



# Hollow Metal Doors



**maani** METALFORM  
CONSTRUCTION

Al Qiadiyah Engineering Industries Co.

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## Introduction

A member of Maani Ventures, MetalForm is specialized in sheet metal fabrication with the capability of delivering a wide range of customized metal products. MetalForm is the leading and reliable choice for manipulating sheet metal: punching, bending and forming.

Engineers and Industrialists trust MetalForm to produce the highest quality products such as durable fire-rated door assemblies and sturdy building facades. Our hollow metal doors and frames are tested according to American and British Standards.

Located in Amman (Jordan), MetalForm has a region wide reach serving the Middle East, North Africa and the Gulf. Our state-of-the-art machinery and experienced designers and engineers will exceed the expectations for all your metal forming needs. Choose MetalForm.



## Design

METALFORM products are designed by experienced engineers using state-of-the-art computer aided design technology.

Our advanced engineering division provides a full 3D mechanical modeling facility and enables us to produce working drawings and installation details exactly and efficiently.

## Fabrication

Our purpose built fabrication plant is one of the most modern of its kind in our industry and fully equipped to produce and finish the widest possible range of architectural metal products.

Our production line techniques combine highly skilled expertise from our workforce with computer controlled manufacturing to ensure consistency in high quality.

## Installation

Regardless of project size or geographical location, our installation teams are committed to getting the job done as quickly and as efficiently as possible.

Our installation engineers are highly trained and well experienced in dealing with problems that can arise on-site.

## Opening Solution

For over 15 years, maani Metalform have been producing top quality steel doors. Our doors have been utilized in a wide and diverse range of projects that suits all different requirements. And they fall under the following categories:

## Fire Rated Doors & Non-Fire rated Door

Steel doors provide a higher level of fire protection when compared with other door materials. maani METALFORM Doors have been extensively tested with multiple international standards to assure the compatibility with most projects requirements. these standards include:

- UL 10C (Positive Pressure Fire Tests of Door Assemblies with Hose Stream Testing).
- UL 10B (Neutral Pressure Fire Tests of Doors Assemblies).
- BS 476 Part 22 (Fire Tests on Building materials and Structures).
- BS EN 1-1634 (Fire Resistance and Smoke Control Test for Door and Shutter Assemblies).
- NFPA 252.
- CAN/ULC S104.
- UBC 2-7.



## Fire Rating Classifications:

The classifications shown here indicate the common areas of fire rated doors as well as their respective ratings.

<b>3 Hours</b>	<b>2 Hours &amp; 1-1/2 Hour</b>	<b>1 Hours</b>	<b>3/4 Hour</b>	<b>1/3 Hour</b>
<b>180 Minutes</b>	<b>90-120 Minutes</b>	<b>60 Minutes</b>	<b>45 Minutes</b>	<b>20 Minutes</b>
These openings are in wall that separate buildings or divide a single building into designated fire areas.	Openings of this type are used in enclosures of vertical communication or egress through buildings.	These doors and frames assemblies divide occupancies in a building.	For use where there are openings in corridors or room partitions.	These openings are in corridors where smoke and draft control is required.

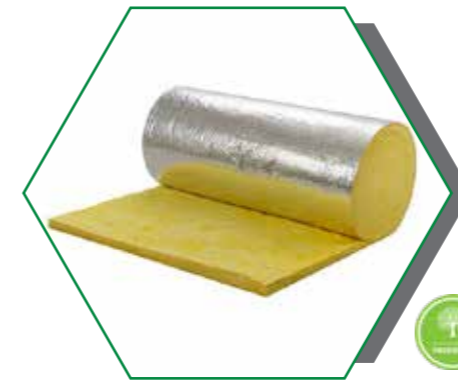


## Specifications:

<b>Material</b>	Cold rolled, Stainless-steel & galvanized steel sheet confirm to ASTM or equivalent standard.
<b>Leaf thickness</b>	45-48 mm Double layered leaf.
<b>Core or Insulation *</b>	<ul style="list-style-type: none"> <li>• Honeycomb.</li> <li>• Mineral Board with steel stiffeners.</li> <li>• Polyurethane Foam Insulation.</li> </ul>
<b>Application</b>	Light to extra heavy duty use as per SDI
<b>Ironmongery</b>	Fire Rated Accessories.
<b>Finish</b>	<ul style="list-style-type: none"> <li>• Powder coated</li> <li>• Wood finish</li> <li>• Liquid paint</li> </ul>

