ANSI 01.1-3 (2014)



Safety Requirements for CNC Machining Centers for the Woodworking Industry

Secretariat
Wood Machinery Manufacturers of America

(WMMA)

Approved on May 16, 2014

American National Standards Institute, Inc.

This is a preview. Click here to purchase the full publication.

American National Standard O1.1-3 (2014) Safety Requirements for CNC Machining Centers for the Woodworking Industry

Table of Contents

1.	. Scope, purpose and application	3
	1.1 Scope	3 3
	1.2 Additional requirements	3
	1.3 Application	3
2.	. Definitions	4
3.	. References	10
	3.1 Normative References	10
4.	. Standards for Designs	11
	4.1 Brakes and locking devices4.2 Motion Hazards	11
	4.3 Counterbalance systems4.4 Cutting tool holding, clamping and retention	
	4.5 Controls	
	4.6 Dust collection	
	4.7 Electrical systems4.8 External power sources	
	4.9 Hydraulic and pneumatic systems	
	4.10 Indicators	
	4.11 Machine anchoring	
	4.12 Manually operated control devices	
	4.13 Modes of operation	
	4.14 Noise	
	4.15 Operator control stations	
	4.16 Safe guarding4.17 Spindle braking	
	4.18 Stop and emergency stop	
	4.19 Stored energy	
	4.20 Structural integrity	
	4 21 Thermal hazard	

AMERICAN NATIONAL STANDARDS 4 22 Work piece support

ANSI O1.1-3 (2014)

	4.22	2 Work piece support	26
5.	R	esponsibilities	26
	5.1 5.2 5.3	Supplier Employer Employee.	26
6.	Н	azard control	28
7.	Lay	out, installation, testing and start-up	28
		GeneralLayout and installationTesting and start-up	28
8.	Saf	e guarding	30
	8.1 8.2 8.3 8.4 8.5 8.6	Guards Safe guarding devices Awareness barriers Safe guarding against specific hazards Safe work procedures Performance of safety related functions.	32 33 33
9.	S	et-up, operation and maintenance	36
	9.1 9.2 9.3 9.4 9.5 9.6	Machine set-up Safe guarding Maintenance Personal protection equipment Training Supervision	36 38 39 40
	9.6 9.7	Initiation of normal operation	

Forward (This forward is not part of American National Standard O1.1-3 (2014).)

Historical Perspective

The revision of the original Safety Code for Woodworking Machinery was approved in 1944. The Standards Committee was reorganized in 1952, and the scope of the standard was changed. A comprehensive revision of the section on cooperage machinery was completed and a new section dealing with radial-type saws was included. The resulting standard was issued in 1954 and reaffirmed in 1961. In 1969 the Standards Committee was again called and revised the 1954 (R1961) standard. The 1971 revision corrected and clarified several issues related to guarding and incorporated as a section of the standard an important head note in Section 6.1 of earlier versions of this standard.

The standard was again revised and issued in 1975. In 1979 an amendment was made to the 1975 edition. Subsequent updates were published in 1992, 2002, 2004, 2009 and 2013.

Prior to the 2004 edition, the committee adopted a resolution regarding the US Occupational Safety and Health Administration (OSHA). The resolution remains in agreement with this edition and is therefore reproduced here:

Resolved: As the standards developed by this committee are relevant to the health and safety of workers in the wood working industry, and as this committee is charged with developing such standards and recognized for its expertise in wood working industry safety and machinery, it is the intent and expectation of this committee that newly published versions of standards developed by this committee be adopted by the US Department of Labor as regulations under the United States Occupational Safety and Health Act.

The 2004 edition marked the beginning of a new process for the standard. Hereafter, the O1.1 standard will remain relatively static and new standards will be developed for specific machine within the scope of the O1.1 standard. Thus the O1.1 standard is considered an "umbrella" under which subsequent standards are developed. As a continuation of that process, the first edition of ANSI O1.1-1, *Safety Requirements for Fixed Angle Jump Saws*, was published in 2010, and the first edition of ANSI O1.1-3, *Safety Requirements for CNC Machining Centers for the Woodworking Industry*, was developed and published in 2014.

Suggestions for improvement of this standard are welcome. They should be sent to the Wood Machinery Manufacturers of America, 2105 Laurel Bush Road, Suite 201, Bel Air, MD 21015; jennifer@wmma.org.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee O1. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the ASC O1 had the following members:

Jack Hyde, Chairman System Safety Society

Mary Bauer

Mark Craig

Michael L. Gililland

Greg Gramp (Alternate)

Occupational Safety and Health Administration

Woodworking Machinery Industry Association

Wood Machinery Manufacturers of America

Kitchen Cabinet Manufacturers Association

Brad Graves Accu-Router, Inc.

Neal Growney (Alternate) American Society of Safety Engineers
Dave Hanson Safety Speed Cut Manufacturing

Jim Harris National Institute for Occupational Safety & Health

Drew Hornick Power Tool Institute
Jim Laster Newman Whitney
Chuck LeRoux Andersen Corp.
Tom Onsrud C.R. Onsrud
Richard Otterbein Member At Large

Bill Perdue American Home Furnishings Alliance

George Pfreundschuh (Alternate)
Tom Pilchowski
Tom Siwek
John Stimitz

Member At Large
Member At Large
Power Tool Institute
Underwriters Laboratories

Richard Titus (Alternate)

Al Weaver

Carl Webb

Kitchen Cabinet Manufacturers Association

American Society of Safety Engineers

Kitchen Cabinet Manufacturers Association

American National Standard O1.1-3 (2014) Safety Requirements for CNC Machining Centers

STANDARD REQUIREMENT	EXPLANATORY INFORMATION These notes are not a mandatory part of this standard.
1 Scope, purpose and application	
1.1 Scope	E1.1 Scope
This standard covers the safety requirements for the design, installation, care, and use of CNC Machining Centers, used in industrial and commercial applications, having a total connected power of 5 hp (3.7 KW) or greater, or having a 3-phase wiring.	There are many machines referred to as CNC Machines, and for each there may be more than one application. For the purpose of this standard, the definitions of CNC Machining Centers is that given below in 2.1.
1.1.1 Machine types excluded	
This standard is not intended to cover manual, copying/tracer, swing-head or CNC lathes. Machinery covered by other American National Standards are excluded from this standard.	
1.2 Additional requirements	
This machine specific standard is intended to be used in conjunction with ANSI O1.1 Woodworking Machinery Safety Requirements Standard. Where a conflict between this machine specific standard and the ANSI O1.1 standard exist, this machine specific standard takes precedence.	
1.3 Application	