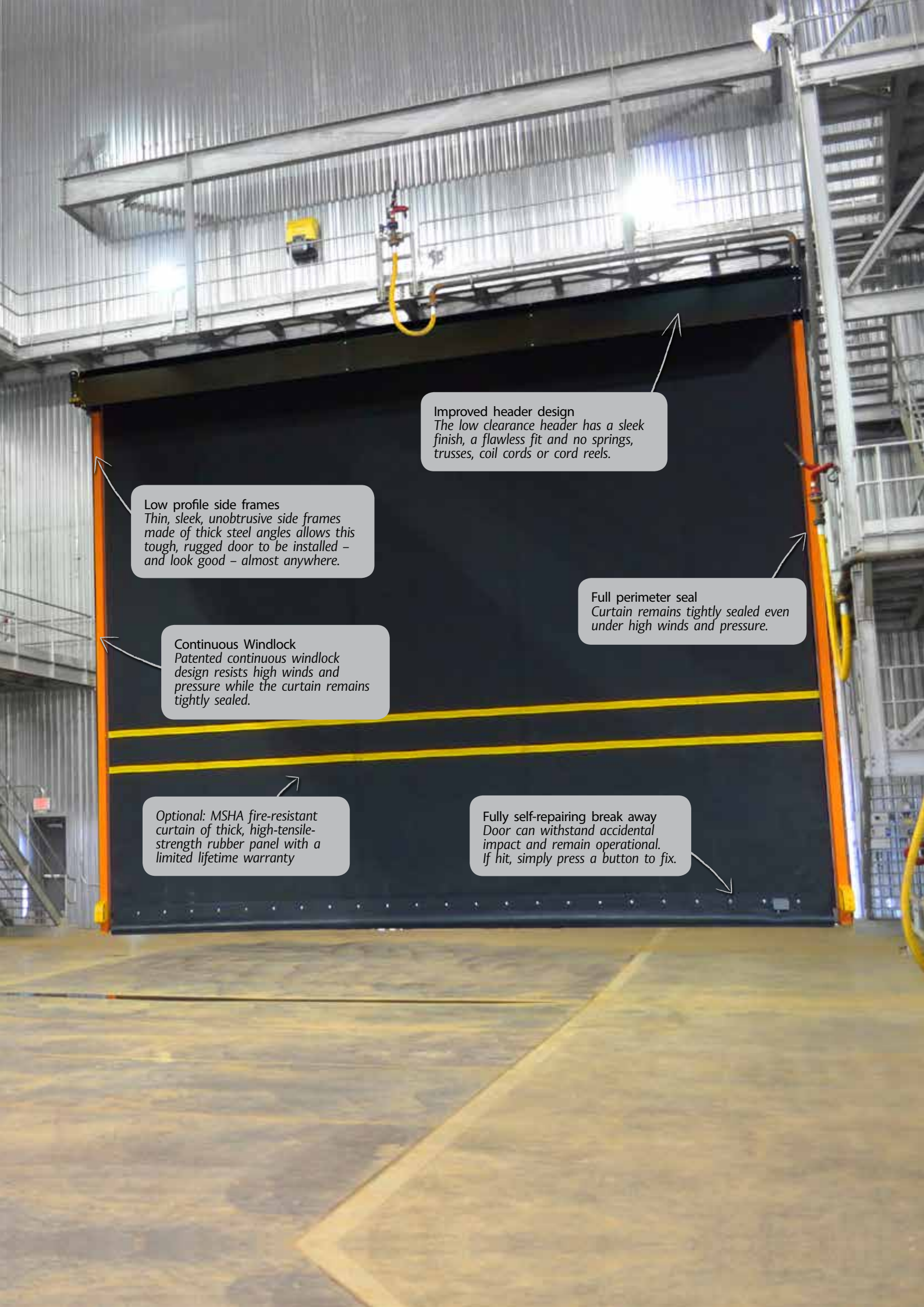
Complete Entrance Solutions for Mining

ASSA ABLOY

ASSA ABLOY Entrance Systems

The global leader in door opening solutions


Improved header design
The low clearance header has a sleek finish, a flawless fit and no springs, trusses, coil cords or cord reels.
Low profile side frames
Thin, sleek, unobtrusive side frames made of thick steel angles allows this tough, rugged door to be installed – and look good – almost anywhere.
Full perimeter seal
Curtain remains tightly sealed even under high winds and pressure.
Continuous Windlock
Patented continuous windlock design resists high winds and pressure while the curtain remains tightly sealed.
Optional: MSHA fire-resistant curtain of thick, high-tensile-strength rubber panel with a limited lifetime warranty
Fully self-repairing break away
Door can withstand accidental impact and remain operational. If hit, simply press a button to fix.

Helping you go to extremes

ASSA ABLOY Entrance Systems helping you to go to extreme requirements for the mining industry. For tought conditions in the mining industry we offers a range of strong solutions from our industry leading product brands; Megadoor and Albany.

We offer a great deal of experience with automated mining doors. We have successfully provided doors to the mining industry, from Svalbard island deep in the Arctic north to the dry plains of the Atacama desert in Chile. Robust design and high quality have ensured reliable, long-lasting results.

Meeting the toughest needs
The mining industry requires doors that can withstand corrosive and dirty environments, high-wind conditions and extreme temperatures. In addition to meeting these needs, we are able to fulfill a range of other important expectations:

- *Design and function* – We offer cost-effective solutions to functional and architectural demands, while accommodating increasingly large mining vehicles. We also offer doors that can withstand accidental impact and remain operational.
- *Energy efficiency* – Our doors minimize heat loss (or gain) and provide a viable working environment for demanding tasks. The choice of a translucent fabric door, helps minimize carbon footprint and provides natural ambient light in the indoor working environment. The choice of a high-speed door, with opening speeds of up to 60" (1.5 m) per second can help maintain temperature control and save on energy costs.
