

ANSI B11.19-2019

AMERICAN NATIONAL STANDARD FOR MACHINERY SAFETY

Performance Requirements for Risk Reduction Measures: Safeguarding and other Means of Reducing Risk

ANSI-Accredited Standards Developer and Secretariat:



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Table of Contents	Page
Foreword	v
General.....	v
Application.....	v
Effective Date	v
Alignment	v
History	vi
Terminology.....	vii
Context	vii
Introduction.....	x
1 Scope	12
2 References	13
2.1 Normative references	13
2.2 Informative References	13
3 Definitions	15
4 Responsibility	27
4.1 Supplier responsibilities	27
4.2 User responsibilities	27
4.3 Integrator / modifier / rebuilder responsibilities	28
4.4 Personnel responsibilities	28
5 Risk assessment process	29
6 Risk reduction measures	30
6.1 General requirements for risk reduction measures	30
7 Inherently safe by design	32
7.1 General requirements for inherently safe design measures	32
7.2 Prevention through design	32
7.3 Safe-opening safeguarding method	32
7.4 Safe-location safeguarding method	33
7.5 Minimum gaps to avoid crushing of parts of the human body	34
7.6 Maximum gaps to avoid exposure to hazards	34
8 Engineering controls – guards	36
8.1 General requirements for guards	36
8.1.1 Guard design and construction.....	36
8.1.2 Guard visibility.....	38
8.1.3 Guard location	38
8.1.4 Guard operation and maintenance	39
8.2 Fixed guards.....	39
8.3 Movable guards.....	40
8.4 Interlocked guards.....	40
8.5 Adjustable guards	42
8.6 Self-adjusting guards	42
8.7 Partial guards	43
8.8 Perimeter guards.....	44
8.9 Nip guards	45
8.10 Shields.....	46
9 Engineering controls – control functions	47
9.1 General requirements for control functions	47
9.2 Performance of safety functions.....	47
9.2.1 General requirements for safety functions.....	47
9.2.2 Safety interface (safety relay) modules	48

9.2.3	Considerations for safety-related application software (SRASW)	49
9.3	Monitoring functions	50
9.3.1	General requirements for monitoring functions	50
9.3.2	Safe condition (stopping performance) monitoring systems	51
9.3.3	Speed monitoring function	52
9.4	Stop functions.....	53
9.4.1	Normal stop function.....	54
9.4.2	Emergency stop function	54
9.4.3	Protective stop function	55
9.5	Safety-related reset.....	58
9.5.1	General requirements for reset.....	58
9.5.2	Automatic reset.....	59
9.5.3	Manual reset.....	59
9.6	Safety distance.....	60
9.7	Suspension of safety functions	62
9.7.1	Manual suspension (bypassing)	62
9.7.2	Muting	64
9.8	Variable sensing functions	68
9.8.1	Safety-related sensing field switching	68
9.8.2	Safety-related sensing field blanking.....	75
9.9	Presence-Sensing Device Initiation (PSDI)	77
9.9.1	General requirements for PSDI	77
9.9.2	PSDI control logic	79
9.9.3	PSDI operation	81
9.9.4	User responsibilities for PSDI.....	81
9.10	Perimeter risk reduction measures	82
9.11	Whole body access	82
9.11.1	General requirements for whole body access	83
9.11.2	Control of hazardous energy	85
9.11.3	Prevent undetected presence of individuals within the safeguarded space.....	85
9.11.4	Manual reset.....	85
9.11.5	Location of safety-related manual control devices	86
9.11.6	Inhibit function.....	87
9.11.7	Interlock devices capable of internal opening.....	88
9.11.8	Initiation warning system	88
9.12	Span of control	93
9.12.1	Layout analysis	93
9.12.2	Level of safety performance	95
9.12.3	Identification.....	95
10	Engineering controls – devices.....	95
10.1	General requirements for devices	95
10.2	Interlock devices.....	96
10.3	Trapped (captive) key systems	101
10.3.1	General requirements for trapped key systems.....	101
10.3.2	Trapped key system design.....	102
10.3.3	Trapped key system installation	103
10.3.4	Trapped key system operation	103
10.4	Interlock blocking devices	104
10.5	Movable barrier devices	105
10.5.1	General requirements for movable barrier devices	105
10.5.2	Type A movable barrier devices	106
10.5.3	Type B movable barrier device.....	106
10.6	Pull back (pull out) and hold out (restraint) devices.....	107
10.6.1	General requirements for pull back and hold out (restraint) devices.....	107
10.6.2	Pull back and hold out (restraint) device operation	107
10.7	Presence-sensing devices	108

