

ICC-ES Evaluation Report

ESR-1751

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DIVISION: 08 00 00—OPENINGS
Section: 08 42 29—Automatic Entrances**REPORT HOLDER:****STANLEY ACCESS TECHNOLOGIES**
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www.stanleyaccesstechnologies.com**EVALUATION SUBJECT:****DURA-GLIDE 2000, 3000 AND 5000 SERIES DOORS;
DURA-GLIDE MODELS WITH ACCESS CONTROL
2000AC, 3000AC, 5200AC AND 5300AC; MAGIC-SWING,
MAGIC-ACCESS AND MAGIC-FORCE OPERATORS;
AND MAGIC-SWING AND MAGIC-FORCE BI-FOLD DOOR
SYSTEMS****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2009 *International Building Code*® (IBC)
- BOCA® *National Building Code*/1999 (BNBC)
- 1997 *Uniform Building Code*™ (UBC)

Property evaluated:

Operational characteristics

2.0 USES

The Dura-Glide series automatic sliding doors, the Magic-Swing series bi-fold doors and the Magic-Force series bi-fold power-operated doors and the Magic-Swing, Magic-Access and Magic-Force operators comply with IBC Section 1008.1.4.2, BNBC Section 1017.4.3 and UBC Section 1003.3.1.2 and are permitted for use as means of egress components as an alternative to doors arranged to swing in the direction of egress.

3.0 DESCRIPTION**3.1 Automatic Sliding Doors:**

3.1.1 Dura-Glide 3000 Series: The automatic sliding doors consist of single or bi-parting assemblies. The individual door leaves slide behind swinging sidelights when the mechanism is activated by an electronic carpet or other automatic means. The door is capable of being operated from one side only or from both sides of the door, depending upon the installation.

The single assemblies are available with door widths of 36 through 48 inches (914 through 1219 mm), and a nominal opening height of 6 feet 11 inches (2108 mm). The bi-parting assemblies are available with door widths of 48 through 72 inches (1219 through 1829 mm), and a nominal opening height of 6 feet 11 inches (2108 mm). The swinging sidelights are the same widths as the respective sliding door leaf, but overlap the door width approximately 2 inches (51 mm). The sidelights are equipped with a standard door-holding mechanism which does not impede the breakaway operation. Sidelights are maintained in the closed position by a spring-loaded ball detent during normal door operation.

The doors and sidelights are constructed of 6063-T5 or -T6 aluminum extrusion complying with ASTM B 221. Each sliding door leaf is suspended from a sliding hanger assembly which consists of a ball-bearing roller mounted on a continuous aluminum header track for the full width of the door assembly. An operator belt connects the single door, or both leaves of the bi-parting door, directly to the door operator.

Each door leaf is suspended at its pivot stile by an adjustable cantilever support and pivot assembly which allows the leaf to swing outward for emergency egress. A corrosion-resistant ball detent holds the leaf in normal position, releasing when pressure is applied during emergency operation. A metal threshold-door guide in the swinging sidelight area accommodates a spring-loaded guide in the base of the sliding leaf.

Under emergency exiting conditions, the sliding leaf may be swung outward at any point in its travel by a force of less than 20 pounds (89 N) applied at the mid-height of its leading edge. The assembly is equipped with an adjustable mechanism that permits field adjustment of the operating force to a maximum of 40 pounds (178 N). Upon rotation, the sliding leaf contacts the swinging sidelight stile and forces it to open, providing the necessary rotational clearance irrespective of the position of the sliding door. The sliding door leaf is capable of being rotated outwardly a full 90 degrees. When the sliding leaf is in the fully closed position, a pair of security tabs located on the heel of the sliding leaf automatically lock the swinging leaf. Under emergency exiting conditions, as the sliding leaf rotates, the security tabs also rotate to permit the swinging leaf to move, providing the necessary rotational clearance. The pushing-out motion of any leaf or sidelight interrupts the power to the operator by means of special electrical switches, permitting a safe egress. The doors are capable of having the swinging sidelights opened, with the sliding

leaves swung open and pushed to the sides of the opening, providing approximately double the normal entrance opening. On doors with swinging sidelights, the entire distance between the sliding leaf(s) in the swung-open-and-pushed-to-the-sides-of-the-opening position is the egress width.

The operating mechanism is all electric. The safety actuating mechanism is connected to a low-voltage electrical system, set to instantaneously recycle to a full open position from any point in the closing cycle.