- *Safety* – Our doors ensure safe operating conditions and minimal maintenance demands. Our doors are equipped with built-in safety monitoring systems and designed with mechanical safety arrestors and other fail-safes, which protect workers and maintain the lifelong operational quality of the door.

Megadoor vertical lifting fabric doors

The Megadoor vertical lifiting fabric door is designed to operate in the toughest environments, opening and closing quickly and smoothly many times a day. Considered to be the most energy-efficient door on the market, it withstands not only extreme temperatures, but also high-wind conditions, dirt, sand and grit.

Safe and cost-effective to operate, the door requires little maintenance and creates a better working environment for your employees.

Tough reliable doors
Suited to both new construction as well as retrofits, the Megadoor vertical lifting fabric door can be customized to answer a wide variety of access needs. For rapid and reliable operation, the door can be designed around an existing crane and crane rails. Translucent fabric can be used to let in natural light, which improves the working environment and saves energy. There are also multiple control alternatives, including PLC and self-diagnostic panels, as well as control panel enclosures designed for environments like wash bays.

Virtually no configuration limits
The flexible design also means there are no practical limits to the size and configuration. As haul trucks get ever bigger, you can design your doors around the vehicles they will serve – with maximum space utilization.

Rugged and ready
Like all Megadoor mining doors, it has corrosion-resistant components with few moving parts. And it comes with the patented Megadoor lifting belt system, which needs no lubrication and requires very little maintenance.

Of course, no environment is more demanding than a mine's wash bay. We provide a standard Wash Bay Package that includes sealed limit boxes, motor covers, NEMA 4X (corrosion-resistant) control panels and corrosion-resistant materials. (The NEMA 4X corresponds to the European standard IP56.)

