







WON-DOOR AUSTRALIA

WON-DOOR NEW ZEALAND

PRODUCT BROCHURE

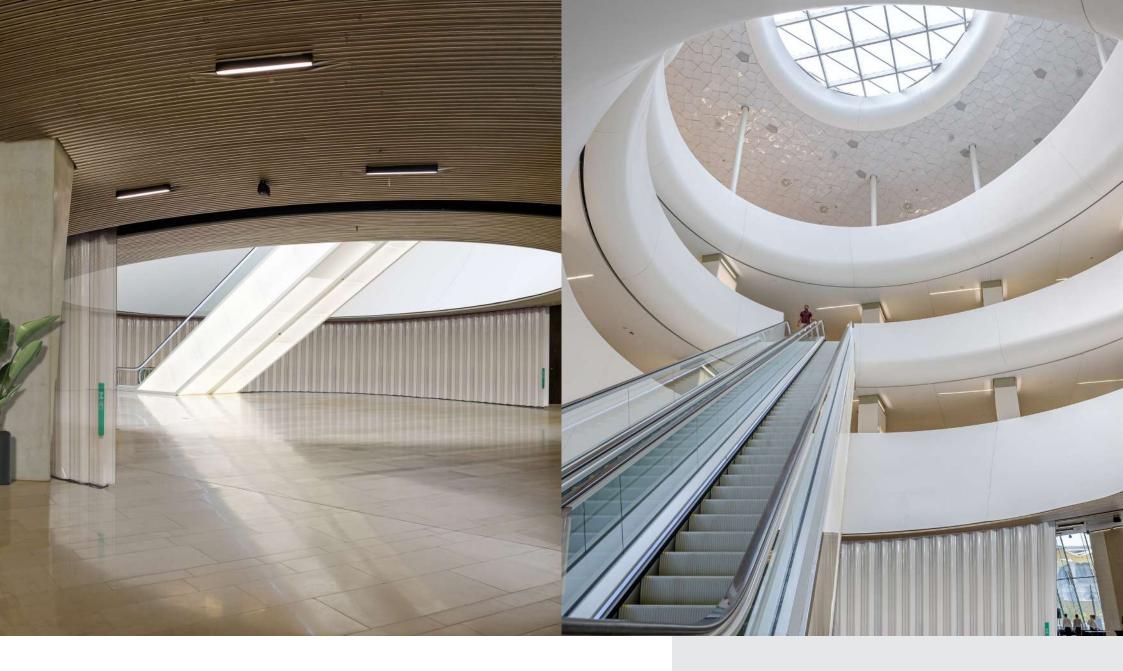
FireGuard™





With over one million visitors annually, The King Abdulaziz Centre for World Culture (also known as Ithra) is a cultural hub that TIME Magazine listed as one of the worlds greatest places to visit. The 80,000 square meter building was designed by Norwegian architect Snohetta with the shape being inspired by the internal structural shape of oil-bearing rock formations.

King Abdulaziz Centre for World Culture, Saudi Arabia.





The museum's valuable archive is protected by one of the world's largest circular fire doors. This continuous Bi-Parting custom curved eclipse spans over 60m and makes this Won-Door over 275 square meters in size!

King Abdulaziz Centre for World Culture, Saudi Arabia.

WON-DOOR'S Global Story

Won-Door FireGuard is manufactured in America by Won-Door Corporation who in the 1960's pioneered the world's first ever horizontal sliding accordion fire door.

Over the last 60 years Won-Door FireGuard has become a globally trusted solution for architects, fire engineers and code officials as it allows them to open up large spaces in buildings while still being able to safely compartmentalise and close these areas down in the event of fire, with installations in many landmark buildings including:

- **Empire State Building**
- The Pentagon
- MGM Grand
- Amazon HQ
- Seattle Space Needle
- LAX, JFK & TWA Airports

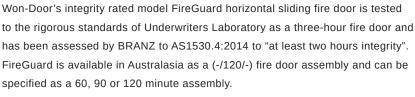
- Marina Bay Sands Singapore
- Guggenheim Museum Spain
- Harvard & Brown Universities
- Studio City in Macau
- Princes Nora University
- J.Paul Getty Museum

Established in 1987, Won-Door Australia and Won-Door New Zealand are the licensee for Won-Door products in the South Pacific. FireGuard has now been specified into more than 50 installations across AU/NZ in projects including:

- Sydney Modern, Art Gallery NSW •
- Wagga Wagga Base Hospital
- **Broadway Shopping Centre**
- 1 Castlereagh Street Podium
- Lion Sydney Olympic Park
- Commercial Bay/PWC Tower

- University of Canterbury
- Statistics NZ Wellington
- Taupo Hospital
- Cordis Hotel Auckland
- Porsche Christchurch
- Lyttleton Port

to the rigorous standards of Underwriters Laboratory as a three-hour fire door and has been assessed by BRANZ to AS1530.4:2014 to "at least two hours integrity". FireGuard is available in Australasia as a (-/120/-) fire door assembly and can be specified as a 60, 90 or 120 minute assembly.













