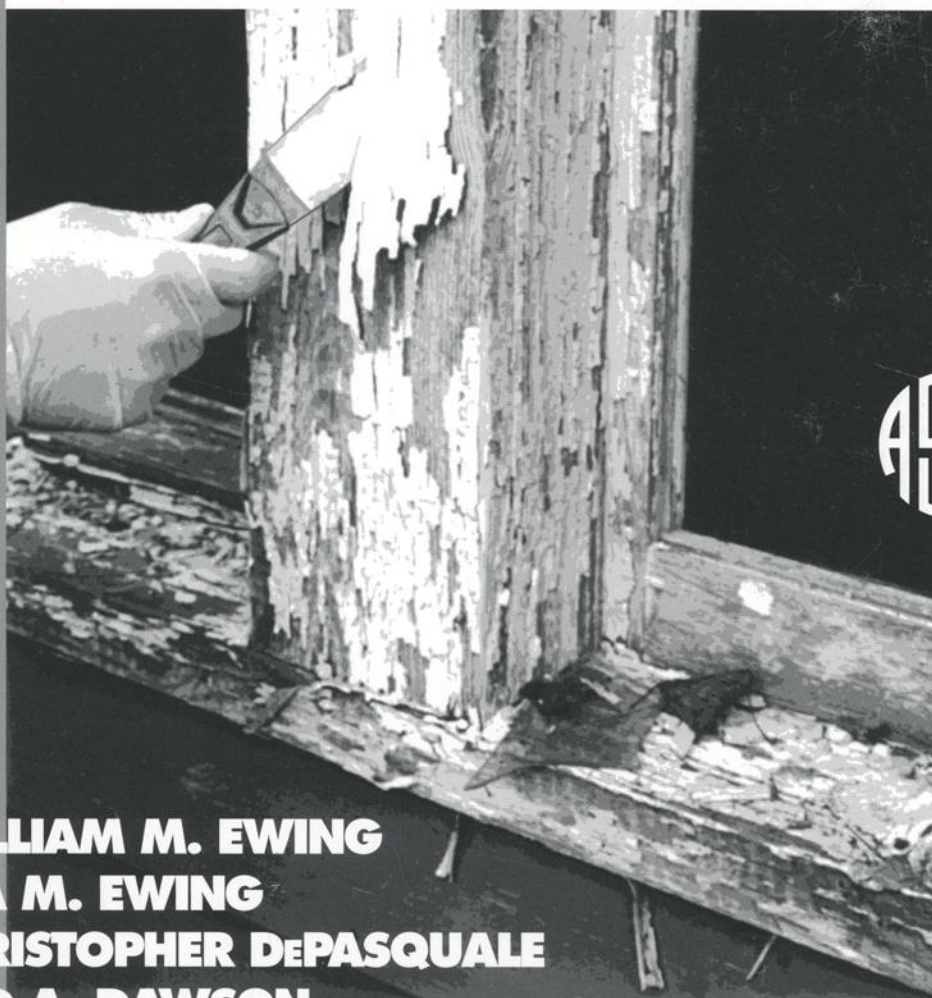


LEAD HAZARD

**EVALUATION
AND CONTROL
IN BUILDINGS**



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Lead Hazard Evaluation and Control in Buildings

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Preface

THE SUBJECT OF lead hazard control and mitigation continues to receive significant attention. The focus of the attention is the potential hazard that lead poses to the developmental capabilities and health of young children and the health of construction workers. Federal and local regulations have been promulgated in response to legislation to reduce the human-health hazards from lead. Standards play an important role in lead-hazard regulations, programs, and activities.

