SECTION 08 42 29.23

SLIDING AUTOMATIC ENTRANCES

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| **Specifier Note: This specification document shall serve as a guide specification for typical projects where the Stanley Access Technologies Dura-Glide DT Series sliding automatic entrance will be the basis of design. Specification must be reviewed for applicability on a per project basis. Specification is not appropriate for projects where a wind force and/or impact rating are required. The specifier is directed to select appropriate options included herein. Consult with the local Access Technologies Territory Manager, when options, not specified, are required. See last page of this document for a summary of unspecified options.** |

1. GENERAL

	1. RELATED DOCUMENTS
		1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
	2. SUMMARY

		1. This Section includes the following types of automatic entrances:
			1. Exterior, bi-parting, sliding automatic entrances.
			2. Entrances shall be specifically designed for use in curbside and drive-through service applications.
		2. Related Sections:
			1. Division 7 Sections for caulking to the extent not specified in this section.
			2. Division 8 Section "Door Hardware" for hardware to the extent not specified in this Section.
			3. Division 8 Section Glazing for materials and installation requirements of glazing for automatic entrances.
			4. Division 26 Sections for electrical connections provided separately, including conduit and wiring, for power to, and control of, sliding automatic entrances.
	3. REFERENCES

		1. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
		2. Underwriters Laboratories (UL):
			1. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
		3. American National Standards Institute (ANSI) / Builders’ Hardware Manufacturers Association (BHMA):
			1. ANSI/BHMA A156.5: Standard for Auxiliary Locks and Associated Products
		4. American Society for Testing and Materials (ASTM):
			1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
			2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
		5. American Association of Automatic Door Manufacturers (AAADM):
		6. National Fire Protection Association (NFPA):
			1. NFPA 70 – National Electric Code.
		7. International Organization for Standardization (ISO):
			1. ISO 9001 - Quality Management Systems
		8. National Association of Architectural Metal Manufacturers (NAAMM):
			1. Metal Finishes Manual for Architectural and Metal Products.

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| **Specifier Note: Modify paragraph below to suit project requirements.** * **Select appropriate standard finish from options below.**
* **Make multiple selections as required; schedule accordingly.**
* **See last page of this document for a summary of unspecified finish options.**
* **Coordinate with other sections.**
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* + 1. American Architectural Manufacturers Association (AAMA):
			1. **[AAMA 606.1 – Integral Color Anodic Finishes for Architectural Aluminum.]**
			2. **[AAMA 607.1 - Clear Anodic Finishes for Architectural Aluminum.]**
			3. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
			4. AAMA 701 Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals.
	1. DEFINITIONS

		1. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to open the door.
		2. Knowing act: Consciously initiating the opening of a power operated door using acceptable methods including wall mounted switches such as push plates and controlled access devices such as keypads, card readers and key switches.
		3. Safety Device: Device that prevents a door from opening or closing, as appropriate.
	2. PERFORMANCE REQUIREMENTS

		1. General: Provide automatic entrance door assemblies capable of withstanding loads and thermal movements based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.
		2. Operating Range: Minus 30 deg F (Minus 34 deg C) to 130 deg F (54 deg C).
		3. Closing-Force Requirements: Not more than 30 lbf (133 N) required to prevent door from closing.
	3. SUBMITTALS

		1. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
		2. Shop Drawings: Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work.
		3. Color Samples for selection of factory-applied color finishes.
		4. Closeout Submittals:
			1. Owner’s Manual.
			2. Warranties.
	4. QUALITY ASSURANCE

		1. Installer Qualifications: Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project.
		2. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility compliant with ISO 9001.
		3. Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service.
		4. Certifications: Automatic sliding door systems shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards:
			1. UL 325 listed.
		5. Source Limitations: Obtain automatic entrance door assemblies through one source from a single manufacturer.
		6. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of automatic entrance door assemblies and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
		7. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
	5. PROJECT CONDITIONS

		1. Field Measurements: General Contractor shall verify openings to receive automatic entrance door assemblies by field measurements before fabrication and indicate measurements on Shop Drawings.
		2. Mounting Surfaces: General Contractor shall verify all surfaces to be plumb, straight and secure; substrates to be of proper dimension and material.
		3. Other trades: General Contractor shall advise of any inadequate conditions or equipment.
	6. COORDINATION