10.7.1	General requirements for presence-sensing devices	108
10.7.2	Light curtains and single/multiple beam devices	110
10.7.3	Area scanning devices.....	112
10.7.4	Close proximity point of operation AOPDs	115
10.7.5	Vision-based protective devices	116
10.7.6	Safety mat devices	116
10.7.7	Safety edge/bumper devices	117
10.7.8	Probe detection devices	119
10.7.9	Radio frequency devices	119
10.8	Two-hand actuating controls	121
10.8.1	General requirements for two-hand actuating controls	121
10.8.2	Two-hand control devices.....	123
10.8.3	Two-hand trip devices.....	124
10.8.4	Two-hand operating levers	124
10.9	Single actuating controls.....	124
10.9.1	General requirements for single actuating controls.....	124
10.9.2	Single control devices.....	126
10.9.3	Single trip devices.....	126
10.10	Hold-to-run control devices	127
10.11	Enabling devices	128
10.12	Emergency stop (E-stop) devices	129
10.12.1	General requirements for E-stop devices	129
10.12.2	Pushbutton-type E-stop devices.....	131
10.12.3	Rope or cable pull-type E-stop devices	131
10.12.4	Foot-operated E-stop devices.....	132
10.12.5	Rod-operated E-stop devices	133
10.12.6	Push-bar-operated E-stop devices	133
10.13	Slide locks	134
11	Administrative controls.....	134
11.1	General requirements for administrative controls	134
11.2	Awareness means.....	134
11.2.1	General requirements for awareness means	134
11.2.2	Awareness barriers.....	135
11.2.3	Awareness signals.....	135
11.2.4	Awareness (safety) signs.....	137
11.2.5	Awareness (safety) markings	137
11.3	Information for use (human and organizational)	137
11.3.1	Instruction manual (handbook)	137
11.3.2	Safe work procedures.....	138
11.3.3	Training.....	139
11.3.4	Inspection and maintenance.....	141
11.4	Administrative safeguarding methods.....	142
11.4.1	Safe-distance safeguarding method.....	142
11.4.2	Safe-holding safeguarding method.....	143
11.4.3	Other safeguarding methods	143
11.5	Supervision.....	143
11.5.1	Supervision of the workplace.....	144
11.5.2	Avoidance of unauthorized changes	144
11.5.3	Management of change	147
11.6	Control of hazardous energy.....	147
11.6.1	Lockout / tagout	147
11.6.2	Alternative methods.....	147
11.6.3	Restraint mechanisms	148
11.7	Tools.....	150
11.7.1	Workholding equipment.....	150
11.7.2	Hand tools.....	150

11.8 Personal Protective Equipment (PPE)	151
Annex A – Guidance to Understand the ANSI B11 Series of Standards & Technical Reports	152
Annex B – Hazard List for Risk Reduction Measures	153
Annex C – Performance of the Safety Function(s)	154
Annex D – Comparison of Physical Barriers	157
Annex E – Reaching Distance Considerations for Protective Structures	158
Annex F – Nip Guards.....	169
Annex G – Considerations for Transparent Guards.....	174
Annex H – Safety Distance Calculations for Engineering Controls – Devices.....	180
Annex I – Reaching Distance Considerations for Engineering Controls – Devices.....	186
Annex J – Measurement & calculation of system performance to achieve a safe condition	209
Annex K – Achieving a Safe Condition	212
Annex L – Safety Functions for Power Drive Systems	213
Annex M – Supplier Information for Time and Distance to Achieve a Safe Condition.....	223
Annex N – Awareness Means.....	224
Annex O – Risk Reduction Measures in Use.....	228
Annex P – Cross-Reference Mapping of ANSI B11.19: 2010 vs. 2019.....	236
Bibliography of Informatively Referenced International Documents	249