## Door Infill Details

“maani METALFORM is also proud of its green Products, where most of the material used is recyclable and environmentally friendly.”

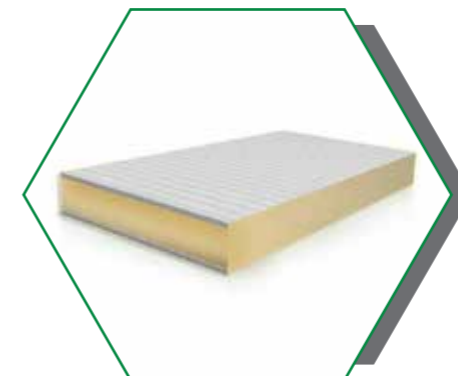
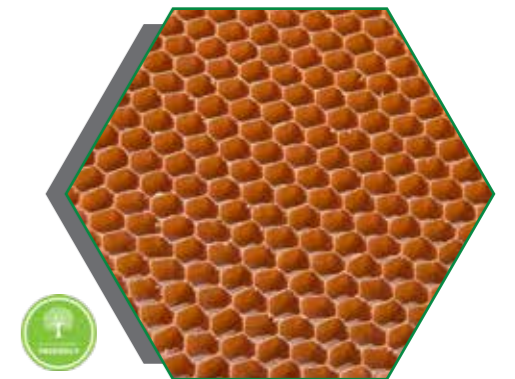


### Mineral Board

**Rockwool or Fiber glass** core used with Omega Shaped Stiffener. The door leaf is constructed for heavy duty applications and exterior usage; it also allows for a larger rigid leaf. This core provides an excellent thermal insulation, acoustical & fire barrier. It is also reusable and made of almost 40% recycled material.

### Honeycomb Core

Honeycomb Core is made from layers of **recycled** cardboard uniformly spaced, **using a green water-based adhesive**. Leaves made using honeycomb are lightweight with high strength.

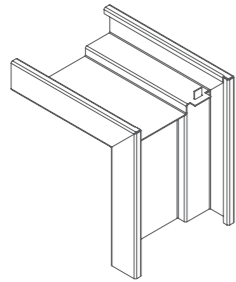


### Polyurethane Foam

Our hollow metal leaves are injected with **polyurethane spray foam**, which is a versatile insulation material that is sprayed into leaf cavities where it quickly expands and molds itself to its surroundings. The thermal isolation delivered is unmatched with a decent rigidity.

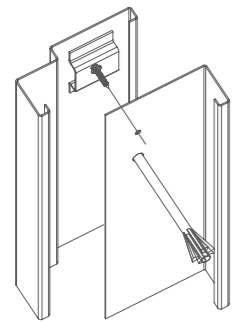
## Types of Frames

Frame profiles are generally either masonry/flush frames or slip-on drywall frames. The two most common types of frames and elevations are knock down (KD) and welded.



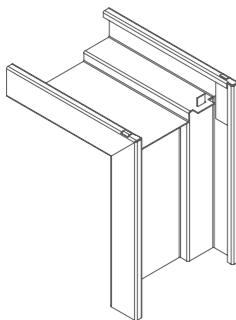
### Standard KD Frames

Standard KD frames are specified for existing wall construction. They generally have slots and tabs allowing the top and sides of the frame to be assembled on site.