		1. Templates: Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing automatic entrances to comply with indicated requirements.
		2. Electrical System Roughing-in: Coordinate layout and installation of automatic entrance door assemblies with connections to power supplies, and remote activation devices.
	7. WARRANTY

		1. Automatic Entrances shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.
		2. During the warranty period the Owner shall engage a factory-trained technician to perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.
		3. During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal working hours.
1. PRODUCTS

	1. AUTOMATIC ENTRANCES

		1. Manufacturer: Stanley Access Technologies; Dura-Glide DT™ Series sliding automatic entrances.
	2. MATERIALS

		1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
			1. Headers, stiles, rails, and frames: 6063-T6.
			2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
			3. Sheet and Plate: ASTM B 209.
		2. Sealants and Joint Fillers: Performed under Division 7 Section "Joint Sealants".
	3. AUTOMATIC ENTRANCE DOOR ASSEMBLIES

		1. General: Provide manufacturer's standard automatic entrance door assemblies including doors, sidelights, framing, headers, carrier assemblies, roller tracks, door operators, activation and safety devices, and accessories required for a complete installation.
		2. Sliding Automatic Entrances:
			1. Configuration: Two sliding leaves and two full sidelights; bi-parting. Sliding leaves are split at horizontal muntin bars to allow for independent operation of upper and lower half panels independently.
			2. Traffic Pattern: Two-way.
			3. Emergency Breakaway Capability: None.
			4. Mounting:
				1. Entrance Assemblies: Between jambs.
				2. Hardware: Except for lock cylinders, all hardware shall be interior mounted.
	4. COMPONENTS

		1. Framing Members: Manufacturer's standard extruded aluminum reinforced as required to support imposed loads.
			1. Nominal Size: 1 3/4 inch by 6 inch (45 by 152 mm).
			2. Concealed Fastening: Framing shall incorporate a concealed fastening pocket, and continuous flush insert cover, extending full length of each framing member.

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| **Specifier Note: Modify paragraph below to suit project requirements.**  |

* + 1. Stile and Rail Doors and Sidelights: Manufacturer's standard 1 ¾ inch (45 mm) thick glazed doors with extruded-aluminum tubular stile and rail members. Incorporate concealed tie-rods that span full length of top and bottom rails.
			1. Glazing Stops and Gaskets: Snap-on, extruded-security aluminum stops and preformed gaskets.
			2. Stile Design: Narrow stile; 2 inch (51 mm) nominal width.
			3. Bottom Rail Design: Minimum **[4 inch (102 mm)] [6 inch (152 mm)] [8 inch (203 mm)] [10 inch (254 mm)] [12 inch (305 mm)] [15 inch (381 mm)] [18 inch (457 mm)]** nominal height.
			4. Muntin Bars: Horizontal tubular rail members for each door; 8 1/2 inch (216 mm) nominal height.

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| **Specifier Note: Modify paragraph below to suit project requirements.** * **Select “Glazing”; 1/4 inch tempered is standard.**
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* + 1. Glazing: Furnished under Division 8 Section Glazing. All Glazing furnished under separate section shall be as follow:
			1. Upper Lites: **[1/4 inch (6 mm) tempered glass] [1/2 inch (13 mm) tempered] [5/8 inch (16 mm) insulated, hermetically sealed glass] [1 inch (25 mm) insulated, hermetically sealed glass]**.
			2. Lower Lites: 1/4 inch (6 mm) architectural infill panels; with aluminum finish matching automatic entrance finish
		2. Headers: Fabricated from extruded aluminum and extending full width of automatic entrance door units to conceal door operators, carrier assemblies, and roller tracks. Provide hinged or removable access panels for service and adjustment of door operators and controls. Secure panels to prevent unauthorized access.
			1. Mounting: Concealed, with one side of header flush with framing.
			2. Capacity: Capable of supporting up to 220 lb (100 kg) per panel, up to four panels, over spans up to 14 feet (4.3 m) without intermediate supports.
		3. Carrier Assemblies and Overhead Roller Tracks: Manufacturer's standard carrier assembly that allows vertical adjustment of at least 1/8 inch (3 mm); consisting of urethane with precision steel lubricated ball-bearing wheels, operating on a continuous roller track. Support panels from carrier assembly by load wheels and anti-riser wheels with factory adjusted cantilever and pivot assembly. Minimum two ball-bearing load wheels and two anti-rise rollers for each active leaf. Minimum load wheel diameter shall be 2 1/2 inch (64 mm); minimum anti-rise roller diameter shall be 2 inch (51 mm).