ACTUAL INSTALLATION WITH WON-DOOR

ORIGINAL PROPOSAL WITH SWING DOORS



THE SOLUTION





MODEL FireGuard™ Flat Lead Post

Integrated Flat Lead Post that forms the pocket cover door.



Traditional male type Lead Post so architects can design the pocket cover door.

MODEL FireGuard™ Curved

Curved assemblies providing unrivalled design flexibility (uses Narrow Lead Post).

Won-Door FireGuard is a motorized horizontal sliding accordion fire door which sits concealed away inside a pocket cavity ready to deploy automatically under an alarm activation.

A twin steel walled design, operating on twin top hung tracks, with NO FLOOR TRACKS OR EXPOSED HARDWARE. A solution that is completely hidden providing limitless design flexibility to architects to open up design capabilities, while still providing total reliability for fire engineers and code officials.

Won-Door is an EGRESS COMPLIANT FIRE DOOR and comes standard with push to open green Fire Exit Hardware panels causing the door to open, pause, and then re-close permitting safe egress pathways out of buildings.



DESIGN FLEXIBILITY

- Custom Engineered with Straight & Curved Configurations
- Widths as Long as a Football Field & Heights over 8.5m tall



CODE COMPLIANT

- NFPA & IBC Compliant and Evaluated by ICC-ES (see ESR-1394)
- Approved for Fire, Smoke, Draft, Egress & Access Control



FIRE RATED

- FireGuard is an integrity only door, tested to UL10B Standard as a 3-hour door
- FireGuard is assessed to AS1530.4:2014 to at least 2 hours (-/120/-)

Note: Won-Door also manufactures an insulated model Moveable Fire Wall (tested to ASTM E119 Standard, and available in 2 options; MFW1 (-/60/60) and MFW2 (-/120/120). Contact Won-Door for more info.



SECURE ACCESS

- Compartmentalize and Secure a Building in Seconds with High-Speed Options
- Integrate with New or Existing Credentialed Devices and Monitoring Systems
- Activate to Prohibit Aggressors from Entering while Allowing Emergency Egress



COST EFFECTIVE

- Reduce Sprinklers, HVAC Systems and Fire Rated Glass
- Simultaneously Meet Fire and Security Needs with One Product



CASE STUDY - Sydney Modern

Won-Door were tasked with supplying and installing a bespoke fire separation solution for the Tank, a repurposed World War II bunker at Sydney Modern. The Won-Door team worked closely with Arup fire engineering and Architectus to retain Sydney Modern Project's architectural vision, with the specification of a concealed, motorised horizontal sliding fire door.

Alistair Morrison, Principal & Australasian Service Lead – Fire Engineering, Arup comments on the projects fire safety design and the specification of the Won-Door. "The fire safety challenges included large population numbers, flexibility of use and fuel loads, interconnected spaces, and the sustainability challenge of adapting existing structure and minimising mechanical demand."

"The Arup Fire Safety Engineers responded to the unique design characteristics by radically reducing the need for fire stairs and removed all smoke exhaust in the building. Arup were able to demonstrate safe conditions for egress, by using the sloping site to provide direct exit to outside at most levels and detailed analysis of multiple uses to demonstrate design resilience."

"The unique challenge of the Tank gallery meant considerable egress capacity was required using the 4m wide accessible entry opening in the tank wall that also formed part of the fire and smoke compartmentation

strategy. Testing reports and close design collaboration meant that evidence was available to demonstrate the performance objectives could be achieved and the team were able to make a well-informed decision about the best design solution. This led to the adoption and successful commissioning of the Won-Door system," concludes Alistair."



"To do this Arup needed to maintain the architectural vision of retaining the opening as a beacon for patrons within the darkened atmosphere, which meant conventional doors and frames would have a negative aesthetic even with hold open devices. The design team therefore reached out to Won-Door to help achieve the need for fire and smoke performance, combined with a resilient re-opening and closing function and intuitive signage and functionality, whilst being hidden from day-to-day view."

