

ANSI B11.18-2006 (R2020)

(NOTICE: This standard incorporates the safety requirements of
ANSI B11.14-1996 – Safety Requirements for Coil Slitting Machines
ANSI B11.14-1996 was formally withdrawn on November 10, 2006)

American National Standard

Safety Requirements for Machines Processing or Slitting Coiled or Non-coiled Metal

ANSI-Accredited Standards Developer and Secretariat:



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Houston, TX 77269, USA

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Board of Standards Review



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FOREWORD (This Foreword is informative and not part of the requirements of American National Standard B11.18-2006 (2020))

The primary objective of this standard is to eliminate, control or reduce hazards to individuals associated with metal, sheet, strip or plate processing systems by establishing requirements for the design, construction, installation, commissioning, operation, maintenance and decommissioning of these machines. To accomplish this objective, responsibilities have been assigned to the supplier (e.g., manufacturer, modifier, distributor, rebuilder and integrator), the user, and individuals in the working environment.

The words "safe" and "safety" are not absolutes. An element of safety is attitude. While the objective of this standard is to eliminate, control, or reduce hazards, this standard recognizes that hazards cannot be practically reduced to zero in any human activity. This standard is not intended to replace good judgment, proper training, and personal responsibility. Operator skill, job monotony, fatigue, and experience are safety factors that should be considered by the user.

The original B11.18 Standard was approved in 1985 and revised and approved again in 1992. B11.18 was then reaffirmed in 1997. This current standard began revision in 2004, and with the approval of the B11 Accredited Standards Committee, includes and incorporates the safety requirements of coil slitting machines – the subject matter of ANSI B11.14—1996. B11.14 was formally withdrawn as an American National Standard upon ANSI approval of this revised standard as an American National Standard. This standard was reaffirmed by the ANSI BSR on 27 November 2012.

Technology for metal/sheet/strip/plate processing systems from coiled or non-coiled configurations is continuously evolving. This standard reflects 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.

Effective Date

The following is informative guidance only, and not a normative part of this standard. This Subcommittee recognizes that some period of time after the approval date on the title page of this document is necessary for suppliers and users to develop new designs, or modify existing designs or manufacturing processes in order to incorporate the new or revised requirements of this standard into their product development or production system.

This Subcommittee recommends that suppliers complete and implement design changes for new machines within 30 months of the approval of this standard.

For existing or modified machines, this Subcommittee recommends that users should confirm that the equipment / process has tolerable risk using generally recognized risk assessment methods within 30 months of the approval date of this standard. If the risk assessment shows that modification(s) is necessary, refer to the requirements of this standard to implement protective measures for appropriate risk reduction.

Inquiries with respect to the application of the substantive requirements of this standard and suggestions for its improvement are welcomed and are to be sent to B11 Standards, Inc., POB 690905, Houston, TX 77269. Attention: B11 Secretariat.

This standard was developed by the B11.19 Subcommittee, and 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 document was reaffirmed as an American National Standard, the ANSI B11 Accredited Standards Committee was composed of the following member organizations:

B11 Accredited Standards Committee ROSTER

Alan Metelsky, Chairman
 Barry Boggs, Vice-Chairman
 David Felinski, Secretary

Organizations Represented

Aerospace Industries Association of America
 Aluminum Extruders Council
 American Society of Safety Engineers
 Association For Manufacturing Technology
 The Boeing Company
 Canadian Standards Association
 Deere & Co.
 FDR Safety
 General Motors Corporation
 Komatsu America Industries
 Metal Powder Industries Federation
 National Institute for Occupational Safety & Health
 Occupational Safety & Health Administration
 Omron Scientific Technologies Incorporated
 Packaging Machinery Manufacturers Institute
 Pilz Automation Safety, LP
 Precision Metalforming Association
 Presence-sensing Device Manufacturers Association
 Property Casualty Insurers
 Robotic Industries Association
 Rockwell Automation
 Safe-T-Sense
 Sheet Metal & Air Conditioning Contractors Nat'l. Assn.
 System Safety Society
 Toyota Motor Manufacturing North America
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At the time this standard was approved, the ANSI B11 ASC **B11.18 Subcommittee** had the following members who participated in the development of this revision:

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Chuck Damore	Braner USA, Inc.	
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Brett Snider	SMS-Demag, Ltd.	
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David Felinski	AMT	

Explanation of the format, and ANSI B11 conventions

This ANSI B11.18 – 2006 (R2020) standard is divided into parts formerly referred to as sections or chapters and now referred to as clauses. 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 to clarify the requirements contained in the standard. This column is informative only, and should not be construed as being a part of the requirements of this American National 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 or capability, whether physical or causal, and the term “MAY” denotes a permissible course of action within the limits of the standard.