3.1.2 Dura-Glide 2000 Series: The automatic sliding doors are similar to the Dura-Glide 3000 Series doors except that the slide/swing door slides on the breakout side of the side panels. The change in construction allows the side panels to be fixed while allowing the slide/swing door to break away at any point in its sliding cycle.

3.1.3 Dura-Glide 5000 Series: The automatic sliding doors are telescoping versions of the 2000 and 3000 series. There is an extra sliding panel, for a total of three panels (including sidelight) for a single or six panels for bi-parting assemblies. The clear opening width complies with Exception 3 of IBC Section 1008.1.4.2 and Section 10.104.3 of UBC Standard 10-1.

3.1.4 Dura-Glide 2000AC, 3000AC, 5200AC and 5300AC: The automatic sliding doors with access control are the same models as Dura-Glide 2000, 3000 and 5000, respectively, except they include a push bar and panic hardware. Models 2000AC and 5200AC employ a recessed push bar. Models 3000AC and 5300AC are available with flush or recessed push bars. The push bar and panic hardware comply with IBC Section 1008.1.10, BNBC 1017.4.2 and UBC Standard 10-4.

3.2 Automatic Swing Door Operator:

3.2.1 Magic-Swing: The Magic-Swing operator is an electromechanical swing door operator designed to operate a pedestrian swing door. The system consists of the electromechanical operator with a microprocessor control enclosed in an aluminum header along with additional connecting hardware and actuating controls. The operator uses a fractional horsepower, direct-current motor through reduction gears and the appropriate linkage to open the door. The drive train has a positive, constant engagement. The door operator control box stops the door in the full open position by electrically reducing the motor voltage and stalling against an adjustable 90-degree stop. The operator then closes the door with spring energy. Closing speed is controlled by using the motor as a dynamic brake. The closing spring is a helical compression spring, preloaded for positive closing action. The door will close with or without power.

The operator can be used on swinging doors requiring a maximum of 75 lbf-ft (101.7 N-m) of torque to open.

3.2.2 Magic-Access: The Magic-Access operator is an electromechanical swing door operator designed to operate a pedestrian swing door. The operator and control box are installed in a header above the door and the entire operator is removable from the header as a unit. The door is powered open by a fractional horsepower direct-current motor through reduction gears, splined spindle, door arm and linkage assembly. The door operator control box stops the door in the open position by electrically reducing the motor voltage and stalling against a 90-degree stop. The operator closes the door by spring energy. Closing speed is controlled by employing the motor as a dynamic brake. The closing spring is preloaded for positive closing action. The door will close with or without power.

The operator can be used on swinging doors weighing a maximum of 125 pounds (56.7 kg).

3.2.3 Magic-Force: The Magic-Force operator is an electromechanical swing door operator designed to operate a pedestrian swing door. The system consists of the operator with a microprocessor control enclosed in an aluminum header along with additional connecting hardware and actuating controls. The operator uses a fractional horsepower, direct-current motor through reduction gears, and a linkage, to open the door. The drive train has positive, constant engagement. The door operator control box stops the door in the full open position by electrically reducing the motor voltage and stalling against an adjustable 90-degree stop. The operator then closes the door with spring energy from either the open or the breakout position. Closing speed is controlled by using the motor as a dynamic brake. The closing spring is a helical compression spring, preloaded for positive closing action and adjustable to accommodate various application requirements. The door will close with or without power.

The operator can be used on swinging doors having a maximum weight of 350 pounds (159 kg) and maximum dimensions of 48 inches (1219 mm) wide by 120 inches (3048 mm) high.

3.3 Bi-Fold Doors:

3.3.1 Magic-Swing Series: The bi-fold doors are fully automatic folding doors for pedestrian traffic. The assemblies are available in two-panel and four-panel configurations and are a combination of a swinging door and a sliding door. The Magic-Swing operator is used for automatic door operation. The swinging portion of the door can be pivoted on the left or the right and can be in-swing or out-swing, depending on the application. Four-panel single-pane glass doors are available in widths between 6 and 10 feet (1829 and 3048 mm), and heights from 7 feet 6 inches to 9 feet (2286 to 2743 mm); maximum height for double-pane glass doors is 8 feet (2438 mm). Two-panel doors are available in widths between 4 and 5 feet (1219 and 1524 mm), and heights from 7 feet 6 inches to 8 feet 6 inches (2286 to 2591 mm).

Under emergency exiting, the door panels may be swung outward at any point in their travel by a maximum applied force of 40 pounds (178 N). When the door is in emergency release mode, a disconnect switch prevents powered operation.

