

ANSI B11.8-2001

American National Standard

*Safety Requirements for Manual
Milling, Drilling and Boring Machines
with or without Automatic Control*



American National Standards Institute
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Designation

Approved American National Standards

ANSI-

B11.1-2001		<i>Safety Requirements for Mechanical Power Presses</i>
B11.2-1995	(R2000)*	<i>Hydraulic Power Presses – Safety Requirements for Construction, Care and Use</i>
B11.3-2002		<i>Safety Requirements for Power Press Brakes</i>
B11.4-1993		<i>Shears – Safety Requirements for Construction, Care and Use</i>
B11.5-1988	(R1994)*	<i>Iron Workers – Safety Requirements for Construction, Care and Use</i>
B11.6-2001		<i>Safety Requirements for Manual Turning Machines with or without Automatic Control</i>
B11.7-1995	(R2000)*	<i>Cold Headers and Cold Formers – Safety Requirements for Construction, Care and Use</i>
B11.8-2001		<i>Safety Requirements for Drilling, Milling, and Boring Machines</i>
B11.9-1975	(R1997)*	<i>Grinding Machines – Safety Requirements for Construction, Care and Use</i>
B11.10-1990	(R1998)*	<i>Metal Sawing Machines – Safety Requirements for Construction, Care and Use</i>
B11.11-2001		<i>Safety Requirements for Gear & Spline Cutting Machines</i>
B11.12-1996		<i>Roll Forming and Roll Bending Machines – Safety Requirements for Construction, Care and Use</i>
B11.13-1992	(R1998)*	<i>Single- and Multiple-Spindle Automatic Screw/Bar and Chucking Machines – Safety Requirements for Construction, Care and Use</i>
B11.14-1996		<i>Coil Slitting Machines/Systems – Safety Requirements for Construction, Care and Use</i>
B11.15-2001		<i>Safety Requirements for Pipe, Tube, and Shape Bending Machines</i>
B11.16-1988		<i>Metal Powder Compacting Presses – Safety Requirements for Construction, Care and Use (WITHDRAWN)</i>
B11.17-1996		<i>Horizontal Hydraulic Extrusion Presses – Safety Requirements for Construction, Care and Use</i>
B11.18-1997		<i>Machinery and Machine Systems for the Processing of Strip, Sheet, or Plate from Coiled Configurations – Safety Requirements for Construction, Care and Use</i>
B11.19-1990	(R1997)*	<i>Performance Criteria for the Design, Construction, Care and Operation of Safeguarding when Referenced by the other B11 Machine Safety Standards</i>
B11.20-1991	(R1997)*	<i>Manufacturing Systems/Cells – Safety Requirements for Construction, Care and Use</i>
B11.21-1997		<i>Machine Tools Using Lasers for Processing Materials – Safety Requirements for Construction, Care and Use</i>

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Registered Technical Reports

B11.TR1-1993		<i>Ergonomic Guidelines for the Design, Installation and Use of Machine Tools</i>
B11.TR2-1997		<i>Mist Control Considerations for the Design, Installation and Use of Machine Tools Using Metal Working Fluids</i>
B11.TR3-2000		<i>Risk Assessment and Risk Reduction – A Guide to Estimate, Evaluate and Reduce Risks Associated With Machine Tools</i>

* = Standard that has been reaffirmed by the ANSI B11 Accredited Standards Committee, and the year of reaffirmation. The date next to the standard designation is its last revision.

For pricing and availability of the standards and technical reports listed above, go to WWW.AMTONLINE.ORG and search on "B11"

ANSI B11.8–2001

*American National Standard for Machine Tools –
Safety Requirements for Manual Milling,
Drilling and Boring Machines with or
without Automatic Control*

Secretariat and Accredited Standards Developer

**AMT-The Association For Manufacturing Technology
7901 Westpark Drive
McLean, VA 22102**

Approved: DECEMBER 11, 2001

American National Standards Institute

American National Standard

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Foreword (This foreword is not part of the requirements of American National Standard B11.8-2001)

The primary objective of this standard is to eliminate or control hazards to personnel associated with manual milling, drilling and boring machines by establishing requirements for the construction, operation and maintenance of these machines. To accomplish this objective, responsibilities have been assigned to the supplier (e.g., manufacturer, rebuilder, reconstructor, installer, integrator), the user, and personnel in the working environment.