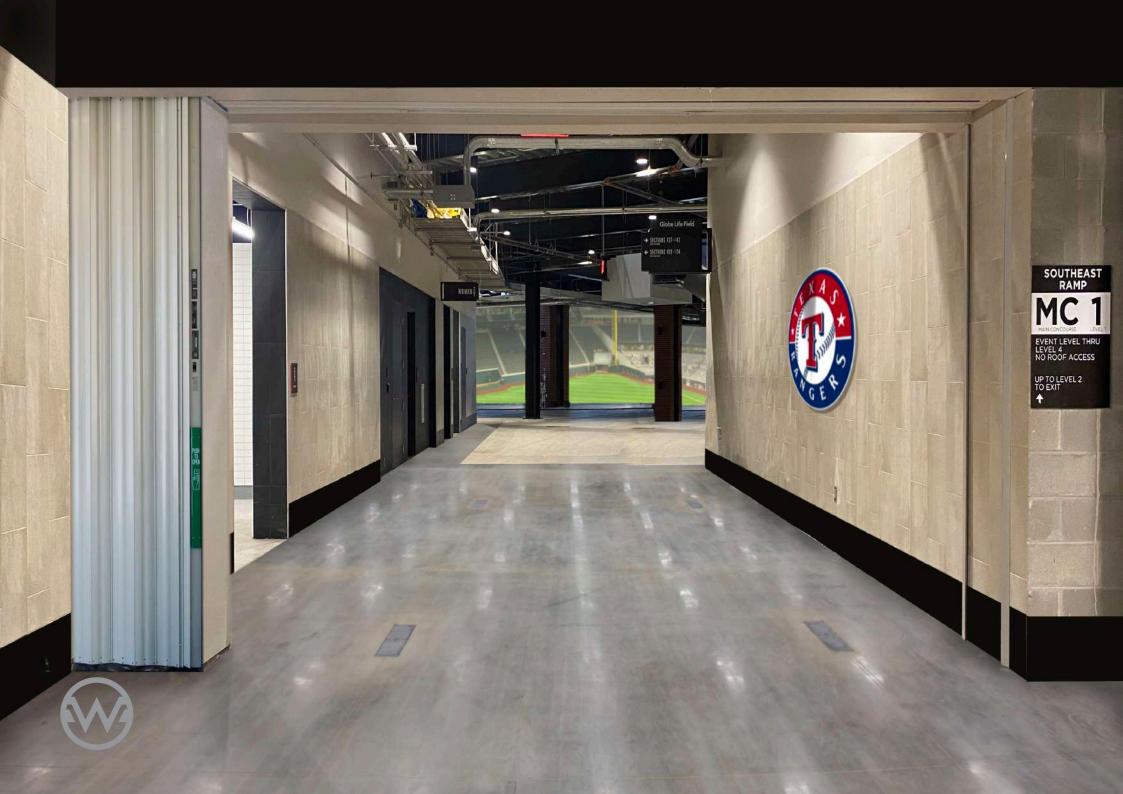
Fire Engineer: Arup

Architect: SANAA / Architectus









MODEL FireGuard™ Flat Lead Post



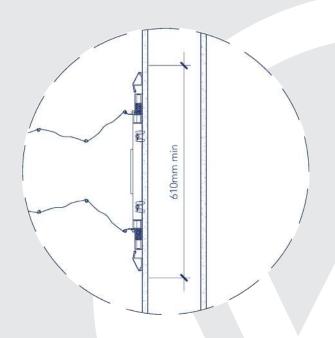
Won-Door FireGuard™ with Flat Lead Post is specifically designed for straight, single parting applications that are up to 12.192m wide and up to 3.657m in height. The main feature is that the Won-Door has an integrated steel "Flat Lead Post" on the leading edge of the door. The Flat Lead Post forms the pocket cover door when the Won-Door is stacked away in the closed position. The Flat Lead Post model stacks more efficiently and therefore requires less pocket depth.

Approximate pocket depth required for Flat Lead Post is 15% of the clear oppening width. Pocket width is 457mm. Contact Won-Door for accurate stack depth charts.



Access Model FireGuard (AFG)

All Flat Lead Post model FireGuard's are supplied as AFG models with added security features. Refer page 18-19 for details.



- Straight doors up to 12.192m wide x 3.657m high
- Integrated pocket cover door included
- For single parting doors only
- 610mm rated surface required on strike wall perpendicular to door

MODEL FireGuard™ Narrow Lead Post



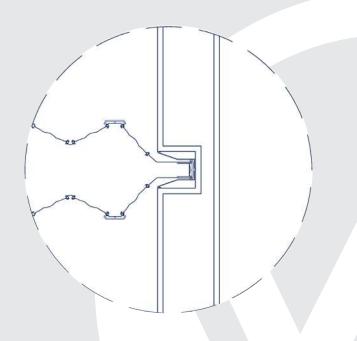
Won-Door FireGuard™ with Narrow Lead Post is the most popular model Won-Door FireGuard supplied all over the world. The Narrow Lead Post model has a traditional male/ female fire and smoke seal for the Lead Post and Strike Wall. With a much narrower Strike Wall required. The Narrow Lead Post design does not form a cover over the pocket like the Flat Lead Post model, instead the Pocket Cover Door is designed by the architect to blend in flawlessly with the surrounding environment.

