



We Supply Doors | Hardware and Bath  
Accessories for Owners and General  
Contractors across 48 States of USA.

## **FIRE DEFENSE 101:**

### HOW FIRE-RATED DOORS SAFEGUARD YOUR COMMERCIAL BUILDING



Unintentional fire can be catastrophic in any setting. While in commercial buildings, the stakes are even higher.

#### **Why?**

Cause these buildings house not just property and equipment, but also employees & potentially customers.

Beyond causing devastating financial losses, a fire can endanger lives and disrupt business operations for a long time.

## Fire-Rated Doors: Your Building's Firewall

Thankfully, there are measures we can take to mitigate fire risk and ensure safety.

Wondering how?

One vital component of a fire defense plan is the use of fire-rated doors.

Now, these specialized doors are designed to withstand fire for a specific amount of time, giving inhabitants precious time to evacuate and firefighters a chance to contain the blaze.

But fire-rated doors are only effective when paired with the right hardware and door equipment.

Here's where a reliable [door hardware supplier](#) comes in.

A reputable supplier will not only offer a wide range of fire-rated doors but also the essential **door hardware** needed for proper functionality. This includes:

- **Fire-rated door closers:**

These ensure the door closes automatically after use, preventing fire and smoke from spreading.

- **Fire-rated hinges:**

These heavy-duty hinges are designed to withstand the heat and pressure of a fire, keeping the door securely in place.



- **Panic bars:**

Essential for emergency egress, panic bars allow for easy exit even during a stressful situation.

- **Exit devices:**

These combine panic bars with additional features like key access for increased security.

# Understanding Fire-Rated Doors: Your Building's Guardians Against Flames

Fire safety is foremost in any commercial building. Fire-rated doors play an integral role in this strategy, acting as essential barriers against flames and smoke.

Now, let's explore these specialized doors and understand how they safeguard your building in a fire emergency.

## What Are Fire-Rated Doors and Why Are They Important?

A fire-rated door is a specially designed door that can withstand fire for a specific period. This extra window of time lets occupants evacuate safely and gives firefighters a fighting chance to contain the blaze. They are a compulsory component of a building's fire safety plan, creating fire compartments and preventing flames and smoke from spreading.

## Decoding Fire Resistance Ratings

Fire-rated doors are assigned a rating based on how long they can resist a standard fire test conducted according to established protocols (like ASTM E119 in North America). These ratings are typically displayed as a number followed by "minutes" (e.g., 30-minute fire door).

Common fire resistance ratings include 20, 30, 45, 60, and 90 minutes. The appropriate rating for a particular door depends on building codes and the specific location within the building.



## Building a Barrier: Materials Used in Fire-Rated Doors

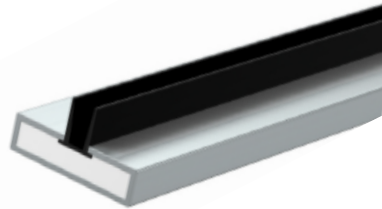
Unlike your average doors, fire-rated doors are constructed with specific materials designed to withstand extreme heat and flames. Here's a breakdown of some common components:

- **Door Core:**



This inner layer is often made of fire-resistant materials like mineral wool, calcium silicate, or gypsum board. These materials have excellent insulating properties, slowing down heat transfer.

- **Fire Seals:**



These seals expand when exposed to high temperatures, filling gaps between the door and frame. This prevents hot gases and smoke from spreading.

- **Door Skin:**



The outer layer can be made of steel, wood, or fiberglass with a fire-resistant core. Steel offers the most fire resistance, while wood requires special fire-resistant treatments.

- **Fire-Rated Hardware:**



The hinges, closers, and other hardware used with fire-rated doors must also be rated to withstand fire for the same duration as the door itself.

By understanding fire-rated doors and their components, you can ensure your building is equipped with the right barriers to protect your employees, property, and business continuity in the unfortunate event of a fire.



# Selecting the Perfect Fire-Rated Doors: Guardians for Your Business

Now that we have understood the significance of a fire-rated door, let's see how to choose one. With various options available, choosing the right ones can seem daunting.

In this section, we have put together a guide to help you select fire-rated doors that meet your specific business needs:

## Evaluating Your Building's Requirements

The first step is to understand your building's specific needs. Here are some key factors to consider:

- **Building Codes and Regulations:**

Local building codes mandate the fire resistance rating required for doors in different areas of your building. Identify the ratings necessary for each doorway.