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| **Specifier Note: Modify paragraph below to suit project requirements.** * **Select appropriate thresholds for applications.**
* **Make multiple selections as required; schedule accordingly.**
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* + 1. Thresholds: Manufacturer's standard thresholds as indicated below:
			1. **[Continuous standard tapered extrusion square by bevel, with bevel to exterior.]**
			2. **[Continuous standard tapered extrusion square by bevel, with bevel to interior.]**
			3. **[Continuous standard tapered extrusion double bevel.]**
			4. **[Continuous standard square extrusion, for recessed installation.]**
			5. All thresholds to conform to details and requirements for code compliance.
		2. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
	1. DOOR OPERATORS

		1. General: Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, operation under normal traffic load for type of occupancy indicated.
		2. Electromechanical Operators: Self-contained overhead unit powered by a minimum of 1/4 horsepower, permanent-magnet DC motor with gear reduction drive, microprocessor controller; and encoder.
			1. Operation: Power opening and power closing.
			2. Features:
				1. Adjustable opening and closing speeds.
				2. Adjustable open check and close check speeds.
				3. Adjustable hold-open time between 0 and 30 seconds.
				4. Obstruction recycle.
				5. On/Off switch to control electric power to operator.
				6. Energy conservation switch that reduces door-opening width.
				7. Closed loop speed control with active braking and acceleration.
				8. Adjustable obstruction recycle time delay.
				9. Self-adjusting stop position.
				10. Self-adjusting closing compression force.
				11. Onboard sensor power supply.
				12. Onboard sensor monitoring.
				13. Fire alarm interface, configurable to safely open or close the entrance on signal from fire alarm system.
			3. Operation: Switch to open/Switch to close operation.
			4. Mounting: Concealed.
			5. Drive System: Synchronous belt type.
		3. Electrical service to door operators shall be provided under Division 26 Electrical. Minimum service to be 120 VAC, 5 amps.
	2. ELECTRICAL CONTROLS
		1. Electrical Control System: Electrical control system shall include a microprocessor controller and a high-resolution position encoder. The encoder shall monitor revolutions of the operator shaft and send signals to microprocessor controller to define door position and speed.
			1. The high-resolution encoder shall have a resolution of not less than 1024 counts per revolution. Systems utilizing external magnets and magnetic switches are not acceptable.
			2. Electrical control system shall include a 24 VDC auxiliary output rated at 1 amp.
		2. Performance Data: The microprocessor shall collect, and store performance data as follows:
			1. Counter: A non-resettable counter to track operating cycles.
			2. Event Reporting: Unit shall include non-volatile event and error recording including number of occurrences of events and errors, and cycle count of most recent events and errors.
			3. LED Display: Display presenting the current operating state of the controller.
		3. Controller Protection: The microprocessor controller shall incorporate the following features to ensure trouble free operation:
			1. Automatic Reset Upon Power Up.
			2. Main Fuse Protection.
			3. Electronic Surge Protection.
			4. Internal Power Supply Protection.
			5. Resetable sensor supply fuse protection.
			6. Motor Protection, over-current protection.
		4. Soft Start/Stop: A “soft-start” “soft-stop” motor driving circuit shall be provided for smooth normal opening and recycling.
		5. Obstruction Recycle: Provide system to recycle the sliding panels when an obstruction is encountered during the closing cycle. If an obstruction is detected, the system shall search for that object on the next closing cycle by reducing door closing speed prior to the previously encountered obstruction location, and will continue to close in check speed until doors are fully closed, at which time the doors will reset to normal speed. If obstruction is encountered again, the door will come to a full stop. The doors shall remain stopped until obstruction is removed and operate signal is given, resetting the door to normal operation.
		6. Programmable Controller: Microprocessor controller shall be field programmable.
			1. The following parameters may be adjusted:
				1. Operating speeds and forces as required to meet specified ANSI/BHMA standard.
				2. Adjustable and variable features specified.
				3. Reduced opening position.
			2. Manual programming shall be available through local interface which has a two-digit display with a selection control including three push buttons.
	3. ACTIVATION AND SAFETY DEVICES

