

HIGH PERFORMANCE ROLL-UP DOORS AND WHEN TO SPEC THEM

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Bill is a maintenance manager at a brand new widget factory, Awesome Widgets. They make more widgets in less time than any other widget manufacturer—so materials are constantly trucked in, and manufactured products are constantly trucked out. Awesome Widgets is based in the Northeast, with its snowy winters and hot summers.

Because of this, and for security reasons, they close their rolling steel doors after every truck enters or exits the facility. Six months in, Bill is frustrated. He's had to pay for several service calls because parts on the roll-up doors at the facility keep malfunctioning, and now the spring that drives the door open and closed has snapped on one of his most-used openings. Bill is convinced that rolling steel doors are pieces of garbage.

Bill is wrong. It's all about choosing the right product for the job. Just as you wouldn't enter your four-cylinder Ford Taurus into the Indy 500, you can't expect a standard rolling steel door to do the job of a high performance one.

To make sure you are selling the right door for the job, this article will help you:

- Identify what separates a high performance rolling steel door from a traditional rolling steel door
- Identify when you should sell a high performance rolling door
- Highlight the challenges that arise if a standard door is used in place of a high performance one

Defining the high performance door

DASMA defines high performance doors as follows: A power-operated rolling, folding, or sliding non-residential door, generally characterized by either 100+ cycles/day or 20+"/second opening speed, and typically made-to-order and/or designed for higher durability, and/or designed to break away due to equipment impact.

So if a customer needs a door to open quickly or cycle 100+ times a day, you know they need a high performance door. For true high-use openings, you need a high performance door that has all of the five following attributes.

1 SPEED

If an opening is going to be opened and closed frequently, time is of the essence. If a driver or forklift operator needs to wait until a door has opened to pass through, a slow-opening door can lead to hundreds of hours of lost productivity per year.

Let's say our Awesome Widgets factory has a standard rolling steel door that is 20' tall. A standard door that opens at 8"/second will open in 30 seconds. A high performance door opening at 24"/second will open in 10 seconds, saving 20 seconds every time the door opens. If the door cycles 100 times/day in a 24/365 operation, you end up with a total savings of **202 hours per year**.

DASMA defines a high-speed door as one that opens at a speed of at least 32"/second, and some can go faster. That said, the cost of some high-speed doors can be more than double the cost of a high performance product that opens at a speed of 24"/second. Customers need to consider if the extra cost is worth it for a door that can open in six seconds rather than 10.

2 ACTIVATION OPTIONS

Speed is important for high performance roll-up doors, but it's not the only feature that will improve operation. When and how the door activates to open is crucial to efficient operation.

Imagine a forklift with 5' forks driving up to a roll-up door, but the floor loop that activates opening was mistakenly laid only 7' from the door. This means that the forklift has to drive over the loop and slow down or even stop to wait for the door to open. No matter how fast the door can open, time is still wasted.

If that floor loop had been installed 20' away, the driver's experience could have been flawless. Customers with a high-use opening should look for a door that is easily compatible with a wide variety of activation devices. In fact, one of the most popular activation options today is a camera that can be programmed to activate the door at the right time, without the requirement for any additional key cards, floor loops, and the like.

3 CYCLES

A cycle is one full opening and closing of the door—going from fully closed to fully open and back again. If a high performance door cycles 100 times/day, these cycles aren't always spread out over the entire day. There is a significant difference in wear for a door that will cycle 100 times in one hour versus one that will cycle four times each hour for 24 hours.

When selecting the right type of high performance door, it's critical to know the maximum cycles expected during peak periods, not just total cycles.

4 DURABILITY

A true high performance door must be built for durability from the bottom up. There is a myth circulating in the industry that springs = cycle life. If you put high-cycle springs on a standard door, you have only created a high-cycle-spring door, not a high performance door. In fact, the gold standard for high performance rolling doors is a springless design. Springs inevitably wear out and need to be replaced, causing downtime and maintenance fees.



So what else needs to be built for high performance? The operator, for one, needs to be able to handle the maximum number of cycles in the minimum amount of time you expect to use it. A direct-drive operator is a good investment, as there are no chains or sprockets to wear out. And it should feature a soft start and stop to reduce wear and tear on all door components, but especially on the operator.

The guides also need to be robust enough to handle frequent fast operation. Look for self-lubricating guides to prolong curtain life.

SAFETY

Of course, we can't talk about roll-up doors without talking about safety. High performance roll-up doors should come with light curtains and photo eyes as standard. A lower photo eye is very good at making sure people don't get trapped in the door. But in a fast-paced, high-use environment, a lower photo eye may not be enough.

