

# Balancing Style, Durability and Compliance

Designing with Brass Door Handles



**ASSA ABLOY**  
Opening Solutions

## INTRODUCTION

No matter what your design preferences are, keeping door hardware consistent with your interior styling and finishes is crucial. Door handles, in particular, are an often overlooked and underappreciated component in a building specification. A good quality door handle can tie together both the interior and exterior environments. It is also the linchpin in keeping a space safe and secure.

Door handles are one of the few parts of a building that users directly interact with every day. To ensure the door handle's longevity, it is crucial to choose hardware that is made of good materials, durable finishes and built with high-quality components. Door handle materials can vary widely in terms of aesthetics, durability, and sustainability. They therefore require special design consideration.

For commercial projects requiring high levels of access and fire safety, the common misconception is that compliance opposes style. There is an outdated notion that stainless steel is the only option for compliant door handle solutions, and is stronger, more resilient, and more environmentally friendly than other materials. In fact, a variety of door handle materials suitable for applications where compliance matters, but few stand up to the performance and design qualities of brass.

Brass is an excellent door handle material for aesthetic and mechanical reasons. It combines a timeless and unique appearance with strength, durability and fire resistance. It is ideal for adding warmth to neutral interiors while giving users years of trouble-free service. These properties are valued by many designers and users alike, yet many are not aware that brass door handles are a viable option for a range of building projects and requirements.

In this whitepaper, we discuss the importance of choosing fit-for-purpose door handles, and the benefits of specifying brass door handles for commercial applications.





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## Why your door hardware matters

Doors are an integral component of any building, serving as both barriers and entryways to interior rooms and outdoor spaces. Door handles may be the most personal points of contact that people have with a building. How they look, feel and operate can have a significant effect on peoples' perceptions of the building, and their sense of comfort and security.

Without the proper door hardware, no door is complete, and the handles you choose are a subtle but important detail. Distinctive or elegant door handles can serve as fashion statements, allowing owners to showcase their individuality. They can tie together different design elements, for example by matching with other components of the door itself as well as the overall style of the building. This can aid in creating a natural flow and cohesiveness throughout the property.

While they may be a physically small item, door handles are integral to safety and security. Taking site requirements and environmental considerations into account, the hardware needs to be fit-for-purpose, long-lasting and suitable for carrying out an important function day-to-day. There are a lot of other factors - including the risk of theft,

high wind speed and rain, whether the door is internal or external, privacy requirements, and more - that will impact your choice of door handle. A poorly-selected door handle can have an impact on the safety of buildings, from doors getting jammed or blocking access during an emergency, to contributing to a security breach.

Round rose and square rose door handles are the most common designs, but there are many door handle shapes to choose from. The shape and size of the round rose and the square rose will vary depending on design, style and purpose. The actual lever arm can be curved, square, flat or rounded. For toilets and bathrooms, some door handles include a privacy function that is integrated into the handle, while other models keep the privacy function separate.

Weight is another factor to consider. Lighter doors only need a small push or touch to open, but heavier doors require greater force to open. The door handle should be carefully picked for ease of opening and closing. A lever handle is typically required for a heavy door because it makes it easy for all users to open, regardless of their strength or mobility.





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## Thinking about compliance

There are mandatory standards governing the distances between the door and handle, the height of the handle's location, the addition of snibs, and the amount of force needed to operate the door. Delivering a fully compliant project depends on being aware of and staying current with the relevant door hardware requirements.

Fire-rated door assemblies are utilised within a structure to prevent fire, smoke and hot gases from spreading room to room. Door handles designed for this purpose must be given a fire rating under AS 1530.4:2014 "Methods for fire tests on building materials, components and structures, Part 4: Fire-resistance tests for elements of construction" and adhere to the requirements in AS 1905.1-2005 "Components for the protection of openings in fire-resistant walls Fire-resistant doorsets".

Accessibility should also be front of mind for architects, designers and specifiers. AS 1428.1:2021 "Design for access and mobility" provides recommendations for the design of new buildings so that they are appropriate for all users with respect to facilitating access and mobility. Some of these recommendations will impact the specification of door handles, such as the preference for lever handles as they are easier to grip than knobs. There are door handles that have been specifically designed and manufactured to comply with AS 1428.1.

With respect to the operation of latches in a required exit door, the mandatory compliance aspect comes from the National Construction Code (NCC) with respect to the operation of latches in a required path of travel (i.e. how doors need to work if they are part of the emergency exit path). For more information, see Clause D2.21 of the NCC 2019 Volume One before 1 May 2023 and Clause D3D26 of the NCC 2022 Volume One after 1 May 2023.