B11 conventions: 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 conformance to the standard. The B11 series of 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*. A distinction between the terms “*individual*” and “*personnel*” is drawn. Individual includes personnel (employees, subcontractors, consultants, or other contract workers under the indirect control of the supplier or user) but also encompasses persons who are not under the direct or indirect control of the supplier or user (e.g., visitors, vendors, etc.). Gauge refers to a measuring or testing instrument; gage refers to a limiting device (e.g., backage).

Suggestions for improvement of this standard will be welcome. They should be sent to B11 Standards, Inc., POB 690905, Houston, TX 77269 - Attention: B11 Secretariat.

Introduction

The requirements of this ANSI standard are grouped according to those that apply to the supplier and user. Some are shared between the supplier and user and are so indicated. Figure 1 provides an overview of this standard and in particular the responsibilities of and requirements for the supplier and user, including the user personnel. Numbers in parentheses denote the particular clause or subclause of the standard.

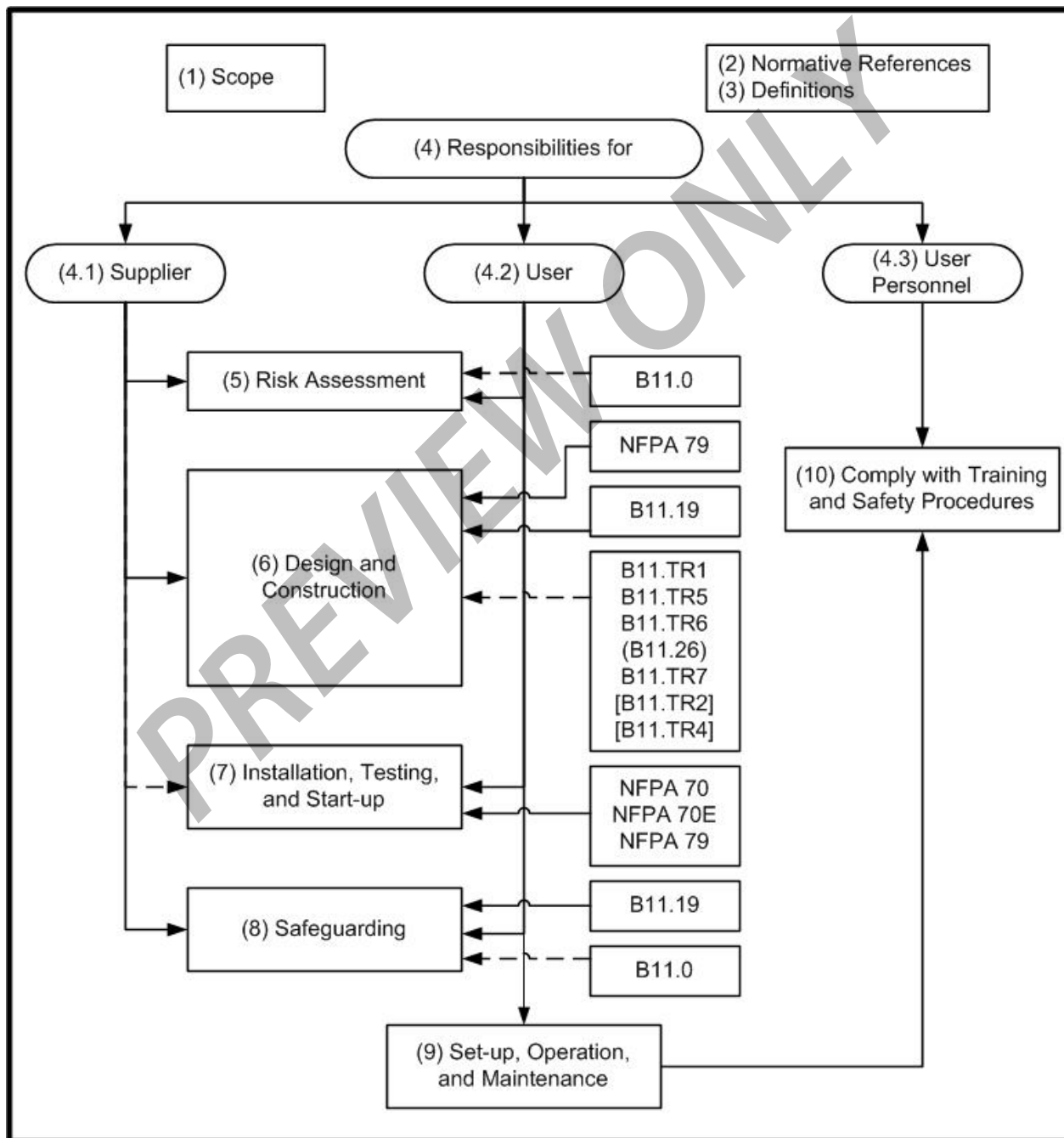


Figure 1 – General layout of the standard showing the various responsibilities

Notes for Figure 1:

- 1) Scope – Provides the boundaries or limits of the standard (i.e., what is/is not included).
- 2) Normative references – Other standards which in whole or in part provide additional requirements when referenced in the normative text (i.e., left-hand column of clauses 4 – 9) of this standard.
- 3) Definitions – Terms used in this standard, together with their definitions (terms used in the same context as are generally understood and commonly used in everyday English are not defined).
- 4) Responsibility – The general responsibilities of the supplier (builder), user, and the user personnel are listed in clause 4 together with which of the remaining clauses they have primary responsibility.
- 5) Hazard control (task/hazard identification & risk assessment/risk reduction) – Although clause 5 is intended to require a shared responsibility between supplier and user, the requirements of this clause may fall primarily on either entity (see B11.TR3 for further explanation of hazard/task identification and risk assessment/risk reduction).
- 6) Design and construction – It is assumed that the supplier will be responsible for the requirements of clause 6 with the understanding that the user may add to or modify these requirements through the purchase agreement.
- 7) Installation, testing and start-up – Although the requirements of clause 7 are predominantly the responsibility of the user, the supplier will normally provide assistance either directly (providing personnel) or indirectly (instruction materials).