ASTM Subcommittee E06.23 was formed in response to a request from the United States Department of Housing and Urban Development (HUD) in 1991 to provide to the public a comprehensive set of consensus standards that describe procedures for assessing, abating or mitigating, and monitoring lead hazards in buildings. Liaisons were formed with other ASTM committees, including D01 on paints and related materials, D18 on soil and rock, D22 on sampling and analysis of atmospheres, and E50 and E51 on environmental assessments. E06.23 has also coordinated its efforts with HUD, the Centers for Disease Control (CDC), the U.S. Environmental Protection Agency (EPA), the National Institute for Occupational Safety and Health (NIOSH), the National Institute for Standards and Technology (NIST), the Consumer Product Safety Commission (CPSC), the Department of Defense (DOD), the Occupational Safety and Health Administration (OSHA), and other federal state agencies to assist the subcommittee in meeting this goal.

The Subcommittee developed the “Standard Guide for Evaluation, Management, and Control of Lead Hazards in Facilities” (designated ASTM Standard E 2052). This standard provides guidance to facility owners and property managers in developing and implementing a lead hazard management program. This handbook was developed to provide further guidance in establishing a successful program.

Mary E. McKnight
Chairperson, ASTM E06.23

Disclaimer

USERS OF THIS MANUAL are advised that federal, state, and local regulations affecting lead hazards in facilities change frequently. It is the user's responsibility to comply with all applicable regulations and remain informed of changes to standard methods and practices.

This manual does not purport to address all of the environmental, safety, and health concerns, if any, associated with its use. It is the responsibility of the user of this manual to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this manual. Users of this manual are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

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The authors are indebted to the Editorial Board established for this project, and the external peer reviewers. Each of these individuals are experts in the field of lead hazard control in their own right. Together, they provided an unsurpassed base of knowledge which the authors could draw upon. Of particular note are Mr. Geoff Braybrooke and Dr. Warren Friedman, who volunteered many weeks of effort on the original ASTM standard and this interpretive guidance manual.

The authors express their sincere appreciation to Ms. Kathy Dernoga and her staff at ASTM headquarters. Their guidance and expertise in shepherding this project through to completion was a significant accomplishment.

Lastly, this project would not have been possible without the hard work of the ASTM Subcommittee E06.23 volunteers. Under the leadership of Dr. Mary McKnight this subcommittee has produced 22 full consensus standards addressing lead hazard identification, evaluation, and control.

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Abbreviations

kg	kilograms
mg/cm²	milligrams per square centimeter
µg/dl	micrograms per deciliter
µg/ft²	micrograms per square foot
µg/L	micrograms per liter
µg/m³	micrograms per cubic meter
ABIH	American Board of Industrial Hygiene
AIHA	American Industrial Hygiene Association
ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
BCSP	Board of Certified Safety Professionals
CDC	Center for Disease Control and Prevention
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CoE	The Corps of Engineers
CPSC	Consumer Product Safety Commission
CSP	Certified Safety Professional
DOT	Department of Transportation
EBL	Elevated blood lead level
EIBLL	Environmental intervention blood lead level
EPA	Environmental Protection Agency
FAAS	Flame atomic absorption spectrometry
GFAAS	Graphite furnace atomic absorption spectrometry
GFI	Ground fault interrupter
HEPA	High efficiency particulate air
HUD	Department of Housing and Urban Development
ICP-AES	Inductively coupled plasma $\frac{1}{\lambda}$ Atomic emission spectrometry
IQ	Intelligence quotient
ISO	International Standards Organization
LBP	Lead-based paint
LOD	Limit of detection
LHMP	Lead hazard management program
NIBS	National Institute of Building Sciences
NIOSH	National Institute for Occupational Safety and Health
NLLAP	National Lead Laboratory Accreditation Program
O&M	Operations & maintenance
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
Pb	Chemical symbol for lead
RCRA	Resource Conservation and Recovery Act
SOP	Standard operating procedure
SSPC	Steel Structures Painting Council
TBA	Tenant-based assistance
TC	Toxicity characteristic
TCLP	Toxicity characteristic leaching procedure
TSCA	Toxic Substances Control Act
USDA	United States Department of Agriculture
XRF	X-ray fluorescence

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