- **Location of the Door:**

Doors separating high-risk areas like boiler rooms will need a higher rating than those leading to hallways.

- **Traffic Flow:**

High-traffic areas may need special fire doors designed for frequent use without compromising fire protection.



## Consulting the Experts

Fire safety professionals can provide invaluable guidance in selecting the right fire-rated doors. They can assess your building, identify code requirements, and recommend appropriate door solutions. Additionally, reputable door suppliers can offer expert advice on various door types, materials, and functionalities.

**Tip:** Consulting with a fire safety professional and a knowledgeable **door hardware supplier** is essential to ensure you select doors that meet both building codes and your specific needs.

## Beyond Fire Safety: Size, Design, and Functionality

While fire safety is important, other factors deserve equal consideration:

- **Door Size:**

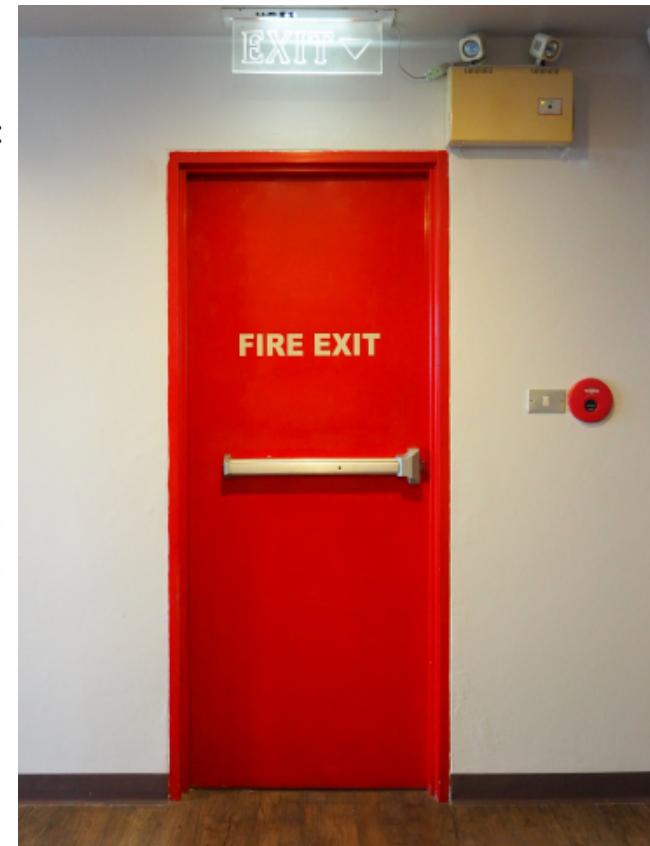
Ensure the door allows for safe and efficient passage during an evacuation. Standard door sizes may not suffice in all situations.

- **Door Design:**

Fire-rated doors come in various styles and finishes. You can choose doors that complement your building's aesthetics while meeting fire safety standards.

- **Functionality:**

Consider features like self-closing mechanisms, automatic opening systems, or doors with vision panels for better visibility.



By carefully assessing your needs, collaborating with professionals such as door distributor, and considering additional functionalities, you can select fire-rated doors that effectively safeguard your business while complementing the overall design and functionality of your commercial space.

## Fire-Rated Door Installation and Maintenance

When compared to regular doors, fire-rated doors need more proper care to function effectively. Here's what you need to know about installation and maintenance best practices for your fire-rated doors:

### The Importance of Qualified Installation

In the case of fire-rated doors, improper installation can compromise their fire resistance capabilities. That's why it's compulsory to have them installed by qualified professionals. These professionals are trained in the proper techniques to ensure:

- **Correct fit and alignment:**

The door and frame must fit together seamlessly to create a proper barrier against flames and smoke.

- **Secure attachment:**

The door and frame need to be securely fastened using the appropriate hardware for optimal fire resistance.

- **Intact fire seals:**

Fire seals expand during a fire, filling gaps between the door and frame. Qualified professionals ensure these seals are installed correctly and not damaged during the process.

- **Compliance with fire codes:**

Installation adheres to relevant building codes and fire safety regulations.

## Maintaining Peak Performance: Regular Inspection and Maintenance

Just like any safety equipment, fire-rated doors require regular inspection and maintenance to function optimally. Here's a basic maintenance routine:

- **Visual inspection:**

Periodically check the door, frame, and hardware for visible damage, warping, or misalignment.

