

## Understanding BHMA

Doors are one of the most used items in commercial buildings. And it's not just the door—it's everything on and around it. From the frame to the hinges to the lock, everything needs to function properly, so it's important to choose suitable hardware for each application.

There's an overwhelming selection of door hardware in the market, and not all products are created equal. So how do you know which to choose? Industry-wide standards are needed to demonstrate a product's quality and durability and level the playing field across the industry.

A standardized system guarantees all products are tested equivalently and held to the same expectations. Without it, what's stopping Manufacturer A from claiming it has a top grade product that meets 200,000 cycles when Manufacturer B's product exceeds two million cycles?

That's where the standards set forth by the Builders Hardware Manufacturers Association (BHMA) help. The BHMA's seal of approval demonstrates a product's legitimacy in the marketplace. It's been tested in accordance to the established requirements as opposed to a product that was put into distribution without any standards behind the testing. And it's important to note that BHMA's testing isn't performed haphazardly; it's all done under standards developed by the guidelines of the American National Standards Institute (ANSI).

"There are very stringent requirements that have to be met," said Tim Weller, manager of codes, standards and sustainability at Allegion. "Everybody that meets the grading standards has to meet the exact same standards. It's not selective. They have to meet all aspects of each test for each component of hardware."

### What is BHMA?

BHMA is the trade association for North American manufacturers of commercial builders' hardware. It plays an important role in ensuring the quality and performance of builders' hardware, as well as standards, codes and life safety regulations that impact the industry. Architects, specifiers and others in the building industry are familiar with the organization as their grading system plays an instrumental role in determining the appropriate hardware for a project.

"The organization has been around for more than 80 years and includes most of the manufactures of builders' hardware in North America," said Michael Tierney standards coordinator for BHMA. "We primarily advocate for building codes as well as write the standards for every part of builders' hardware, which continue to expand. Today there are more than 40 standards."

Tierney makes sure the standards are updated every five years, which is a requirement of ANSI, although some are updated more frequently. The standards are decided through a ballot vote, where each BHMA member is represented through an allocated number of votes. Then it goes to ANSI for further public review prior to approval. Once standards are in place, products are tested in laboratory conditions. Many are familiar with the cycle testing that is performed, but it goes far beyond that.

"Cycle tests are just a portion of it," explained Earl Delph, product compliance manager at Allegion. "Tests that are part of the cycle tests are what we call operational tests. For example, when you turn a knob or lever, that's an operation. We put a torque meter on that to see how much force it takes to retract the latchbolt, which is a requirement before the cycle test begins."

About halfway through the cycle testing, additional operational tests are performed. Additionally, there are strength tests, which apply a moderate amount of force on the door. In regards to security testing, Delph said there are ways to simulate impact or apply force to the strike or latch to open the door.

“Durability, to some, is defined during the cycle testing,” said Tierney. However, he added that durability could also include the abuse the hardware experiences, like getting bumped or stood on. The strength and security tests evaluate these situations.

### Choosing a grade

It's important to remember that the rating of an opening is dependent on everything on the door. Architects and specification consultants need to look at each individual component of an opening. All of the products have different cycles. A lock is cycled differently than a hinge, which is different than an exit device or closer. The opening defaults to the lowest component on a door. So if all of the components are Grade 1 and you add one Grade 2 product, it's now a Grade 2 opening.

Specifications are predicated on the application of the door. Therefore, specification consultants must consider how many times the opening will be used throughout the day as well as the abuse it will experience. A product that's tested to one million cycles could have a lifetime of 20 years or five years depending on the application. With openings being used more than most other items in the building, understanding how to match the appropriate level of durability with the application's needs is essential. While Grade 1 hardware is common across healthcare and other

institutional spaces, applying it to every opening throughout a commercial office may be an unnecessary expense. BHMA standards help determine the appropriate grade for each application.

Whether specifying a front door of a university that's going to be used 10,000 times a day or a janitor's closet, the necessary grade of products is intuitive to a spec writer, according to Weller. “They understand what needs to go where,” he said. “That's not to say in a university setting you wouldn't use Grade 1 on low-traffic openings, because you would. But you are not necessarily going to use Grade 1 on every opening in a mixed-use facility. You might choose to use Grade 1 on the commercial openings, Grade 2 on the residential entries and Grade 3 for everything else on the interior of the unit.”

With many moving parts on a door—and even more options to choose from—architects need insights into how every device will function. The performance benchmarks set forth by the BHMA help architects and spec writers make informed decisions. Knowing products that meet their Grade 1, 2 and 3 standards are tested to stringent criteria provides peace of mind when selecting hardware for various applications. To verify if a product is certified, visit the [BHMA website](#). And if you need assistance determining the grade of products to use throughout your next project, contact an [Allegion hardware consultant](#).

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Allegion has a team of more than 150 specification writers located around the world who would be happy to assist on your next project. [Contact an Allegion specification writer](#), or check out the [iDig Hardware blog](#) for information and updates on door hardware codes.

## About Allegion

Allegion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit [www.allegion.com](http://www.allegion.com).

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