The Megadoor vertical lifting fabric door offers:

- Fast, reliable operation under any conditions
- Patented safety arrestors
- Excellent air tightness and resistance to high winds
- Strong components with high corrosion resistance
- Long operating lifetime and low operating cost
- Minimal maintenance requirements and easy repair
- High safety level and easy operation
- Multiple control alternatives, including remote operation

Albany high-performance rubber doors

The high performance Albany RR1000 door puts you in control, reducing unplanned downtime caused by accidents and harsh conditions. Easy to learn and operate, they offer high speeds and reliability in the most severe environments. That helps you cut maintenance and energy costs – without compromising safety or operational efficiency.

Increase productivity and decrease energy costs
With opening speeds of up to 60" (1.5 m) per second, the Albany RR1000 door allows you to increase productivity and decrease energy costs. It is is built to withstand accidental impact and remain operational: after a hit, the break-away bottom beam can be reset easily and quickly. The Albany RR1000 door has the fewest moving parts for a door of its size and is the only one that can be repaired in minutes without special tools.

The Albany RR1000 can be extended up to 50' wide opening or modified for underground mining operations, where it needs to operate against continuous airflow and high pressure differentials.

Built for maximum endurance
The Albany RR1000 has chemical- and corrosion-resistant panels and frames to ensure superb durability and performance. They feature a thick, two-layer SBR rubber panel with limited lifetime warranty, which protects against temperature extremes from -40°F (-40°C) to over 180°F (82°C). This strong panel, combined with heavy-duty side frames and a patented Windlock guide system, provides resiliency against damage, harsh conditions and high wind loads of up to 130 mph.

The Albany RR1000 is engineered to cycle hundreds of thousands of times, adding a lifetime of value to your top and bottom line.

The Albany RR1000 offers:
- Fast opening speed of 60" (1.5 m) per second
- Ability to take a hit – break-away without damage and automatic reset after accidental impact
- Lifetime warranty on the rubber curtain
- Exclusive continuous Windlock panel design for a near airtight seal
- Resistance against extreme wind pressures of up to 130 mph
- Rugged design to handle the most extreme conditions
- The fewest moving parts for low maintenance

Safety, quality and peace of mind

ASSA ABLOY Entrance Systems brings the mining industry high-quality automated entrance solutions designed for increased safety, efficiency and productivity.

We have a no-compromise approach to safety, which always comes first.

Our vertical lifting fabric doors are designed with patented safety arrestors that prevent a “free-fall” condition in the event of failed lifting mechanisms. Sophisticated controls and sensors protect the Megadoor and continuously monitor the opening.

Our high-performance Albany RR1000 doors have through-beam photo eyes that detect objects in the doorway and safely open the door before contact. In addition, they have a fail-safe electric bottom edge. Even the slightest contact will cause the door to automatically reverse to the open position. The Albany RR1000 can even be equipped with our smart light curtain safety system that eliminates contact with objects in the doorway.

Combined advantages
We design doors that will provide a lifetime of strength and reliability. Both brands have years of experience designing, manufacturing, installing and servicing automated doors for the mining industry. We have developed a joint commitment to providing superior answers to extraordinary access challenges.

We offer world-leading products and services, backed by more than half a century of engineering experience and a wealth of application expertise.

Ideal for rugged applications
- Wash bays
- Truck shops
- Loading docks
- Maintenance facilities
- Parking garages
- Transportation centers
- Distribution facilities
- Wastewater management
- Utilities


Direct-drive door operates without springs or counterweights
Extra-large U-shaped bottom rubber seal – perfect for uneven surfaces
Self-lubricating guide blocks require no lubrication
Patented safety arrestors prevent "free-falling" door

Proof in action

Wabush Mine Labrador, Canada
Winter temperatures at the Wabush Mine average –23°F (–30°C), and sometimes even lower, coupled with strong winds. Mine officials wanted to do everything possible to provide tolerable indoor working conditions for their employees – both in the mine and at facility's buildings.

