

ANSI/SPI B151.1-2007

American National Standard

*for Plastics Machinery –
Horizontal Injection
Molding Machines –
Safety Requirements
for Manufacture, Care, and Use*



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ANSI/SPI B151.1-2007

(Revision of
ANSI/SPI B151.1-1997)

American National Standard
for Plastics Machinery –

Horizontal Injection Molding Machines –
Safety Requirements for
Manufacture, Care, and Use

Sponsor

The Society of the Plastics Industry, Inc.

Approved February 6, 2007

American National Standards Institute, Inc.

American National Standard

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Foreword (This foreword is not part of American National Standard ANSI/SPI B151.1-2007.)

This standard is a revision of American National Standard Safety Requirements for the Manufacture, Care, and Use of Horizontal Injection Molding Machines, ANSI/SPI B151.1-1997. The standard was revised because:

- (1) Some paragraphs required modification for clarity and intent.
- (2) Additional details on electrical requirements were added.
- (3) Additional explanatory material and illustrations were added.
- (4) Additional definitions were required.
- (5) Some paragraphs required modification and some paragraphs were added to conform more closely to changes in technology.

The project on safety requirements for the manufacture, care, and use of horizontal injection molding machines was initiated under the auspices of the Injection Molding Section of the Machinery Division, and the Safety Committee of the Molders Division of the Society of the Plastics Industry, Inc. (SPI).

Both divisions of the SPI have long been concerned with operator safety on plastics processing equipment. Accordingly, each section of the divisions has established a standards development committee charged with the task of establishing necessary standards.

A standard treating the manufacture, care, and use of horizontal injection molding machines is complicated by the wide variety and sizes of machines manufactured and in use, the virtually infinite combinations of parts being produced, the production methods used, and the operating conditions existing in industry today.

The primary objective of this standard is to minimize hazards to personnel associated with machine activity by establishing requirements for the manufacture, care, and use of these machines.

To accomplish this objective, the committee decided to approach the problem of machine safety as follows:

The committee developed a list of hazards typical of HIMMs and listed these in clause 6 of this standard. For each hazard identified within the scope of the standard, the committee assessed the potential severity of injury related to the hazard, the frequency of exposure to the hazard, and possible avoidance. This process involved discussion among the committee, and resulted in the recommended preventive control measure included in clauses 7 through 11 inclusive and additional Annex reference material. Compliance with this standard is considered to adequately control hazards identified in clause 6. Other hazards not listed in clause 6 that can occur with HIMMs may require additional preventive controls not included in this standard.

To assist in the interpretation of these requirements, responsibilities have been assigned to the manufacturer, the remanufacturer, the modifier, and the employer.

Since no new requirements have been added to this standard for existing machines, clauses 9 and 11 are effective on the approval date of this standard.

Recognizing the impossibility of immediate updating of design and manufacturing methods, clauses 7, 8, and 11 shall become effective one year after the approval date of this standard.

Suggestions for improvement of this standard will be welcome. They should be sent to the Society of the Plastics Industry, Inc, 1667 K Street, NW, Washington, DC 20006

Consensus for this standard was achieved by use of the Canvass Method.

The following organizations recognized as having an interest in the standardization of horizontal injection molding machines were contacted prior to the approval of this standard. Inclusion in this list does not necessarily imply that the organization concurred with the submittal of the proposed standard to ANSI.

Aerospace Industries Association
ALCONA
Alliance of American Insurers
American Insurance Services Group
Industrial Safety Equipment Association
National Institute of Standards and Technology
Packaging Machinery Manufacturers
Robotic Industries Association
Rubber Manufacturers
Society of the Plastics Industry, Machinery Manufacturers Division
Society of the Plastics Industry, Molders Division

The Injection Molding Section, Standards Development Committee of the Machinery Division, and the Safety Committee of the Molders Division of The Society of the Plastics Industry, Inc, which was responsible for this standard, had the following members:

G. Atkinson, Chairman
(Husky Corporation)

W. Bishop, Secretariat to the Committee
(Executive Director, Machinery Division of the Society of the Plastics Industry)

J. Adamowicz
(Arburg, Inc.)

P. Berry
(Ube Machinery)

J. Ewing
(Boy Machines)

S. Glover
(Crucible Service Centers)

J. Hicks
(Sumitomo/SHI Plastics Machinery)

C. Irick
(EPCO Machinery)

D. Meckler
(Bosch Rexroth)

L. Mills
(Demag Plastics Group)

R. Monteith
(Milacron, Inc.)

F. Pierson
(Toshiba Machine Company)

S. Rickard
(Visteon Corporation)

- J. Rexford
(Taylor Industrial Services, HPM Division)
- D. Ross
(Netstal Machinery, Inc.)
- D. Sten
(Safety Consultant)
- E. Wolfgang
(Engel Machinery, Inc.)

Explanation of Standard Format

American National Standard ANSI/SPI B151.1-2006 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

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 illustrations are required, they are designated as "illustrations."

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.

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AMERICAN NATIONAL STANDARD

ANSI/SPI B151.1-2007

American National Standard
for Plastics Machinery –

Horizontal Injection Molding Machines – Safety Requirements for Manufacture, Care, and Use

STANDARD REQUIREMENTS

1. Scope, Purpose, and Application

1.1 Scope

The requirements of this standard shall apply to all HIMMs that process plastic materials and inject said material into a mold or molds held closed by a horizontally acting clamp.

Safety requirements for the manufacture, care, and use of ancillary equipment or molds for HIMMs are not covered by this standard.

1.2 Purpose

The purpose of this standard is to identify and address known hazards to personnel working on, or adjacent to, a HIMM.

1.3 Application

1.3.1 New HIMMs

The requirements in clauses 7, 8, and 11 of this standard shall apply to all new HIMMs, installed in the United States of America, that were

EXPLANATORY INFORMATION

(Not part of *American National Standard for Plastics machinery – Horizontal injection molding machines – Safety requirements for manufacture, care and use*, ANSI/SPI B151.1-2007)

E1.3 Application

Inquiries with respect to the application of, or substantive requirements of, this standard should be addressed to the Society of the Plastics Industry, Inc, 1667 K Street, NW, Washington, DC 20006.

E1.3.1 New HIMMs

Date of manufacture is understood to be the date the HIMM was complete and available for delivery to the employer.