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| **Specifier Note: Retain paragraphs below to suit project requirements.** * **Retain first paragraph for “Touchless” activation.**
* **Retain second paragraph for standard push plate activation.**
* **Other activation options available; see last page of this document.**
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* + 1. **Touchless Activation Switch: Where scheduled, provide touchless activation switches for primary activation of automatic sliding ICU/CCU entrances. Face plates shall be high impact polycarbonate, engraved with waving hand logo and “Wave To Open” text.**
			1. **Switches shall be jamb style, 1 3/4 inch by 4 ½ inch (44 mm x 114 mm), frame mounted hardwired to door operator controls.**
			2. **Units shall incorporate active infra-red to detect all motion in the detection zone. Detection zone shall be adjustable from 1 inch to 28 inch (25 mm to 711 mm).**
			3. **Relay shall be rated at 3 A at 30 VAC/VDC.**
			4. **Relay hold time adjustable from 3 to 30 sec.**
			5. **Touchless activation switches shall be equal to or better than Camden Door Controls CM-331/41N.**
		2. **Push Plates: Provide jamb style push plates, 1 ½ inch x 4 ¾ inch (38 mm x 121 mm) with UL recognized SPDT switch. Face plates and mounting studs shall be stainless steel. Face plates shall be engraved “Push To Open”. Interior and exterior push plates shall be jamb mounted in formed ABS plastic boxes and hardwired to door operator controls.**
		3. Photoelectric Beams: Include a minimum of four (4) doorway holding beams. Photoelectric beams shall be pulsed infrared type, including sender receiver assemblies for recessed mounting.
	1. HARDWARE

		1. General: Provide units in sizes and types recommended by automatic entrance door and hardware manufacturers for entrances and uses indicated.
		2. Deadlocks: Manufacturer's standard deadbolts operated by exterior cylinders and interior thumb turns to secure upper and lower sliding panels.
			1. Cylinders: As specified in Division 8 Section "Door Hardware."
			2. Hook Latch: Laminated-steel hook, mortise type, with minimum 1 inch (25 mm) long throw bolt, BHMA A156.5, Grade 1.
			3. Lock/Unlock Indicator: Provide lock position indicators integrated with locking system. Indicators shall be stile mounted on the secure side of the door and provide a visual display of lock position; “OPEN” in black letters when unlocked, “LOCKED” in red letters when locked.
		3. Panel Clamps: Provide manufacture’s standard manually operated panel clamps. When latched, panel clamps shall align and bring sliding panel halves together and shall compress gaskets for a tight seal and panel seams.
		4. Control Switch: Provide manufacturer’s standard rotary switch mounted on the interior jamb to allow for full control of the automatic entrance door. Controls to include, but are not limited to:
			1. One-way traffic
			2. Open/Closed/Automatic
		5. Power Switch: Sliding automatic entrances shall be equipped with a two position On/Off key switch to control power to the door.
		6. Sealing System: Manufacturer's standard air infiltration control system with replaceable components complying with AAMA 701; made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.
			1. Meeting Stiles, Stiles Meeting Frames, and Overlapping Stile: Slide in type, dual pile.
			2. Header/Carrier: Single pile
			3. Sliding Panel Seams: Compression weather seal.
			4. Weather Sweeps: Adjustable dual nylon brush sweeps, concealed in the bottom rail.
		7. Weather Sweeps: Manufacturer's standard adjustable dual nylon brush sweep mounted to underside of door bottom.
		8. Pulls: Provide manufacturer’s standard flush cup pulls on both upper and lower sliding panels.
	2. FABRICATION