Approximate pocket depth required for Narrow Lead Post is 20% of the clear opening width. Pocket widthis 457mm (508mm for openings over 4.572m tall). Contact Won-Door for accurate stack depth charts.



Access Model FireGuard (AFG)

All Narrow Lead Post model FireGuard's are supplied as AFG models with added security features for openings up to 12.192m wide & 4.572m tall. Refer page 18-19 for details.



- U.L. listed for heights up to 8.534m and unlimited widths
- Custom heights available
- Pocket cover door provided by others
- For openings > 65m2 please contact Won-Door





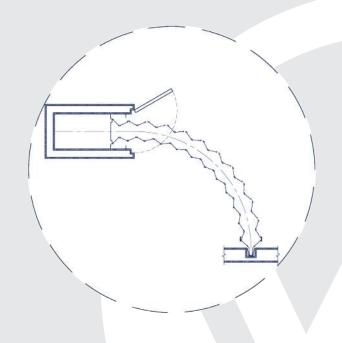
MODEL FireGuard™ Curved



FireGuard Curved offers complete design flexibility to open up interior environments by curving and bending around restrictive site conditions. With heights up to 8.534m tall and no restrictions in width capabilities, the freedom and design flexibility provided by Curved FireGuard assemblies is unmatched around the world. Standard radii curves of 5' (1524mm) and 10' (3028mm) with custom radii over 1524mm also available on request. FireGuard Curved assemblies are supplied with the Narrow Lead Post design and Security/Access options may be specified as an option.



Approximate pocket depth required for FireGuard Curved is 20% of the clear opening width. Pocket width is 457mm (508mm for openings over 4.572m tall). Contact Won-Door for accurate stack depth charts.



- Standared Radii are 1.524m & 3.048m
- Custom Radii > 1.524m available
- U.L. listed for heights up to 8.534m and unlimited widths
- Custom heights available
- Pocket cover door provided by others
- For openings > 62m2 please contact Won-Door

CASE STUDY - Lion, Sydney Olympic Park

Completed in 2013, Lion's Homebush offices incorporates 10 Curving FireGuard model Won-Door's protecting the 5-story intercommunicating staircase. The objective of the project was to create a compelling workplace, one that encouraged interaction, communication, and innovation between the 800+ employees over the 12,440 m2 building.

The ground floor accommodates Lion's reception and staff amenities, including staff bar, café, gymnasium, change rooms, masseuse rooms and training room. The selection of the amenities was carefully considered in line with the Lion philosophy of "growing sociability and well-being in our world", making life a more sociable experience, leaving people with a positive impression of Lion and themselves, embracing informality and encouraging face to face and social interaction, providing a welcoming and inspiring hub for clients and employees alike.

The specification of Won-Door was instrumental in fulfilling the design team's philosophy of an interactive, agile, and communicating workspace. Creating wide, open, and inviting environments between floors while still complying with fire code requirements with the ability to deploy and protect the openings in the event of a fire.

The Won-Door's sit concealed away inside pocket cavities to the side of each opening, deploying under an alarm activation to compartmentalize and protect the spread of fire/smoke between floors. All 10 Won-Doors are supplied with "push to open" green Fire Exit Hardware panels to allow full egress through the openings in the event of fire. The Won-Doors are wired into the building AC Power supply and have their own 24v back-up batteries in the event of a power failure.

Fire Engineer: Fire Engineering Professionals

Architect: Project Control Group









ACCESS MODEL FireGuard™ (AFG)

All FireGuard assemblies under the below sizes are now supplied with **STANDARD** Security features and issued as an AFG model "Access FireGuard". The same tested and trusted FireGuard door assembly, with added Security and Access control features.

- Flat Lead Post AFG (Access FireGuard)
 for assemblies up to 12.192m wide x 3.657m tall
- Narrow Lead Post AFG (Access FireGuard)
 for assemblies up to 12.192m wide x 4.572m tall

STANDARD Security (provided on all AFG model assemblies).

Features include anti-sway brackets mounted internally in the door, preventing movement at the bottom of the door; Motor brake locking the door into the closed position with a 600 lb. resistance to forced entry; Heavy duty track support system for high use and abuse conditions; Security jamb stops to secure the door to the pocket end. The included high speed motor closes and secures the door at a rate of 18"- 24" per second.

ADVANCED Security (optional extra)

All features of Standard Security and including LOK Module and Remote Line Interface (RLI) provided for integration to the building security system for access control. (See 2.04 G of specifications for description of capabilities.)

Note: Straight & Curved FireGuard assemblies larger than the above sizes may also be specified with STANDARD or ADVANCED Security on request.