3.3.2 Magic-Force Series: The bi-fold doors are the same as the Magic-Swing series described in Section 3.3.1 of this report, except that the Magic-Force operator described in Section 3.2.3 of this report is used in place of the Magic-Swing operator.

4.0 DESIGN AND INSTALLATION

Installation of the doors and operators must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite at all times during installation.

5.0 CONDITIONS OF USE

The Stanley Access Technologies doors and operators described in this report comply with, or are suitable alternates to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with this report, the manufacturer's published installation instructions, the requirements of ANSI/BHMA A156.10 and the

applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.

- 5.2** All provisions in Chapter 10 of the applicable code apply. The sliding doors may be used as an alternative to doors arranged to swing in the direction of egress in accordance with Exception 7 to IBC Section 1008.1.2.
- 5.3** The sliding or bi-fold doors must not be permitted where panic hardware is required, except as follows:
- 5.3.1** The doors must be models Dura-Glide 2000AC, 3000AC, 5200AC or 5300AC as described in Section 3.1.4 of this report.
- 5.3.2** In jurisdictions adopting the UBC, when installation is as a required exit from Group A, Division 3, Occupancies, panic hardware may be omitted on the main exit, provided locking devices and signs comply with the exception to Section 1007.2.5 of the UBC.
- 5.3.3** Panic hardware must be listed in accordance with UL 305.
- 5.4** In jurisdictions adopting the IBC and the BNBC: A sign must be installed on all slide-swing panels, or on the leading slide-swing panel for telescopic doors, that reads "IN EMERGENCY PUSH TO OPEN." The sign must be visible and durable, with a red background and contrasting letters a minimum of 1 inch (25.4 mm) high, in accordance with Section 11.3.1 of ANSI/BHMA A156.10. When the door is equipped with a key-operated locking device, a sign must be installed on the egress side, on or adjacent to the door, that reads "THIS DOOR TO REMAIN UNLOCKED WHEN ["THIS" (insert additional word for compliance with the BNBC)] BUILDING IS OCCUPIED." The sign must be visible and durable, with letters a minimum of 1 inch (25.4 mm) high on a contrasting background. The locking device must be readily distinguishable as locked. Sign locations shall comply with Section 11.3.1 of ANSI/BHMA A156.10, IBC Section 1008.1.9.3 and BNBC Section 1017.4.1. Additionally, signage is required in accordance with Section 11.1 of ANSI/BHMA A156.10.

For jurisdictions adopting the UBC: Compliance with UBC Standard 10-1 is required. A sign must be installed on all slide-swing panels, or on the leading slide-swing panel for telescopic doors, that reads "IN EMERGENCY PUSH TO OPEN." When the door is equipped with a key-operated locking device, a sign must be installed on the egress side that reads

"THESE DOORS MUST REMAIN UNLOCKED DURING BUSINESS HOURS." The signs must be visible and durable, with letters a minimum of 1 inch (25.4 mm) high on a contrasting background. Sign locations must comply with Sections 10.102.3 and 10.102.4 of UBC Standard 10-1.

- 5.5** The doors must be glazed with approved safety glazing that conforms with the applicable code.
- 5.6** When activating control carpets are used, the carpet must comply with ANSI/BHMA A156.10 or, for jurisdictions adopting the UBC, Section 10.103.6 of UBC Standard 10-1.
- 5.7** Individual dual doors leaf used as required means of egress must provide a clear opening of not less than 32 inches (812 mm). The maximum width of a swinging door (as described in Section 3.2) leaf must be a nominal 48 inches (1219 mm). The clear width of the swinging door opening is measured with the door swung out in the minimum breakaway position.
- 5.8** Power-operated in-swinging doors are not recognized for determining exit width opening unless the conditions of Section 1008.1.4.2 of the IBC, Section 1017.4.3 of the BNBC or Section 1003.3.1.2 of the UBC are met.
- 5.9** Stanley Access Technologies doors and operators are produced in Farmington, Connecticut, under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668).

6.0 EVIDENCE SUBMITTED

- 6.1** Manufacturer's published installation instructions and descriptive literature.
- 6.2** Data in accordance with the applicable provisions of ANSI/BHMA A156.10
- 6.3** Data in accordance with UBC Standards 10-1 and 10-4.
- 6.4** A quality control manual.

7.0 IDENTIFICATION

The Stanley Access Technologies doors and operators described in this report must be identified by a stamp bearing the manufacturer's name (Stanley Access Technologies), the product type, the name of the inspection agency (Underwriters Laboratories Inc.) and the evaluation report number (ESR-1751).

Electrical components must be listed and labeled in accordance with NFPA 70.