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Revision of BHMA A156.23-2004

AMERICAN NATIONAL STANDARD

FOR

ELECTROMAGNETIC LOCKS

BHMA
builders hardware manufacturers association

SPONSOR

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION, INC.

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AMERICAN NATIONAL STANDARD

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FOREWORD (This Foreword is not a part of ANSI/BHMA A156.23)

The general classification of builders hardware includes a wide variety of items which are divided into several categories. To recognize this diversity, a sectional classification system has been established. Electromagnetic locks is one such section and this Standard is the result of the collective efforts of members of the Builders Hardware Manufacturers Association, Inc. who manufacture these products. The total product standards effort is therefore, a collection of sections, each covering a specific category of items.

Strength, cycle, operational tests and where it has been necessary, material and dimensional requirements have been established to insure safety and stability to which the public is entitled. There are no restrictions on design except for those dimensional requirements imposed for the reasons given above.

This Standard is not intended to obstruct but rather to encourage the development of improved products, methods and materials. The BHMA recognizes that errors will be found, items will become obsolete, and new products and methods will be developed. With this in mind the Association plans to update, correct and revise these Standards on a regular basis. It shall also be the responsibility of manufacturers to request such appropriate revisions.

The BHMA numbers which indicate functions of electromagnetic locks do not identify size or design and are not intended to be used without necessary supplementary information. Individual manufacturer's catalogs should be consulted.

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1. SCOPE

1.1 This Standard establishes requirements for electromagnetic locks and includes cyclical, dynamic, operational, strength and finish tests. This product is used for access control.

1.2 Tests described in this Standard are performed under laboratory conditions. In actual usage, results vary because of installation, maintenance, and environmental conditions.

2. DEFINITIONS

2.1 **Electromagnetic Lock**. An electrically powered lock. It locks or unlocks a door by the activation or deactivation of an electromagnet coupled to an armature.

2.1.1 **Direct Pull** The mounting arrangement of an electromagnetic door lock whereby an opening force applied to the face of the door is directly opposed by the attraction of the magnet and armature along an axis perpendicular to the face of the door, which is obtained when the contact plane between magnet and armature is parallel to the door face.

2.1.2 **Shear Lock** The mounting arrangement of an electromagnetic door lock whereby the attraction between electromagnet and armature moves one or the other (usually the smaller armature) not only into contact with each other but also into a position of mechanical restraint by a third member which prevents sliding separation (shear) of the magnet and armature along their contact plane. To unlock, the moving member is then retracted into its original resting position by mechanical, magnetic, gravitational, or other force.

2.2 **Armature** A plate attracted by the energized electromagnet component of the lock and when in contact with the magnet, resistant to being separated from the magnet. Also called a strike.

2.3 **Indoor-Only** Electromagnetic locks which are not suitable for continuous exposure to an outdoor environment.

2.4 **Rated Voltage** The voltage in which the electromagnetic lock is to be used and the same voltage in which the electromagnetic lock is tested under section 5.1 Strength Test.