PERFORMANCE ATTRIBUTES

All Won-Door FireGuard doors are:

- Tested in accordance with U.L. 10B
- Underwriters Laboratory (U.L.) listed for up to 3-hours ("A" label)
- Automatic closing system listed in accordance with U.L. 864
- Meet all egress requirements for IBC Chapter 10 and NFPA Chapter 7
- Won-Door's egress is ADA compliant (Americans with Disabilities Act)
- AS1530.4:2014

FireGuard is manufactured and tested in America to the rigorous standards of Underwriters Laboratory, a third-party global safety certification company who have been around for over a century. With offices in 46 countries around the world.

- Won-Door Corporation, manufacturer of FireGuard, is required to execute 30,000 endurance cycle tests on the signalling portion of the controls for FireGuard.
- Leading Edge is pressure sensitive such that contact with an obstruction shall cause the door to stop, pause for 3 seconds, then re-close when in alarm mode.
- Thermal Lockout Switch if the ambient temperature on the other side of
 the door rises above 260deg celsius the Won-Door thermal lockout switch will
 be triggered preventing someone opening or moving through to an untenable
 environment.
- Closing speed of 223mm/s, with high-speed options available in AFG models.
 Note: Bi-Parting spec will half the closing time.
- Perimeter Seals shall consist of continuous extruded sweeps attached to the top and bottom of the fire door to form a smoke and draft seal.

- Each FireGuard comes with a built-in microprocessor which sends and receives signals from the fire control panel and constantly monitors the doors condition for faults, including:
 - Continuously monitoring AC & DC power sources for missing, faulty or low supply
 - Detect if a charging circuit is bad or fuses have failed
 - Monitor the health of the drive chain
 - Monitor faults and inputs associated with Door Block, Fire Exit Hardware, and Key Switches
 - Run a "watchdog" monitoring circuit which will force a software restart in the event the software hangs and record any faults for diagnostic purposes
 - Indicate faults or supervised information both locally and at a remote location

3 YEAR WARRANTY

- Won-Door warranty provided under normal conditions of use against failure of materials and workmanship for a period of three years (must be installed by Won-Door technician).
- As with all life safety products FireGuard should be maintained in strict
 accordance with Won-Door's documented procedures and by a technician
 trained by the manufacturer. Won-Door AU & NZ have fully trained FireGuard
 technicians and offers a full preventative maintenance programme on all
 installations throughout the country.



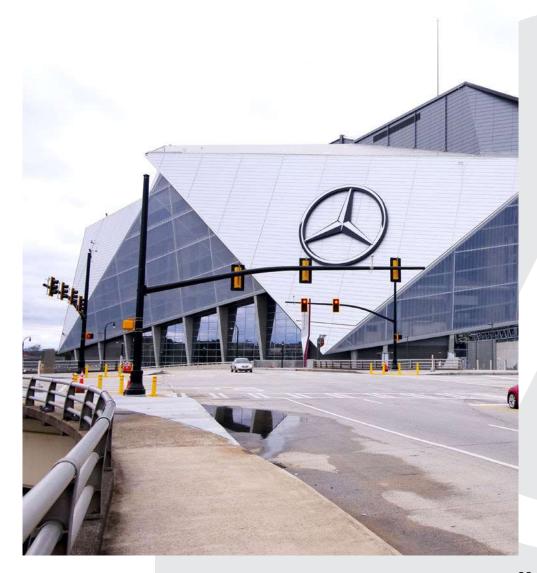






KEY FEATURES of FireGuard™

- Completely concealed solution FireGuard is stored inside a pocket, out of sight until deployment.
- Assessed by BRANZ to AS1530.4:2014 for up to (-/120/-).
- Available in the classic Narrow Lead Post with pocket cover door by others, or as Flat Lead Post with integrated pocket cover door by Won-Door.
- No floor tracks or exposed hardware offering clean and unimpeded sight lines.
- No access panels required.
- Recessed top tracks blending seamlessly into the surrounding environment.
- The Pocket Cover Door can be designed by architect (to manufacturer's spec) to match the surrounding environment.
- Single Parting (stacks to one side) or Bi-Parting (stacking to both sides)
 options available to align with project requirements and pocket storage
 availability.
- Heights up to 8.5m tall and virtually limitless in width.
- Egress available through the door via the push-to-open Fire Exit Hardware (standard on all FireGuard).
- Door can be reset after an alarm activation at the push of a button no need to call a technician.
- Door is wired into the building's AC Power supply as well as having a back-up DC battery supply.
- Built in micro-processor continuously monitoring doors condition for faults.
- Option to specify security hardware or key switch operation for intertenancy separation.
- Optional extras include; Vision Panel, Infrared Obstruction Detection, additional Fire Exit Hardware panels, glowing neon green backlit Fire Exit Hardware panel, high speed motor, anti-sway hardware for high air flow areas.