Picture a full load on a forklift. For some reason, the forklift driver stops to chat with a coworker, parking with the forks in the path of the door. A photo eye may not see the forks and allow the door to close, potentially damaging the load and the forklift, not to mention the forklift operator. That's when a light curtain, which provides up to 6' of continuous protection, is necessary to ensure safety.

When to install a high performance door

Before recommending a standard roll-up door or a high performance one, ask these seven questions, easily remembered by the acronym PERFORM.

Productivity. Is passage through a secure opening a key success factor in the customer's productivity? When a door component breaks due to heavy use, the opening can be out of commission for hours, or even days, while the parts are manufactured, shipped, and installed. If the door is in an area that requires closure after every pass-through, or cannot stay open or closed for days at a time without a loss of productivity, then a high performance product must be considered.

Environment. Does the customer need to control the temperature of the environment around the door? If the building is in a very warm or cold climate but requires frequent outside access, a quick-opening door is paramount to maintaining the interior temperature.

In truly extreme weather, an insulated high performance roll-up door can cut down on air exchange during cycling as well as air leakage around the outside edges of the door.

Reliability. If this door can't operate, will the customer lose money? Roll-up doors are often vital gateways to getting materials in, goods out, and meeting deadlines. Inoperable doors can prolong lead times and contribute to lost customers and lost revenue. If a roll-up door's reliability is vital, a high performance product with virtually no maintenance required can be an attractive option.

Frequency. Will the door's daily cycles occur in short peak times or be spread out evenly throughout the day? Let's say you have a door in a parking garage with 100 spots in a secure building that requires proof of clearance to enter and closes after each car passes through. This means 200 daily cycles, but the vast majority might likely occur from 7-9 a.m. and 3-5 p.m. The door must be able to handle the high use in the short window of time without breaking down or wearing out.

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Operating speed. Must the door open as quickly as possible? Is it opened by an activation device? If an average fork truck drives at 6' per second and the door opens in five seconds, then the activation device should be placed 30' away from the door to ensure a smooth experience.

Routine traffic. Is the door's traffic vital to business operations? If a door is optional, maybe a high performance product isn't the right fit. However, if the customer needs secure, reliable access from forklifts to utility vehicles, a high performance product might be required.

Maintenance. Does the customer want to avoid ongoing maintenance expenses? When considering the total cost of a door, one must also consider the downtime and expense caused by scheduled and unscheduled maintenance.

While high performance products may have higher initial price points than those of standard roll-up doors, lower maintenance costs can mean that the high performance product has a lower total cost of ownership.

If the customer answers yes to two or more of these questions, it is likely that they need a high performance roll-up door.

The real cost of downtime

Whenever a door is out of operation, a repair visit can cost upwards of \$800 in labor and parts—and more if a serious problem arises. But that's only a portion of the costs.

Maintenance crews must take time to review the damage, possibly board up the opening, and call the repair company. When the technicians arrive, hours or days later, they assess the damage and estimate the repairs. Then the project must get approved. Parts must be ordered and delivered. Finally, they go back out to make the repairs.

Plus, if the inoperable door is one of the three main doors, more demand is placed on the other two doors, adding wear and tear to their life cycle. When one door is down,

BE SPECIFIC WHEN YOU SPECIFY

Avoid these pitfalls when recommending high performance doors to your customers.

SPEED

- Instead of stating that the door must be “high-speed” and thinking that more speed is always better ...
- Try defining the desired door-opening speed in inches per second.

SPRINGS

- Instead of adding 100K springs to a standard roll-up product specification ...
- Try looking at the entire construction of the closure to ensure that all components of the door have durability in mind. Consider a springless version if true high performance is required.

CYCLE LIFE

- Instead of focusing on total number of cycles ...
- Try defining peak cycle times and ensuring that the door can handle that level of traffic. Example: Instead of specifying a 200,000-cycle door, it's more helpful to state that the peak period of cycling is 75 cycles/hour from 7-9 am and 4-6 pm, and the door must be able to function with these parameters.

MAINTENANCE

- Instead of not taking maintenance into account ...
- Try to identify whether the door must be maintenance free outside of daily checks.

forklifts must go out of their way to use the two operational doors. That can force some employees to lose productivity, wasting more time and money.

So, remember Bill at Awesome Widgets? Remind him that an \$800 repair bill might be only a part of the overall cost of downtime. You can help Bill avoid all of these problems if you sell him the right kind of roll-up door in the first place. ■



Siva Davuluri, director of high performance products, is responsible for developing new high performance rolling products for CornellCookson. Their new website can help you determine whether you need high performance products; go to www.nobraindoor.com/brains.