- **Hardware functionality:**

Ensure hinges, closers, and other hardware operate smoothly and the door closes completely and self-latches properly.

- **Fire seals:**

Inspect the fire seals for deterioration or cracks. These seals play a vital role in preventing smoke and flames from spreading.

- **Lubrication:**

Lubricate hinges and other moving parts according to the manufacturer's recommendations.

## Pitfalls to Avoid: Installation and Maintenance Mistakes

Here are some common mistakes to avoid during installation and maintenance:

- **DIY Installation:**

Though it looks tempting, fire-rated door installation is best left to qualified professionals to ensure proper fire protection.

- **Improper Hardware:**

Using the wrong type of hardware can compromise the door's fire resistance rating.

- **Neglecting Maintenance:**

Skipping regular inspections and maintenance can lead to undetected issues that could hinder the door's performance in a fire.

- **Painting Fire Seals:**

Painting fire seals can impede their ability to expand properly during a fire.



By following these best practices, you can ensure your fire-rated doors are installed and maintained correctly, providing optimal fire protection for your building, occupants, and business continuity.

## FAQs

### 1. My building has existing doors. Can they be upgraded to fire-rated doors?

Unfortunately, in most cases, standard doors cannot be effectively upgraded to meet fire-rated specifications. Fire-rated doors are constructed with specific fire-resistant materials throughout, including the core, skin, and seals. Upgrading existing doors wouldn't guarantee the same level of fire protection as a purpose-built fire-rated door.

### 2. I need fire-rated doors, but they seem bulky and unappealing. Are there any stylish options available?

Fire-rated doors come in a wider variety of styles and finishes than you might think! You can find doors made of steel, wood, or fiberglass with fire-resistant cores. These doors can be painted or finished to match your building's aesthetics while still meeting fire safety requirements. There are even fire-rated doors with glass panels for better visibility. Companies like Aorbis, a trusted [door hardware supplier](#), can help you find fire-rated doors that blend seamlessly with your building's design.

### 3. Where can I get help choosing the right fire-rated doors for my business?

Consulting with a fire safety professional is highly recommended. They can assess your building, identify code requirements, and recommend appropriate fire-rated door solutions. Additionally, reputable door suppliers can offer expert advice on various door types, materials, and functionalities, and ensure compliance with fire safety regulations. AORBIS, for instance, not only offers a wide selection of fire-rated doors but can also connect you with fire safety professionals to ensure you make informed decisions for your business.

### 4. Do fire-rated doors require any special maintenance?

Yes, fire-rated doors require periodic maintenance to ensure they function properly in a fire emergency. This typically involves inspecting the door, frame, and hardware for damage or wear, and lubricating hinges and closing mechanisms. door hardware suppliers like AORBIS Inc. can recommend qualified technicians to keep your fire-rated doors in top condition.

## 5. My building has multiple fire exits. Do all the doors need to have the same fire rating?

Not necessarily. The required fire-resistance rating for a door depends on its location within the building and building codes. For example, doors leading directly outside may have a lower rating than those separating high-risk areas from other parts of the building. Consulting with a fire safety professional is crucial to determine the appropriate rating for each fire exit door.

# Make a Perfect Choice

In conclusion, fire-rated doors play a pivotal role in enhancing the safety and integrity of commercial buildings against fires, offering crucial time for evacuation and emergency response. Their strategic implementation, alongside vigilant maintenance, solidifies your fire defense framework, safeguarding lives, assets, and business continuity. AORBIS stands as your partner in fortifying your premises, equipping you with the right solutions for comprehensive fire protection.

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*Fire-rated doors & hardware shield buildings, ensuring safety and business continuity.*

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## About AORBIS Inc.

Welcome to AORBIS Inc., your trusted supplier of doors, hardware, and bath accessories across 48 states of the USA. Our expansive network, featuring over 100 manufacturers, allows us to offer a broad selection of products tailored to your requirements.

Aorbis provide to the needs of new construction and renovation projects alike. We prioritize timely and accurate deliveries, focusing on Value Engineered (VE) solutions to enhance cost-efficiency without sacrificing quality. Our commitment to excellence includes providing thorough and precise quantity takeoffs for Division 8 and Division 10 of the CSI Master Format. This ensures your projects are executed on time and within budget.

Experience the AORBIS difference to elevate your next project with us.



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