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## Why choose brass?

It is a common misconception that the selection of designs and finishes is limited by the small number of compliant door lever options available. Stainless steel and stainless steel equivalent finishes are the most popular choice for commercial applications, but the use of less institutional finishes is becoming commonplace. The obvious example is the prevalence of matt black in many modern designs, but also the popularity of softer, earthier tones that a natural brass finish can deliver.

Brass is a gold-coloured metal alloy comprised mainly of copper and zinc. Brass can have a bright gold appearance, but it can also take on reddish-gold or silvery-white tones. It has been used for centuries in a wide range of applications. Modern uses of brass in the built environment include architectural hardware, plumbing materials, fastening devices (e.g. screws or nails), furniture and decorative objects.

Brass is excellent for door handles for both aesthetic and mechanical reasons. Brass properties vary depending on the alloy, but it is known for being highly workable and maintaining high strength after forming thus lending itself to accurate and repeatable manufacture. Below we consider some of the architectural advantages of specifying brass door handles.

- **Durability and strength.** Brass is one of the most durable metals used in construction and manufacturing. Key factors to brass' durability are its impressive tensile strength and resistance to wear and tear. When exposed to pressure or impacts from tools or heavy objects, brass does not easily scratch or dent. Due to these qualities, brass is excellent for use in areas with

high traffic where door hardware is frequently subjected to severe wear and tear.

- **Timeless style.** Brass' distinctive color, which can resemble gold depending on its composition, makes it a popular choice for interior designers. Brass is also warmer on the colour spectrum, which means it can be easily used in an earthy colour scheme or as a contrast to cooler shades and tones. This versatility enables brass fittings to be incorporated in a range of aesthetics, from classic or rustic styles to sleek, modern interiors.
- **Fire resistance.** Brass door handles can withstand higher temperatures than many other materials. It is important to ensure the product is properly fire-rated and suitable for the proposed application. Doors fitted with fire-rated door hardware need to maintain their ability to prevent the spread of fire in order to protect lives and prevent further property damage.
- **Corrosion resistant.** When it comes to corrosion resistance, brass may be a better option than the stainless steel grades typically used to manufacture door handles. As it contains little to no iron, it is not susceptible to iron oxidation which can result in tea staining and rust. This quality makes brass a great choice for high-corrosion environments and for outdoor applications in general.
- **End-of-life value.** Brass is an alloy made of copper that retains both its chemical and physical properties after being recycled. Due to its infinite recycling potential, brass has both significant environmental and financial benefits.

# STYLISH YET FUNCTIONAL

## Compliant brass door handles from Lockwood and ASSA ABLOY

ASSA ABLOY Opening Solutions Australia presents the award-winning Lockwood Brass Core range of stylish door handles that combine an elegant design with high functionality. Breaking the paradigm that compliance opposes style, the Brass Core range merges purity of form with function, providing 24 new designs and encompassing one of the largest selections of compliant levers for access and mobility (AS 1428.1).

Designed and assembled in Australia with Lockwood's trusted quality at its core, the new brass handles comprise a broad selection of compliant lever styles that easily integrate with the building's architecture, thereby, providing aesthetic continuity.

The elegant designs in the Lockwood Brass Core range of door levers satisfy both compliance requirements and modern interior design considerations. These brass door handles, which are suitable for corporate offices, public spaces, schools, institutions, airports, museums and venues - among others - combine excellent function with purity of form and beautiful finishes to improve the architecture overall and also to connect the user with the built space.

The Brass Core range is made from a hardwearing and high-quality material that comes in a range of finishes including brass, bronze, white and copper,

among others. In addition to standard architectural plated finishes, Lockwood offers an extensive range of decorative finishes, as well as different roses and plates, to achieve the aesthetic of your choice. Conceptualised as a small extension of a building's architecture, the simple silhouettes of each door handle design can adapt to broad architectural spaces and remain relevant throughout the building's lifespan.

Even from a manufacturing standpoint, the Lockwood Brass Core line has been produced in the most sustainable manner possible. ASSA ABLOY Opening Solutions made sure that the amount of equipment and labour needed was kept to a minimum while still enabling the line to be delivered in the same lead time as other compliant levers.

Reflecting its quality, style and fit-for-purpose design, the Lockwood Brass Core range was honoured with a 2020 Good Design Award. To complement this collection of compliant door handles, Lockwood has a comprehensive range of total door hardware solutions, including locks, door closers, door seals, hinges and more. By partnering with Lockwood you can be sure you get a total solution that looks great, is designed to last and is compliant with all Australian market requirements and standards.