LIST of FIGURES

Figure 1 — Organization of the B11 Series of Documents	x
Figure 2 — Example of sensing field switching	74
Figure 3 — Example of sensing field switching of a light curtain to allow passage of material	74
Figure 4 — Example of sensing field switching of an area scanner to allow passage of material.....	75
Figure 5 — Determining effective detection capability of a light curtain.....	76
Figure 6 — Example of Whole body Access	84
Figure 7 — Example of pre-start warning system used for momentary jog control	93
Figure 8 — Example of a mechanical interlock	96
Figure 9 — Examples of interlock devices that control energy	97
Figure 10 — Example of trapped key transfer system	104
Figure 11 — Examples of two-hand actuating device design	122
Figure A.1 – Typical clause layout of ANSI B11 ‘base’ standards showing the various responsibilities..	152
Figure E.1 – Reaching over a protective structure	160
Figure E.2a – Protective structure location versus opening size for slotted openings	163
Figure E.2b – Protective structure location versus opening size for square openings.....	163
Figure E.2c – Protective structure location versus opening size for round openings.....	163
Figure E.3 – Reaching through a protective structure with openings of irregular shape.....	165
Figure E.4 – Prevention of whole body access through a protective structure.....	165
Figure E.5 – Reaching through a protective structure indirectly	166
Figure E.6 – Reaching under a protective structure	167
Figure E.7 – Consideration of all reaching factors for protective structures	168
Figure F.1 – Examples of in-running nip hazards	169
Figure F.2 – Examples of nip guards	169
Figure F.3 – Examples of protecting nip points from side entry.....	170
Figure F.4 – Locating hazard points of in-running nips.....	171
Figure F.5 – Minimum cylinder-to-guard angle (^a preferred, ^b acceptable).....	171
Figure F.6 – Nip guards that create wedge pockets	171
Figure F.7 – Nip guards that do not create wedge pockets.....	172
Figure F.8 – Nip guard clearance	172
Figure F.9 – Example determining guard distances and openings.....	173
Figure G.1 – Aging curve of unprotected polycarbonate (averaged test points)	175
Figure H.1 – Reaction time block diagram.....	182
Figure I.1 – Vertical application of a presence-sensing device	189
Figure I.2 – Horizontal application of a presence-sensing device	189
Figure I.3 – Reaching over a vertical presence-sensing device	190

Figure I.4 – Reaching over a vertical presence-sensing device with an additional protective structure ..	192
Figure I.5 – Reaching through a vertical sensing field with $d_e \leq 64$ mm (2.52")	193
Figure I.6 – Reaching distance when reaching through a vertical sensing field for PSDs	194
Figure I.7 – Reaching through a vertical sensing field with 64 mm $< d_e \leq 600$ mm $d_{dt} = 850$ mm	194
Figure I.8 – Reaching under a vertical presence-sensing device	195
Figure I.9 – Reaching under a vertical presence-sensing device with an additional protective structure	196
Figure I.10 – Consideration of all reaching factors for a vertical sensing field	197
Figure I.11 – Reaching over a horizontal presence-sensing device	198
Figure I.12 – Height of a horizontal sensing field	199
Figure I.13 – Allowable height of a horizontal sensing field, H_s	199
Figure I.14 – Minimum Depth of Sensing Field	200
Figure I.15 – Distance from end of horizontal sensing field to nearest obstruction	201
Figure I.16 – Safety distance for single beam devices $d_{ds} = 1200$ mm (47.74")	201
Figure I.17 - Safety distance for two-hand actuating controls (no shroud) $d_{ds} = 550$ mm (21.65")	202
Figure I.18 - Safety distance for hand-operated single actuating controls $d_{ds} = 2200$ mm (86.61")	202
Figure I.19 - Safety distance for foot-operated single actuating controls $d_{ds} = 2500$ mm (98.43")	203
Figure I.20 – Safety distance for radio frequency devices	203
Figure I.21 – Example of interlocked linear movable guard	204
Figure I.22 – Example of interlocked angular movable guard	205
Figure I.23 – Variables for determining opening (e) for a movable guard with a hinge switch	205
Figure I.24 – Diagram of force-travel relationship	208
Figure L.1 – Safe Torque Off (STO)	214
Figure L.2 – Safe Stop 1 Deceleration Controlled (SS1-d)	214
Figure L.3 – Safe Stop 1 Ramp Monitored (SS1-r)	215
Figure L.4 – Safe Stop 2 Deceleration Controlled (SS2-d)	215
Figure L.5 – Safe Stop 2 Ramp Monitored (SS2-r)	215
Figure L.6 – Safe Operating Stop (SOS)	216
Figure L.7 – Safely-Limited Acceleration (SLA)	216
Figure L.8 – Safe Acceleration Range (SAR)	218
Figure L.9 – Safely-Limited Speed (SLS)	218
Figure L.10 – Safely Speed Range (SSR)	218
Figure L.11 – Safely-Limited Position (SLP)	219
Figure L.12 – Safely-Limited Increment (SLI)	219
Figure L.13 – Safe Direction (SDi)	220
Figure L.14 – Safe Cam (SCa)	220
Figure L.15 – Safe Speed Monitor (SSM)	221
Figure L.16 – Safe Maximum Speed (SMS)	221
Figure L.17 – Safe Braking and Holding System (SBS)	221
Figure L.18 – Safe Door Locking (SDL)	222
Figure N.1 — Selection Criteria for Signal Word	225

