OUT OF PRINT

Metalworking Fluids, Second Edition

Byers, Jerry, P., Ed, Published in 2006 by CRC Press (Taylor & Francis Group) And Society of Tribologists and Lubrication Engineers, ISBN-10: 1-57444-689-4.

OSHA 29 CFR 1910.1200 – OSHA Occupational Safety and Health Standards, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10099.

Modern Grinding Process Technology

Salmon, Stuart C., Published in 1992 by McGraw-Hill, Inc., New York, NY, ISBN-10: 0-07-054500-6

Standard Methods for the Examination of Water and Wastewater, 22nd Edition

Edited by Eugene Rice, Rodger Baird, Andrew Eaton and Lenore Clesceri, Published by the American Public Health Association (APHA), American Water Works Association (AWWA) and Water Environment Federation (WEF).

The Lubrication Engineers Manual, Third Edition

Published 2007 AIST, Three Gateway Center, Suite 1900 Pittsburgh, PA 15222-1004 (ISBN 978-1-886362-90-4. Visit the [AIST website](#) to purchase.

Tribology In Metalworking, Friction, Lubrication and Wear

John Schey, page 147, Copyright 1983, by the American Society of Metals, Carnes Publishing Service, Library of Congress Catalog Card No.: 82-73612, ISBN: 0-87170-155-3. Found on the [ASM website](#). Vol. 18 of the ASM Handbook.

Standards

Note that most of these standards are available on a CD-ROM entitled ASTM International Metalworking Industry Standards

from ASTM at: <http://www.astm.org/cgi-bin/SoftCart.exe/BOOKSTORE/COMPS/100.htm?L+mystore+rmqa1247>

E 1302, Guide for Acute Animal Toxicity Testing of Water-Miscible Metalworking Fluids
E 1497, Practice for Safe Use of Water-Miscible Metal Removal Fluids
E 1687, Test Method for Determining Carcinogenic Potential of Virgin Base Oils in Metalworking Fluids
E 1868-10, Practice for Loss-On Dryng by Thermogravimetry for Determination of VOC
E 1972, Practice for Minimizing Effects of Aerosols in the Wet Metal Environment
E 2144, Practice for Sampling and Analysis of Endotoxin in Metal Removal Fluid Aerosols
E 2148, Guide for Using Documents Related to Metalworking or Metal Removal Fluid Health & Safety
E 2169, Practice for Selecting Antimicrobial Pesticides for Use in Water-Miscible Metalworking Fluids
E2523, Terminology for Metalworking Fluids and Operations
E2657, Method for Determination of Endotoxin Concentrations in Water-Miscible Metalworking Fluids
E2693, Practice for Prevention of Dermatitis in the Metal Removal Fluid Environment
E2694, Method for Determination of Adenosine Triphosphate in Water-Miscible Metalworking Fluids
E2889, Practice for Control of Respiratory Hazards in the Metal Removal Fluid Environment
D 2881, Classification for Metalworking Fluids and Related Material
D 3519, Foam in Aqueous Media (Blender Test)
D 3601, Foam in Aqueous Media (Bottle Test)
D 4627, Iron Chip Corrosion Test for Water-Dilutable Metalworking Fluids
D 5619, Comparing Metal Removal Fluids Using the Tapping Torque Test Machine
D 7049, Metal Removal Aerosol in Workplace Atmospheres
D 3233, Measurement of Extreme Pressure Properties of Fluid Lubricants (Falex Pin and Vee Block Methods)
D 2670, Measuring Wear Properties of Fluid Lubricants (Falex Pin and Vee Block Method)
D 2783, Measurement of Extreme-Pressure Properties of Lubricating Fluids (Four-Ball Method)
D 4172, Wear Preventive Characteristics of Lubricating Fluid (Four-Ball Method)
D 2782, Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)
D 3520, Quenching Time of Heat-Treating Fluids (Magnetic Quenchometer Method)
D 6200, Determination of Cooling Characteristics of Quench Oils by Cooling Curve Analysis
D 1748, Rust Protection by Metal Preservatives in the Humidity Cabinet
B 117, Standard Practice for Operating Salt Spray (Fog) Apparatus
(In addition to ASTM Standards, other industry standards such as the Japanese Industry Standards (JIS), as well as Deutsches Institut fur Normung eV (DIN), can provide useful and relevant information)

ANSI Technical Reports:

American National Standards Institute (ANSI)

1997. Mist Control Considerations for the Design, Installation and Use of Machine Tools, ANSI Technical Report B11 TR 2-1997, New York, NY: ANSI. Visit the [ANSI website](#) for details.

Other Resources:

National Institute for Occupational Safety and Health (NIOSH)

1998. Criteria for a Recommended Standard: Occupational Exposure to Metalworking Fluids (DHS 98-102, tel: 800-356-4674). Available at: <http://www.cdc.gov/niosh/98-102.html>

Organization Resources Counselors (ORC), Inc.

1999. Management of the Metal Fluid Environment. Washington, DC. Available at: <http://www.aware-services.com/orc/>

Occupational Safety and Health Administration (OSHA), Metalworking Fluids: Safety and Health Best Practices Manual

Washington, DC. Available

at: http://www.osha.gov/SLTC/metalworkingfluids/metalworkingfluids_manual.html
GLOSSARIES

Cutting Tool Engineering glossary <http://www.ctemag.com/Glossary.php>

Information on SAE MS 1000: Lubricants, Industrial Oils and Related Products - Classification Available for purchase

at: http://www.sae.org/servlets/productDetail?PROD_TYP=STD&PROD_CD=MS1000_200410

WHITE PAPER

Development of Guidelines for Using and Maintaining Metalworking Fluids

A White Paper Sponsored by the Society of Tribologists and Lubrication Engineers
Dr. Neil Canter, 2008.