Haul trucks were part of the problem. Originally the mine used 65-ton trucks, then 170-ton, and later 200-ton. To accommodate larger truck sizes, openings at the Vehicle Maintenance Building were enlarged, while the support columns limited door opening clearance to only 15" (38 cm). With openings this big, it is very difficult to provide comfortable working conditions within the building.

Wabush Mine installed four Megadoor vertical lifting fabric doors set only 4" (10 cm) apart, because they operate consistently and reliably, and because they could open and close at least 30 times each day as required by the service bays. To utilize every inch of space, the doors were mounted on the building's exterior. The low door profile ensured an easy fit, and windload capabilities assured smooth operation even in high-wind conditions.

Wabush Mine discovered additional benefits. The Megadoor double-layer fabric construction insulates against cold winds, creating a warmer environment for employees – especially those working near the door. The design also reduces the tremendous noise produced by the haul trucks' 2000 hp engines. Previously, employees could not hear each other talk. The sound-damping effect is noticeable enough to give employees much needed relief.

"Mine management is very pleased with the Megadoor installation," says A. J. MacLean, Wabush Project Engineer responsible for the door installation. "We have a new bank of doors that performs well above expectations, as well as more satisfied employees!"

Osisko Mining Corporation, Abitibi, Canada
The Osisko Mining Corporation focuses on acquiring, exploring, developing and mining gold properties. Their flagship project is the Canadian Malartic gold mine located in the Abitibi mining district, which currently represents the single biggest gold reserve in production in Canada. The Malartic gold mine boasts proven reserves of 10.7 million ounces (303 million grams) of gold.

When Osisko began construction on the Malartic gold mine, they looked for door that would be able to withstand harsh working conditions. The Albany RR1000 was selected for a variety of applications throughout the facility. They were installed on the mechanical garage for large mining trucks, in the wash bay, and also on the concentrator. By end of 2010, a total of 30 Albany high performance doors had been installed to continue uninterrupted.

The reliable break-away feature on the Albany RR1000 doors was key in Osisko's selection. These doors can handle a head-on impact. After a hit, the strong rubber curtain on the Albany RR1000 automatically resets itself, without any special tools, allowing mining operations to continue uninterrupted.

The Malartic mine is located in northern Quebec where winds are fast, frequent and intense. The mine sits atop a hill and faces north, catching the brute force of these high winds. Osisko needed resilient doors with tight seals to hold up against this high level of wind pressure. Albany RR1000 doors can withstand winds of up to 130 mph (209 km/h), giving Osisko the ability to continue operations even in harsh weather conditions. With fast opening speeds and a near airtight seal, the doors keep the mine and its crew on schedule by allowing traffic to move freely and safely.

Vertical lifting fabric doors

MEGADOOR

Opening speeds	
	6"–11" (15–30 cm) per second
Door dimensions	
Max. height	Dimensions unlimited
Max. width	Dimension unlimited. We have delivered a door with 502' (153m) width
Safety features	
Safety arresters	Connected to each end of the bottom section. The lifting belt is connected to the safety arresters
Bottom beam	Safety edge on the bottom of the door
Door panel	
Door leaf	Polyester, 1100 dtex with plasticized PVC coating
Fabric colors	Choice of 8 standard RAL colors
Door components	
Header box	Contains the gear motor, the belt drum, lifting belts, pulleys and limit switch boxes
Guide rails	Made from extruded aluminum. Wind load is transferred to the vertical guide rails by the horizontal aluminum sections of the door leaf
Bottom seal	Heavy-duty EPDM bottom rubber, oversized to help seal on uneven surfaces
Control and drive systems	
Belt system	Consists of one lifting belt that can withstand corrosion, dust and dirt
PLC	For the setting of timers, automatic functions and safety functions. The PLC is programmed and configured before delivery
Arctic Weather Controls Package	Includes severe-duty motor with synthetic (cold-weather) oil, heated brake and thermostat. Heating element for control panel and push-button station available as an option
Wash Bay Package	Fiberglass or stainless-steel clamp-down control panel enclosure and sealed (splash-resistant) limit box enclosures. Heavy-duty NEMA 4X push-button station available as an option
Wind load	Up to 75 PSF (3.6 kPa). Higher wind loads may be available on request