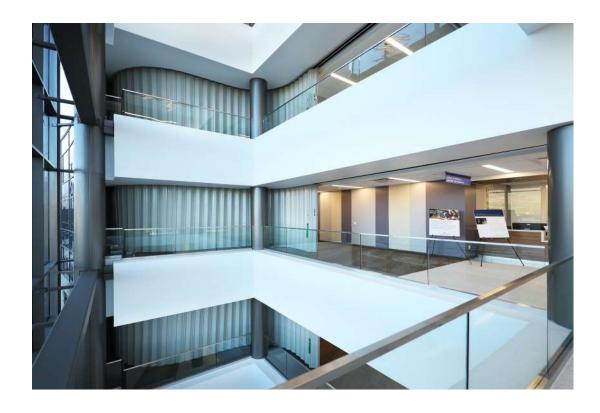






APPLICATIONS

Won-Door Fireguard[™] is routinely specified by designers to meet all codes pertaining to egress and opening protective requirements while providing architects with total design freedom. Won-Doors can be used for numerous design applications.



- AREA SEPARATION
- VERTICAL OPENING PROTECTIVE
- STAIRWELL ENCLOSURES
- COMMUNICATING STAIRS
- VERTICAL EXIT ENCLOSURE
- OCCUPANCY SEPARATION
- CROSS CORRIDOR SEPARATION
- HORIZONTAL EXIT ENCLOSURE
- ELEVATOR LOBBY SEPARATION
- SMOKE AND DRAFT CONTROL
- COMPARTMENTALIZATION
- SAFE AREAS OF REFUGE
- ATRIUM SEPARATION
- STAGE PROSCENIUM PROTECTIVE

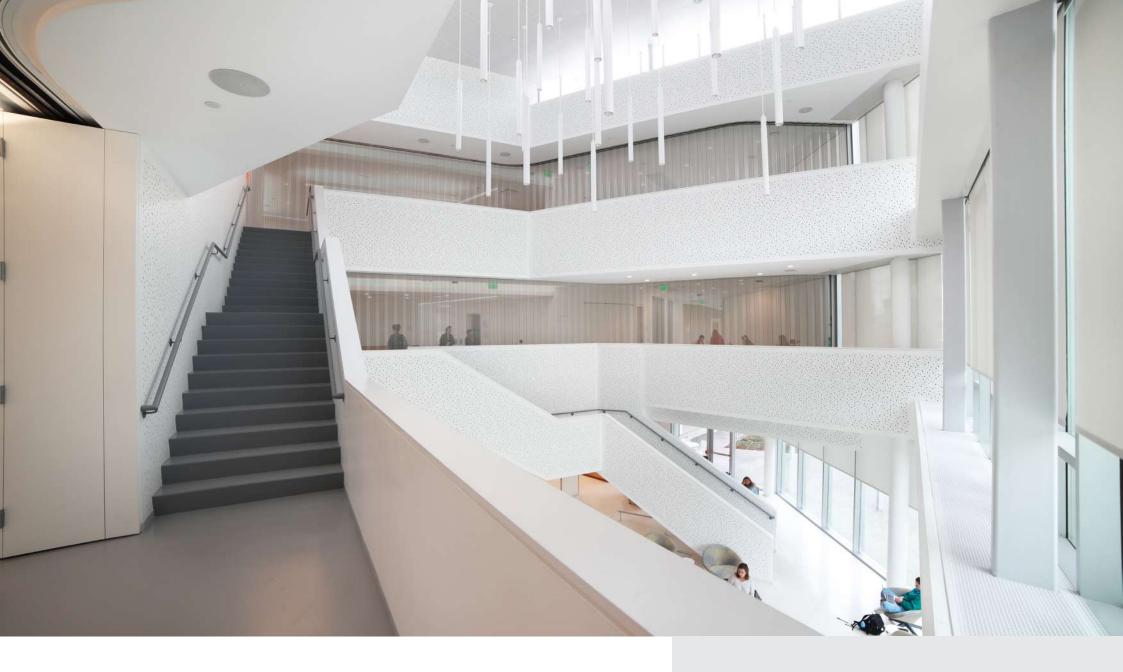






Pechanga Casino utilises a 7m tall Won-Door for occupancey separation between Hotel and Casino facilities.

OCCUPANCY SEPARATION





Brown University in Providence, Rhode Island incorporates several curving Won-Doors protecting the Open Atriums and Intercommunicating Stairways.

COMMUNICATING STAIRS & OPEN ATRIUMS





Joplin High School in Missouri utilizes the Flat Lead Post option to minimize pocket spaces and removes the need for pocket cover doors.

CROSS CORRIDOR SEPARATION

COMMON LOCATIONS

Won-Door products are utilized in many different project types around the world where you'll likely find us protecting the nearest school or city's tallest high-rise, including the Empire State bulding and Willis Tower (formerly Sears Tower).