		1. General: Factory fabricates automatic entrance door assembly components to designs, sizes, and thickness indicated and to comply with indicated standards.
			1. Form aluminum shapes before finishing.
			2. Use concealed fasteners to greatest extent possible.
				1. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
				2. Reinforce members as required to receive fastener threads.
		2. Framing: Provide automatic entrances as prefabricated assemblies.
			1. Fabricate tubular and channel frame assemblies with manufacturer's standard mechanical or welded joints. Provide sub-frames and reinforcement as required for a complete system to support required loads.
			2. Perform fabrication operations in manner that prevents damage to exposed finish surfaces.
			3. Form profiles that are sharp, straight, and free of defects or deformations.
			4. Prepare components to receive concealed fasteners and anchor and connection devices.
			5. Fabricate components with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
		3. Doors: Factory fabricated and assembled in profiles indicated. Reinforce as required to support imposed loads and for installing hardware.
		4. Door Operators: Factory fabricated and installed in headers, including adjusting and testing.
		5. Glazing: Fabricate framing with minimum glazing edge clearances for thickness and type of glazing indicated.
		6. Hardware: Factory install hardware to the greatest extent possible; remove only as required for final finishing operation and for delivery to and installation at Project site.
	3. ALUMINUM FINISHES

		1. General: Comply with NAAMM Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designing finishes. Finish designations prefixed by AA comply with system established by Aluminum Association for designing finishes.

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| **Specifier Note: Modify paragraph below to suit project requirements.** * **Select appropriate standard finish from options below.**
* **Make multiple selections as required; schedule accordingly.**
* **See last page of this document for a summary of unspecified finish options.**
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* + 1. **[Class II, Clear Anodic Finish: AA-M12C22A31 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.40 mils minimum complying with AAMA 611-98, and the following:**
			1. **AAMA 607.1**
			2. **Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.]**
		2. **[Class I, Color Anodic Finish: AA-M12C22A42/A44 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.70 mils minimum complying with AAMA 611-98, and the following:**
			1. **Color: Dark Bronze.**
			2. **AAMA 606.1**
			3. **Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.]**
1. EXECUTION
	1. INSPECTION

		1. Examine conditions for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of automatic entrances. Proceed with installation only after unsatisfactory conditions have been corrected.
	2. INSTALLATION

		1. General: Do not install damaged components. Fit frame joints to produce joints free of burrs and distortion. Rigidly secure non-movement joints.
		2. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.
			1. Install surface-mounted hardware using concealed fasteners to greatest extent possible.
			2. Set headers, carrier assemblies, tracks, operating brackets, and guides level and true to location with anchorage for permanent support.
		3. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.
		4. Glazing: Performed under Division 8 Section "Glazing" in accordance with sliding automatic entrance manufacturer’s instructions.
		5. Sealants: Comply with requirements specified in Division7 Section "Joint Sealants".
	3. FIELD QUALITY CONTROL

		1. Testing Services: Factory Trained Installer shall test and inspect each automatic entrance door to determine compliance of installed systems with applicable standards.
	4. ADJUSTING

		1. Adjust door operators, controls, and hardware for smooth and safe operation, for tight closure.
	5. CLEANING AND PROTECTION

		1. Clean glass and aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish. Comply with requirements in Division 8 Section “Glazing”, for cleaning and maintaining glass.

END OF SECTION 08 42 29.23

**Available options not specified in this document are summarized as follows:**

1. Finish options (Standard Options Specified):
	1. Color anodizing options; “Champagne” to “Black”
	2. Multi-coat Fluoropolymer painted finishes.
2. Locking options (Standard Options Specified):
	1. Armored strikes for deadlocks
	2. Electric Solenoid Lock (Fail Safe/Fail Secure)
3. Activation options (Standard Options Specified).
	1. Holding beam activation.
4. Alarm Contacts option allows for remote monitoring of panel status.
5. Emergency Power Options (Remotely Mounted).
	1. Uninterruptible Power Supply (UPS); extended operation.
	2. Fly Open Box; One time operation.

**Contact your local** [**Stanley Access Technologies**](http://www.stanleyaccesstechnologies.com/search/zip.asp) **representative for more information on specifying the right sliding automatic entrance for your project.**

These specifications represent a “sample” door configuration and depict design features that are commonly used. These specifications do not reflect “standard” features and are provided for informational purposes only. Please note that there is no standard “off the shelf” product.  Stanley custom manufactures each product to its customers’ specifications. It is the customer’s responsibility to validate that a particular configuration of Stanley’s products is suitable for a specific application. All specifications and designs contained herein are subject to change without notice or obligation.