LIST of TABLES

Table 1 — Values for Minimum Gaps to Avoid Crushing of Parts of the Human Body	35
Table 2 — Comparison of stop, emergency stop, and protective stops	57
Table 3 — Comparison of initiation warning systems defined in 9.11.8	92
Table 4 — Types of Actuation of Interlock Devices (Informative)	98
Table 5 — Examples of changes which could increase risk	145
Table 6 — Examples of means to prevent unauthorized changes	146
Table E.1 – Variable key for reaching factors associated with protective structures	159
Table E.2 – Horizontal reaching distance when accessing over a protective structure	161
Table E.3 – Reaching through regular openings in a protective structure	162
Table E.4 – Reaching through (around) a protective structure with limitation of movement	164
Table E.5 – Horizontal reaching distance when accessing under a protective structure	168
Table H.1 – Safety distance equation for engineering controls – devices	180
Table H.2 – Variable key for determining safety distance for engineering controls – devices	181

Table I.1 – Variable key for reaching factors associated with engineering controls – devices	188
Table I.2 – Classification of optical presence-sensing devices used in vertical orientation	190
Table I.3 – Horizontal reaching distance when accessing over a sensing field	191
Table I.4 – Horizontal reaching distance when accessing under a vertical sensing field.....	196
Table I.5 – Sample calculation of b for typical hinge switch actuating angles (α)	206
Table J.1 – Measured stopping times	210
Table J.2 – Comparison of stopping time values	211
Table N.1 – Selection Guidance for Awareness (Safety) Signs.....	224
Table N.2 – Preferred Colors for Indicator Lights and Icons	226
Table N.3 – Alternate Colors for Indicator Lights and Icons.....	226
Table N.4 – Example Selection Guidance for Awareness (Safety) Markings	227
Table O.1 – List of Risk Reduction Measure Reference Standards	228

Foreword

(This Foreword is not part of the requirements of American National Standard B11.19-2019)

General

The primary objective of this standard is to establish the requirements for the design, construction, installation, operation and maintenance of the risk reduction measures used to eliminate or control hazards to individuals associated with machines. This standard relies on other standards to determine which risk reduction measure(s) is required or allowed to control identified hazards / hazardous situations and is intended to be used in conjunction with the ANSI B11.0 standard on general safety requirements and risk assessments of machines, and any relevant ANSI B11 “base” standard for a given machine. To accomplish this objective, this standard has established responsibilities for the supplier (e.g., manufacturer, rebuilder, installer, integrator, and modifier), the user, and individuals in the working environment. The overall goal is to achieve acceptable risk in the work practices and work environment.

Application

Other industry sectors may benefit from applying this standard. Where a machine-specific “base” (type-C) safety standard exists, ANSI B11.19 may be constructively used to supplement that standard.

The words “safe” and “safety” are not absolutes. Safety begins with good design. While the goal of this standard is to eliminate injuries, this standard recognizes that risk factors cannot practically be 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 factors that affect safety and that must be considered by the user.

Throughout its history, ANSI B11.19 has not provided the requirements for the selection of the risk reduction measures, but only the implementation of the risk reduction measure once chosen. No hierarchical order, no level of risk reduction, or any relationship between risk reduction measure options are implied within this standard.

Effective Date

The following information on effective dates 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 and machinery systems within 30 months of the approval date of this standard.

The B11.19 Subcommittee recommends that users evaluate whether existing machinery and machinery systems have acceptable risk within 30 months of the approval date of this standard using generally recognized risk assessment methods. If the risk assessment shows that modification(s) is necessary, refer to the requirements of this standard or the machine-specific “base” safety standard to implement risk reduction measures (protective measures) for appropriate risk reduction.

Alignment

The requirements of this standard have been harmonized with similar requirements in several international (ISO and IEC) and European (EN) standards. Harmonization means that the requirements have been aligned in essence to achieve a similar level of risk reduction. Harmonization does not necessarily mean duplication of exact requirements.

ANSI B11.19 implements a standardization philosophy that differs significantly from that often found in some ISO, IEC, and EN standards. ISO, IEC, and EN standards tend towards individual documents for each type of risk reduction measure (e.g., light curtains, emergency stop controls, prevention of unexpected start-up, etc.). ANSI B11.19 has historically combined the various requirements into this single standard, thereby allowing readers to understand and compare the requirements for different approaches to reducing risk.