High-performance rubber doors

ALBANY RR1000

Opening and closing speeds	
Opening speed	Up to 60" per second (size dependent)
Closing speed	Approximately 24" per second
Door dimensions	
Max. height	35 ft (10,668 mm)
Max. width	30 ft (9,144 mm)
Min. height	6 ft. (1,829 mm)
Min. width	6 ft. (1,829 mm)
Safety features	
Photo eye	Standard
Safety light curtain	Full through-beam light curtain up to six feet tall
Wireless safety system	No coil cords
Door panel	
SBR rubber panel	2 layers of Styrene Butadiene Rubber (SBR) with polyester cord center. Breaking strength 1100lbs/in/ply. Available in black or tan color.
EPDM rubber panel	Optional. Available in blue or gray color.
Door components	
Springless system	Direct drive unit
Side frames	Self-supporting, heavy duty 3/8" painted steel
Idler	6 5/8" diameter steel tube
Door roll	8 5/8" diameter steel tube. Complying with ASTM A513
Bottom Bar	Impact resistant fiberglass
Manual Egress	Chain hoist
Control and drive systems	
ACS 50 Controller	Standard, 1-speed contactor control
MCC	Optional, Variable frequency drive with soft start/soft stop and high resolution encoder. 24V DC
Input Voltage	208-240 V, 440-480 V, 575-600 V
Motor	3.35-Hp, 3 phase, 60 Hz
Protection	NEMA 4, UL/cUL listed
Wind resistance	
Windlock and guide system	Independently tested to resist static winds of 130mph (minimum 100 mph or 26 psf at max size)

ALBANY RR1000 beyond 30’

Opening and closing speeds	
Counterbalanced system	Opening up to 12” (30.5 cm) per second (size dependent)
Door dimensions	
Max. height	35’ (10.6 m)
Max. width	50’ (15.2 m)
Min. height	> 8’ (2.4 m)
Min. width	> 30’ (9.4 m)
Safety features	
Photo eye	Standard
Bottom beam	Fail-safe auto-stop and reverse self-monitoring safety edge
Wireless safety system	Optional – no coil cords
Door panel	
SBR	2 layers of Styrene Butadiene Rubber (SBR) with polyester cord center. Optional: MSHA fabric, breaking strength 1100lbs/in/ply
EPDM	Optional
Door components	
Counterbalanced system	100k cycle torsion springs
Side frames	Heavy-duty structural steel columns with corrosion- and chemical-resistant coating
Idler	6 5/8" diameter, 1/4" wall
Door roll	12 3/4" diameter, 1/4" thick tube
Bottom beam	Rigid impactable beam with full-width weather seal
Manual egress	Chain hoist
Hood	Optional – full with top-roll cover and motor cover
Windows	Optional - 10” x 18” (25.4 x 45.7 cm)
Control and drive systems	
Input voltage	208-240 V, 440-480 V, 575-600 V (3-phase)
Motor	Up to 5 hp, 3 phase, 60 Hz, 20 amps (depending on voltage)
Limits adjustment	From drive
Protection	NEMA 4 / 12
Wind resistance	
Windlock and guide system	Up to 20 psf (88 mph) (142 km/h)

ASSA ABLOY Entrance Systems is a leading supplier of entrance automation solutions for efficient flow of goods and people. With our globally recognized product brands Besam, Crawford, Megadoor and Albany, we offer products and services dedicated to satisfying end-user needs for safe, secure, convenient and sustainable operations.
ASSA ABLOY Entrance Systems is a division within ASSA ABLOY.

ASSA ABLOY

assaabloyentrance.com

ASSA ABLOY Entrance Systems

Tel: +46 (0)10 47 47 000
info.aaes@assaabloy.com
assaabloyentrance.com

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