The words "safe" and "safety" are not absolutes. Safety begins with good design. While the goal of this standard is to eliminate injuries, it is recognized that risk factors cannot be practically reduced to zero in any human activity. This standard is not intended to replace good judgment and personal responsibility. Operator skill, attitude, training, job monotony, fatigue and experience are safety factors that must be considered by the user.

Manual milling, drilling and boring machines, and associated equipment technologies are continuously evolving. This standard is reflective of the most commonly used and time-tested state of the art at the time of its approval. The inclusion or omission of language relative to any evolving technology, either in the requirements or explanatory area of this standard, in no way infers acceptance or rejection of such technologies.

Inquiries with respect to the application or the substantive requirements of this standard, and suggestions for its improvement, are welcomed and should be sent to the AMT – The Association For Manufacturing Technology, 7901 Westpark Drive, McLean, Virginia 22102-4269, Attention: B11 Secretariat.

This standard was prepared by the B11.8 Subcommittee, processed and submitted for ANSI approval by the B11 Accredited Standards Committee on Safety Standards for Machine Tools. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time this standard was approved as an American National Standard, the ANSI B11 Accredited Standards Committee was composed of the following member organizations:

John W. Russell, PE, CSP Chairman
Gary D. Kopps, Vice-Chairman
David A. Felinski, Secretary

Organizations Represented

Name of Representative(s)

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Unified Abrasives Manufacturers' Association, Bonded Division	Charles S. Conant	
U.S. Department of the Navy (NAVSEA)	Various delegates depending on the Standard	

At the time this standard was approved, the ANSI B11 ASC **B11.8 Subcommittee** had the following members who participated in the development of this revision:

Gene Tkachuk, Lamb, Chairman	Tony Bratkovich, PE	AMT
John F. Bloodgood, PE, Secretary	Lance Chandler	Boeing
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	Mark Periello	Westinghouse
	Carl Sharak	Liberty Mutual
	Warren Stanford	General Motors
	William Riley	U.S. Navy
	John Wolfe	Sugino Corp.

Explanation of the format of the standard

This ANSI B11.8 – 2001 standard is divided into parts formerly referred to as sections or chapters and now referred to as clauses in line with the current ANSI style manual. Major divisions of clauses are referred to as subclauses and, when referenced by other text in the standard, are denoted by the subclause number (e.g., see 5.1).

The standard uses a two-column format to provide supporting information for requirements. The material in the left column is confined to “Standard Requirements” only, and is so captioned. The right column, captioned “Explanatory Information” contains information that the writing Subcommittee believed would help clarify the standard. This column should not be construed as being a part of the requirements of this American National Standard.

Operating rules (safe practices) are not included in either column of this standard unless they are of such nature as to be vital safety requirements, equal in weight to other requirements, or guides to assist in compliance with the standard.

As in all American National Standards, the term “SHALL” denotes a requirement that is to be strictly followed in order to conform to this standard; no deviation is permitted. The term “SHOULD” denotes a recommendation, a practice or condition among several alternatives, or a preferred method or course of action.

Similarly, the term “CAN” denotes a possibility, ability or capability, whether physical or casual, and the term “MAY” denotes a permissible course of action within the limits of the standard.

By convention, the B11 standards do not use the term “and/or” but instead, the term “OR” is used as an inclusive disjunction, meaning *one or the other or both*.

Suggestions for improvement of this standard will be welcome. They should be sent to AMT-The Association For Manufacturing Technology, 7901 Westpark Drive, McLean, VA 22102 - Attention: B11 Secretariat.

Introduction

The primary purpose of every machine tool is to process parts. This is accomplished by the machine imparting process energy onto the workpiece. Inadvertent interference with, or accidental misdirection of the released energy during production, maintenance, commissioning and de-commissioning may result in injury.

The primary purpose of the ANSI B11 series of machine tool safety standards is to devise and propose ways to minimize risks of the potential hazards. This can be accomplished by an appropriate machine design, by restricting personnel or other individuals' access to hazard areas, and by devising work procedures to minimize personnel exposure to hazardous situations. This is the essence of the ANSI B11 series of safety standards.

The responsibility for the alleviation of these risks is divided between the equipment supplier, its user and its operating personnel, as follows (numbers in parentheses refer to the clause numbers in these standards which address that responsibility):