- EDUCATION
- HOSPITALS & MEDICAL FACILITIES
- COMMERCIAL BUILDINGS
- PLACES OF WORSHIP
- MULTI-RESIDENTIAL & HOTELS
- SHOPPING CENTERS
- CASINOS & CONVENTION CENTERS
- CULTURAL CENTERS
- HIGHRISE & MULTI-USE
- AIRPORTS
- GOVERNMENT BUILDINGS
- MUSEUMS







John's Hopkins Hospitals, Taupo Hospital, and the Wagga Wagga Base Hospital (pictured here), are just a few of the tens of thousands of hospitals and medical facilities around the world utilizing Won-Doors to create expansive and free flowing corridors.

HOSPITALSWagga Wagga Base Hospital

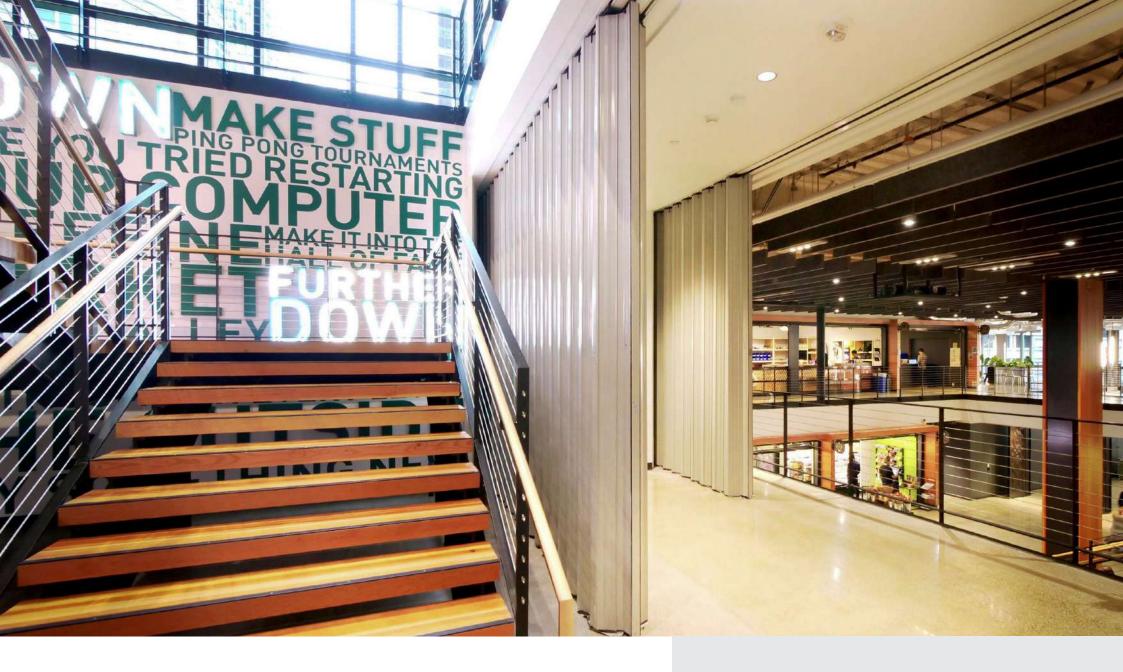




Singapore's remarkable 8 billion dollar Marina Bay Sands Hotel and Convention Center, has over 30 Won-Doors to help accommodate the movement of hundreds of thousands of guests annually. Won-Doors can be found in most hotel chains around the globe including Marriott Properties, Hyatt Hotels, Hiltons, Omni Resorts, Holiday Inns and many more.

HOTELS

Marina Bay Sands Hotel and Convention Center in Singapore





Amazon Headquarters in Seattle, Washington utilizes Won-Doors throughout it's 3 million square foot corporate campus, to meet the needed fire codes without obstructing the open and inspiring work environment.

COMMERCIAL BUILDINGSAmazon Headquarters in Seattle





The Pentagon had 38 Won-Doors at the time of the devastating attacks on September 11, 2001. The amazing performance of these doors in stopping the spread of smoke and fire throughout the facility saved numerous lives and helped protect and preserve the building. The Pentagon continues to expand its use of state-of-the-art protection and now incorporates over 150 Won-Doors throughout the expansive facility.

GOVERNMENT BUILDNGSThe Pentagon in Virginia





The Petersen Auto Museum in Los Angeles underwent a 90-million-dollar renovation in 2015. The steel ribbons wrapped around the building are meant to give the appearance of speed and motion. Several Won-Doors were added during the remodel to complement the existing Won-Doors that had already been in the building for 20 years. Its unique and memorable building design won the American Architecture Award in 2017.

MUSEUMSPetersen Automotive Museum in Los Angeles





Won-Doors are designed with special attention to creating large open spaces. From the MGM Grand in Las Vegas to the Studio City Hotel and Convention Center in Macau, Won-Doors can be found in virtually every casino and gaming facility.