- 8) Safeguarding – This is normally a shared responsibility but often, either the supplier or the user will provide the requirements of clause 8.
- 9) Operation and maintenance – The user is normally responsible for the requirements of clause 9 with possible assistance from the supplier for training.

A solid line between a block showing reference standard(s) and a block showing a normative clause denotes part of the requirements. A dashed line denotes an informative reference.

*American National Standard for Machines***Safety Requirements for Machines Processing or Slitting Coiled or Non-coiled Metal****STANDARD REQUIREMENTS****EXPLANATORY INFORMATION**

(Not part of ANSI B11.18-2006 (R2020), *American National Standard for Machines — Safety Requirements for Machines Processing or Slitting Coiled or Non-coiled Metal*)

1 Scope**1.1 Scope**

This standard applies to machines, and groups of machines arranged in production systems, for processing strip, sheet, or plate metal from a coiled or non-coiled configuration through machines that size or otherwise convert the metal into desired configurations.

1.2 Included machines

1.2.1 This standard covers the following machines and accessories, either individually or combined into metal processing systems:

- coil car and elevator (a.k.a. coil buggy, coil carriage, coil cart or automatic guided vehicle);
- coil conveyor;
- coil end joiner (a.k.a. end welder, stitcher, tape joiner or shear welder);
- coil peeler;
- feeder (a.k.a. roll feeder, grip feeder, air feeder, slide feeder or hitch feeder);
- press feed equipment (a.k.a. sheet feeders, electronic feed systems);
- pinch roll machine (a.k.a. thread-up stand, power run-in stand or pull-off stand);
- rack and saddle (a.k.a. coil holder);
- ramp;
- recoiler (a.k.a. rewinder, traverse winder, oscillating winder, down coiler, tension reel or turret recoiler);
- roll former feed equipment;
- scrap processor;
- shear;
- slitting machine (slitter head or side trimmer);

E1.1

The terms "strip, sheet or plate" are used interchangeably without dimensional implications.

Typical machinery systems include cut-to-length lines, press feed lines, and slitting lines.

E1.2

See Annex A for a figure or description of the machines / accessories listed to the left.

See ANSI B11.1 and B11.2 for safety requirements that may apply to presses incorporated in metal processing systems.

See ANSI B11.12 for safety requirements that may apply to roll formers incorporated in metal processing systems.

See ANSI B11.4 for safety requirements that may apply to shears incorporated in metal processing systems.

ANSI B11.18 now covers these (slitting machines were previously covered by ANSI B11.14-1996).