

## **ANSI B11.5-1988 (R2008)**

### **American National Standard for Machines**

#### **Ironworkers**

#### **Safety Requirements for Construction, Care and Use**

Secretariat and Accredited Standards Developer:

**AMT – The Association For Manufacturing Technology**

**7901 Westpark Drive**

**McLean, VA 22102**



**Approved: August 23, 1988**

**Reaffirmed: July 15, 2008**

by the American National Standards Institute, Inc.



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Published by: AMT – The Association For Manufacturing Technology  
7901 Westpark Drive, McLean, VA 22102-4206, USA  
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## Foreword (This Foreword is not part of American National Standard B11.5-1988.)

Recognizing the uniqueness of ironworkers and the need for a safety standard for them, Accredited Standards Committee B11 on Safety Standards for Machine Tools established Subcommittee B11.5 in 1972, to develop the safety requirements for this equipment. The first standard was approved by ANSI on September 18, 1975, and reaffirmed on December 1, 1981. For the most part, this standard represents a minor revision of the original document by incorporating changes that update the standard with current references to other American National Standards and their illustrations, and the latest ANSI Style Manual.

Producing a workable safety standard treating the construction, safeguarding, care, and use of ironworkers is complicated by the wide variety and sizes of ironworkers manufactured and in use, and by the infinite combinations of methods and operations used to produce parts. Safeguarding the multiple work stations for the limitless variety of workpiece cross sections is further complicated by the need to preserve the flexibility and universal application of ironworkers.

Recognizing the difficulty in defining specific guarding requirements for all applications of ironworkers without detracting from their productivity and flexibility, the committee approached its primary objective of eliminating injuries to personnel associated with ironworkers from four directions:

(1) Eliminating by design certain recognized construction hazards and establishing standard approaches to design so that the machines available from competitive manufacturers will have similar operational and control characteristics.

(2) Safeguarding the point of operation to protect personnel should they inadvertently expose themselves to hazards at the point of operation.

(3) Eliminating by design, procedure, and process the necessity of having the operator place his hands or fingers within the point of operation at any time the particular work station has not been made inoperative, thus minimizing his exposure to point-of-operation hazards.

(4) Establishing guidelines for general training and specific job-related instructions for eliminating unsafe practices and procedures.

To implement these requirements, responsibilities have been assigned to the manufacturer, the reconstructor, the modifier, the employer, the employee, and the owner.

To assist all persons concerned in complying with the requirements of this standard, all explanatory information has been placed in the right column, adjacent to the requirements to which it applies.

Recognizing the difficulty of updating equipment immediately after the approval date of the ANSI B11.5-1975 standard, a three-year period was suggested before the applicable construction requirements of this standard become effective for former installations. All grace periods have long since expired.

Suggestions for improvement of this standard will be welcome. They should be sent to the National Machine Tools Builders' Association, 7901 Westpark Drive, McLean, Virginia 22102-4269, Attention: Safety Department.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Safety Standards for Machine Tools, B11. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the B11 Committee had the following members:

J. W. Hart, Chairman

William Atkinson, Jr, Secretary

### *Organization Represented*

### *Name of Representative*

Aerospace Industries Association of America, Inc

Gerald W. Lancour

Alliance of American Insurers .....

Joseph W. Hart

American Boiler Manufacturers Association .....

William Axtman

Frank Perrera

American Institute of Steel Construction .....

John Conley

<i>Organization Represented</i>	<i>Name of Representative</i>
American Insurance Services Group .....	Charles Peshek
American Society of Safety Engineers .....	Alfred Auerhaan
Defense Industrial Plant Equipment Center .....	Garland Smith
International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) .....	Barrie Brooks
Machinery Dealers National Association .....	Jack Walker
Metal Building Manufacturers Association .....	Gary Beck
Motor Vehicle Manufacturers Association .....	Kenneth Lauck
National Association of Government Labor Officials .....	Jerry Skeers
National Electrical Manufacturers Association .....	James Rice
National Machine Tool Builders' Association .....	Emmett McCarthy
National Safety Council .....	Robert Jordan
National Tooling & Machining Association .....	William Ruxton
Presence Sensing Device Manufacturers Association .....	James Kirton
Rubber Manufacturers Association .....	James Kendall
Sheet Metal & Air Conditioning Contractors' National Association .....	Charles Baxter
Society of Manufacturing Engineers .....	Theodore Wire
Steel Plate Fabricators Association .....	Earl Bratton
U. S. Department of Labor, Occupational Safety & Health Administration .....	James L. Scully (Not Voting) Frank A. Smith (Alt) (Not Voting)

Subcommittee B11.5 on Safety Requirements for the Construction, Care, and Use of Ironworkers, which developed this standard, had the following members:

<b>Robert Patrick, Chairman</b>	<b>Bob Brown</b>
<b>Thomas Boyer, Secretary</b>	<b>Fred J. Brown</b>
	<b>Jim Dvorak</b>
	<b>Leon Feterl</b>
	<b>Arthur Kroetch</b>
	<b>Don LeTourneau</b>
	<b>Walt Lips</b>
	<b>Warren H. Obert</b>

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## **Explanation of Standard Format**

American National Standard B11.5-1988 uses a two-column format to provide both specific requirements and supporting information.

The left column, designated "Standard Requirements," is confined solely to these requirements and is printed in bold type. Where supporting tables, photographs, or sketches are required, they are designated as "tables" or "figures."

The right column, designated "Explanatory Information," contains only information that is intended to clarify the standard. This column is not a part of the standard. Where supplementary photographs or sketches are required, they are designated as "illustrations."

All material designated as "tables," "figures," or "illustrations" appears at the end of the standard.

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

## American National Standard for Machine Tools –

# Ironworkers – Safety Requirements for Construction, Care, and Use

### STANDARD REQUIREMENTS

#### 1. Scope, Purpose, and Application

##### 1.1 Scope.

**1.1.1 General.** The requirements of this standard apply to those combination, multipurpose powered machines that punch, shear, notch, cope, and form metals or other materials, commonly referred to as ironworkers.

**1.1.2 Specific Types of Ironworkers Included.** The requirements of this standard also apply to those single- or multipurpose powered machines similar in construction to, and identical in the use of, an ironworker or portions thereof, such as, but not limited to, the following:

- (1) Single-end punches
- (2) Double-end punches
- (3) Structural shearing machines
- (4) Notching machines
- (5) Coping machines
- (6) A combination of (1) through (5)

**1.1.3 Specific Types of Ironworkers Excluded.** The requirements of this standard shall apply to all ironworkers or combinations as defined in 1.1.2, but excluding the following:

- (1) Alligator shears
- (2) Bar shears
- (3) Billet shears
- (4) Manually powered machines
- (5) Nibblers
- (6) Portable hand tools
- (7) Portable machines
- (8) Power press brakes
- (9) Power presses
- (10) Power shears

### EXPLANATORY INFORMATION

(Not part of American National Standard for Machine Tools—Ironworkers—Safety Requirements for Construction, Care, and Use, ANSI B11.5-1988)

**E1.1.2 Specific Types of Ironworkers Included.** Because of the numerous special names used in different segments of the industry for machines performing the same function as ironworkers, it is not feasible to list all such machines by specific names. However, this standard is intended to include machines generally referred to as beam punches, detail punches, spacing punches, etc, as long as they are similar in construction to, and identical in the use of, an ironworker or portions thereof.

#### E1.1.3 Specific Types of Ironworkers Excluded

- (7) Portable machines. See *Portable* (3.38).