ANSI/BHMA A156.27-2011 Revision of ANSI/BHMA A156.27-2003

# AMERICAN NATIONAL STANDARD FOR POWER AND MANUAL OPERATED REVOLVING PEDESTRIAN DOORS



## SPONSOR

## **BUILDERS HARDWARE MANUFACTURERS ASSOCIATION, INC.**

American Standards Institute Approved June 20, 2011



### AMERICAN NATIONAL STANDARD

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to this standard. American National Standards are subject to periodic review and users are cautioned to obtain the latest editions.

CAUTION NOTICE: This American National Standard is permitted to be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of publication. Purchasers of American National Standards receive current information on all standards by calling or writing the American National Standards Institute.

Published by BUILDERS HARDWARE MANUFACTURERS ASSOCIATION, INC. 355 Lexington Avenue New York, New York 10017

> Copyright © 2011 by the Builders Hardware Manufacturers Association, Inc. <u>www.buildershardware.com</u>

Not to be reproduced without specific authorization from BHMA

Printed in the USA

### FOREWORD (This Foreword is not a part of ANSI/BHMA A156.27)

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. Section P, Power Doors and Components is one such section and this Standard is a result of the collective efforts of members of the Builders Hardware Manufacturers Association, Inc. who manufacture this product. The total Product Standards effort is, therefore, a collection of sections, each covering a specific category of items.

Performance tests and, where necessary, dimensional requirements have been established to ensure a degree of safety. There are no restrictions on design except for those dimensional requirements imposed for reasons of safety.

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, methods and materials 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.

## TABLE of CONTENTS

1.	SCOPE	.5
2.	DEFINITIONS	5
3.	GENERAL	.7
4.	MANUAL REVOLVING DOORS	.8
5.	AUTOMATIC REVOLVING DOORS WITH A CENTER SHAFT	.8
6.	AUTOMATIC REVOLVING DOORS WITH A CORE1	0
7.	AUTOMATIC TWO WING REVOLVING DOORS1	1
8.	ACCESS CONTROLLED REVOLVING DOORS1	2
9.	ACCESS CONTROLLED REVOLVING DOORS WITH ONE WAY FREE PASSAGE1	2
10.	REVOLVING DOOR EGRESS REQUIREMENTS1	3
11.	SIGNAGE1	4
12.	GLAZING1	4
13.	CLEARANCES1	5
14.	OBSTRUCTION FORCE1	5
15.	SLOW SPEED OPERATION AND ACTIVATION1	5
16.	WING SENSORS1	5
17.	END WALL AND BOTTOM RAIL GUARD SENSORS1	6
18.	KINETIC ENERGY REQUIREMENTS1	6
19.	DOOR OUT OF POSITION1	6
20.	EMERGENCY STOP SWITCH1	6
21.	ACTIVATING DEVICES1	6

#### 1. **SCOPE**

Requirements in this standard apply to power operated revolving type doors which rotate 1.1 automatically when approached by pedestrians, some small vehicular use, and manual revolving type doors for pedestrians. Included are provisions to reduce the chance of user injury and entrapment. Revolving doors for industrial or trained traffic are not covered in this Standard.

1.2 Where this standard contains specifications relating to maximum and minimum dimensions of various components of revolving doors for pedestrian use and some small vehicular traffic, such dimensions are included to provide user protection for what are in the industry, standard application conditions. This standard does not attempt to assess any factors that exist with respect to custom installations.

1.3 Enclosure sizes shown in the charts shown are considered by the industry to be standard and practical to meet the majority of the market needs and are shown as a guide and convenience to owners and architects that are selecting a revolving door and as a convenience to installers and service persons adjusting the door and owners making periodic inspection. Deviation from enclosure sizes shown does not constitute non-compliance if the door complies with all requirements in the standard.

#### 2. **DEFINITIONS**

2.1 Active Area An area where sensors detect presence or motion.

2.2 Automatic Door Operator A power operated mechanism that is attached to a revolving door for the purpose of mechanically opening a door upon the receipt of an activating signal. (Also called a power door operator.)

2.3 Automatic Home Positioning Manual revolving doors with automatic home positioning are small diameter 3 or 4 wing revolving doors that utilize a Low Energy operator or mechanism to return the doors to the Home position once a person exit the door and the door stops rotating.

2.4 Automatic Door Speed The rate at which an automatic revolving door rotates measured in revolutions per minute (RPM). Three classifications are used:

**Standard Speed** The maximum allowable RPM for a revolving door.

**Slow Speed** One half of standard speed.

Low Energy Speed Door speed resulting in a maximum of 2.5 lbf.-ft. (3.4Nm) of kinetic

energy.

2.5 **Bookfold Position** When each wing has been released from its fixed position permitting wings to pivot in the direction of egress.

2.6 **Bottom Rail** The lower horizontal member of the door wing.

2.7 Break Out A process whereby wings and/or door panels can be pushed open manually for emergency egress.

2.8 Canopy The area above the wings and enclosure comprised of a ceiling (soffit), fascia, and roof (optional).

2.9 Center Shaft The rotating center, 12 in. (305 mm) or less in diameter, of revolving doors to which the wings are attached.