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ANSI B152.2-1982 ◀

American National Standards Institute

*Safety Requirements for the Construction,
Care, and Use of Permanent-Mold
Casting Machines (Other Than Gray Iron)*

 **ANSI** American National Standards Institute
11 West 42nd Street
New York, New York
10036

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american national standards institute, inc.
1430 broadway, new york, new york 10018

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**American National Standard
Safety Requirements for the
Construction, Care, and Use
of Permanent-Mold Casting Machines
(Other Than Gray Iron)**

Secretariat
Aluminum Association, Inc

Approved September 11, 1981
American National Standards Institute, Inc

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The primary objective of this standard is to address the risk of injuries to personnel associated with permanent-mold casting machines, other than for gray iron casting, by establishing guidelines for the construction, care, and use of such machines. The standard applies to mechanically, hydraulically, pneumatically, and electrically operated machines in which molten metal is introduced into a reusable mold by the action of gravity or low pressure. Die casting, sand casting, and related processes utilizing a single-use mold, as well as the casting of gray iron, are not covered by this standard.

To accomplish this objective, the Aluminum Association's Jobbing Foundry Division formed an ad hoc committee to develop safety guidelines with respect to the construction, care, and use of permanent-mold casting machines. The committee drafted a proposed standard which was processed under ANSI's canvass method for obtaining evidence of consensus on American National Standards.

This standard assigns responsibilities to the manufacturer, the rebuilder, the modifier, the employer, and the employee.

Suggestions for improvement of this standard will be welcome. They should be sent to the American National Standards Institute, Inc. 1430 Broadway, New York, N.Y. 10018, or to the Aluminum Association, Inc. 818 Connecticut Avenue, Washington, D.C. 20006.

The following organizations recognized as having an interest in the standardization of safety requirements for permanent-mold casting or safety practices in general, or both, 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.

American Foundrymen's Society
American Insurance Association
American Society of Mechanical Engineers
American Society for Metals
Die Casting Research Foundation
Eaton Corporation
Fluid Power Society
Forest City Foundries Company
Foundry Equipment Manufacturers' Association
International Molders and Allied Workers Union
Investment Casting Institute
Iron Castings Society
Marketdyne Insurance Association
Motor Vehicle Manufacturers' Association
National Association of Casualty & Surety Executives
National Foundry Association
National Safety Council
Non-Ferrous Founders Society
Occupational Safety and Health Administration
Progress Foundries
Regal Ware, Inc
Steel Founders Society of America
United Auto Workers of America
United Steelworkers of America

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Safety Requirements for the Construction, Care, and Use of Permanent-Mold Casting Machines (Other Than Gray Iron)

1. Scope, Purpose, and Application

1.1 Scope. The requirements of this standard apply to mechanically, hydraulically, pneumatically, and electrically operated machines, commonly referred to as permanent-mold casting machines, in which molten metal is introduced by the action of gravity or low pressure into a reusable mold attached to movable elements of the machines.

1.2 Purpose. The purpose of this standard is to establish safety requirements with respect to the construction, care, and use of permanent-mold casting machines.

1.3 Application

1.3.1 New Installations. The requirements of Sections 4 and 5 pertaining to the construction of machines and molds, respectively, shall apply to all permanent-mold casting machines manufactured for installation or installed in the United States subsequent to July 15, 1982, the publication date of this standard.

1.3.2 Former Installations. Within three years after July 15, 1982, all permanent-mold casting machines installed prior to the above date shall be modified by the employer to the extent required to bring them into conformity with the requirements of Sections 4 and 5.

1.3.3 All Installations. The requirements of Sections 6 and 7 pertaining to the care and use of permanent-mold casting machines shall apply to all permanent-mold casting operations subsequent to July 15, 1982.

2. Related Standards

This standard is intended to be used in conjunction with the following American National Standards.

American National Standard Safety Standard for Mechanical Power Transmission Apparatus, ANSI B15.1-1972

American National Standard Practice for Occupational and Educational Eye and Face Protection, ANSI Z87.1-1979

American National Standard Safety Requirements for Sand Preparation, Molding and Coremaking in the Sand Foundry Industry, ANSI Z241.1-1981

American National Standard National Electrical Code, ANSI/NFPA 70-1981

3. Definitions

automatic cycle. A cycle in which each function of the machine is automatically performed in sequence up to removing the casting and restaging the machine.

fully automatic cycle. A cycle in which each function of the machine, from pouring through casting removal and restaging of the machine, is automatically performed in sequence.

casting retriever. A manual or powered mechanism for removing castings from the mold cavity or point of operation.

employer. Any person who contracts, hires, or is responsible for the personnel associated with permanent-mold casting machines.

feed tube. A tube with one end submerged in the metal and the other attached to the bottom of the mold and through which metal is introduced into the cavity.

guard. A barrier that deters the entry of any portion of a person's body into the moving parts of the machine

holding furnace. A furnace that has self-contained heating elements and that maintains a reservoir of molten metal at the casting machine.