CASINOSMGM Grand in Las Vegas





Christchurch's University of Canterbury incorporates three Won-Door model FireGuard's to protect the elevator lobbies and corridors. Won-Door FireGuard has also been installed in the University of Victoria in Wellington and Massey University in Auckland.

UNIVERSITIESUniversity of Canterbury

CASE STUDY - Commercial Bay

Located on Auckland's downtown waterfront, Commercial Bay is New Zealand's premier destination for retail, food, entertainment, and commerce. Taking its design queues from the cliff edge landscape of Auckland's harbours, the vibrant interconnecting laneway structure of the central city, and the powerful symbols and textures of New Zealand's famously beautiful landscapes.

A towering 4.5m tall Won-Door FireGuard was specified by architects Warren and Mahoney at the recommendation of fire engineers Holmes Fire to protect the pedestrian link between the 36 level PWC tower and the Commercial Bay shopping centre.

The pedestrian link located on Level 2 between Commercial Bay and the PWC Tower posed several critical passive fire challenges and design restrictions. Won-Door FireGuard (assessed by BRANZ to AS1530.4:2014) was specified to ensure code compliant fire protection of a very tall opening, while still offering full egress through both sides of the fire door. The solution also tied in with the comprehensive and modern urban laneway design by concealing itself away inside a hidden pocket behind the walls. Martin Feeney, Holmes Fire Principal explains how the flexibility of Won-Door FireGuard overcame these design challenges:

"The functional and architectural design for Commercial Bay provides access between the lobby of the PWC Tower and the Commercial Bay retail space. This pedestrian link between the two buildings is approximately three metres wide and six metres tall. It crosses a property boundary and a fire separation boundary between two different evacuation zones and separate fire protection systems. The link also provides a fire escape route from each building, requiring the flexibility to cater for fire egress in both directions."



"Providing a fire separation between the retail space and lobby foyer while addressing the complex and conflicting egress requirements presented a significant challenge to the design team. A Won-Door Fireguard fire shutter was selected to address the complex fire engineering performance requirements while retaining the design vision for an open unobstructed connection between the two buildings in normal use."

The ability of Won-Door FireGuard to solve complex fire shutter challenges that are egress compliant and remain seamlessly hidden away from view is what sets it apart from other solutions. Won-Door is a totally reliable and compliant solution with a proven track record all over the world.

Fire Engineer: Holmes Fire
Architect: Warren & Mahoney





DESIGN FREEDOM

Won-Door FireGuard provides full flexibility and design freedom, offering Architects the ability to open up environments with light and free flowing traffic movement. Won-Door removes traditional swinging fire door barriers and obstructions to sight lines.

VALUE ENGINEERING

- REDUCE CONSTRUCTION COST
- ELIMINATE THE NEED FOR ADDITIONAL STAIRWELLS
- INCREASE LEASABLE SPACE
- MINIMIZE SPRINKLER REQUIREMENTS
- USE IN LIEU OF BANKS OF SWINGING DOORS
- SAVE ON SURROUNDING CONSTRUCTON & HARDWARE
- LOWER MAINTENANCE COSTS
- ELIMINATE CLEANING AREAS FOR GERM AND VIRUS CONTROL

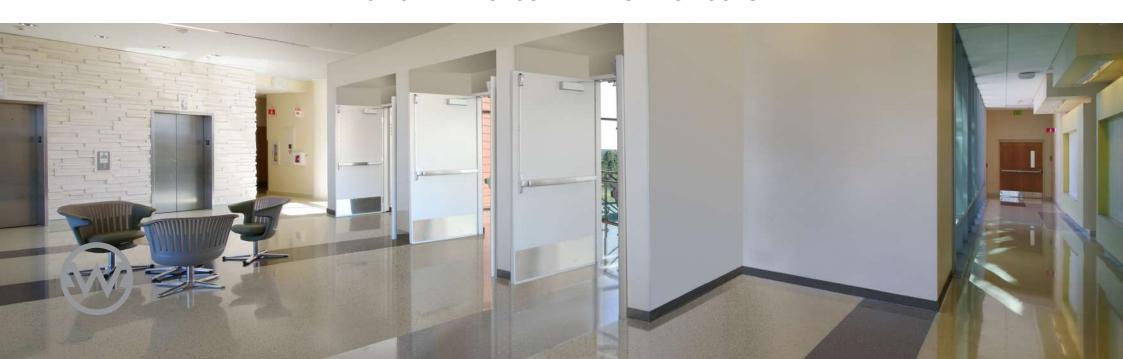






ACTUAL INSTALLATION WITH WON-DOOR

ORIGINAL PROPOSAL WITH SWING DOORS











WON-DOOR AUSTRALIA

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