### Adjustable Frame

The most popular type of adjustable door frames, ideal for interiors where room has unusual wall depths. The frame covers a larger range of wall thicknesses, giving an elegant visual effect. Rounded door frame trims connected at right angle ensure easy installation and eliminate uneven walls.



### Continuously Welded Frames

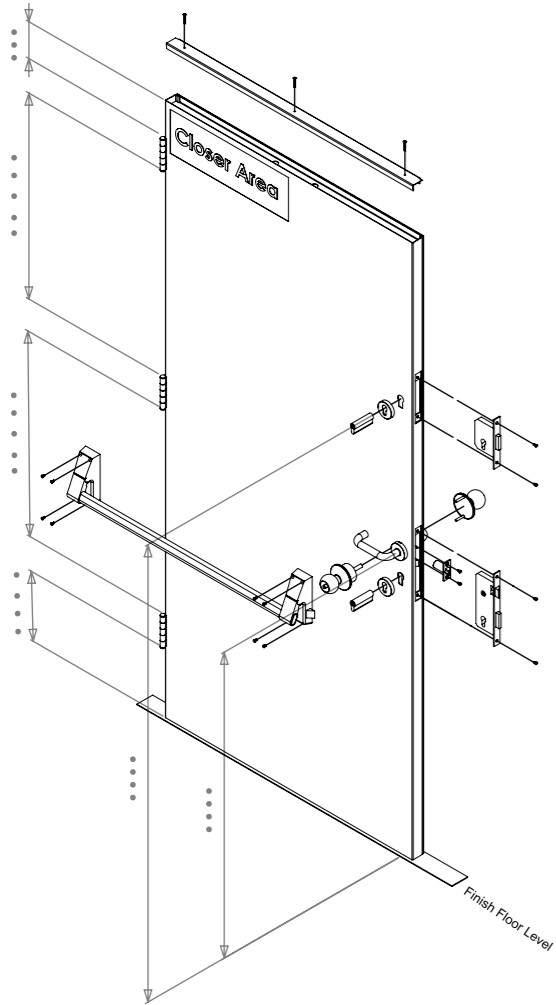
They are manufactured and delivered in one piece. The corner/perimeter joints have all elements of the frame member continuously welded including soffits, stops, rabbet, faces, and returns.

## Frames Profile

	Double Rabbet Groove Type Frame Fitted with Rubber Sealant	Double Rabbet Non-Groove Type Frame Fitted with Rubber Silencer	Single Rabbet Groove Type Frame fitted with Rubber Sealant	Single Rabbet Non-Groove Type Frame Fitted with Rubber Silencer
Welded Flush Frame				
Welded Frame with protrusion				
Knock-Down Wrap Around Frame				
Welded Un-Equal Frame A				
Welded Un-Equal Frame B				

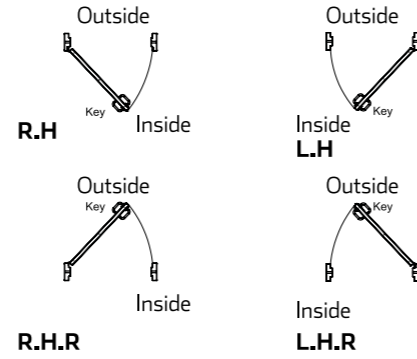
# General Hardware Location

In accordance with HMMA 831" Recommended Hardware Location for Custom Hollow Metal Doors & Frames"

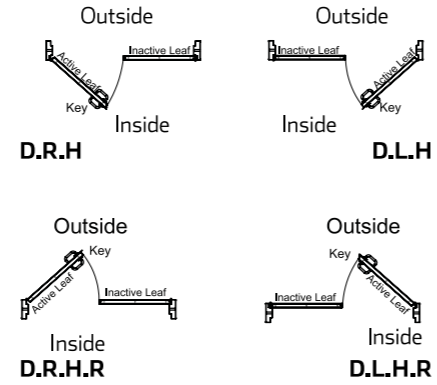


## Handings

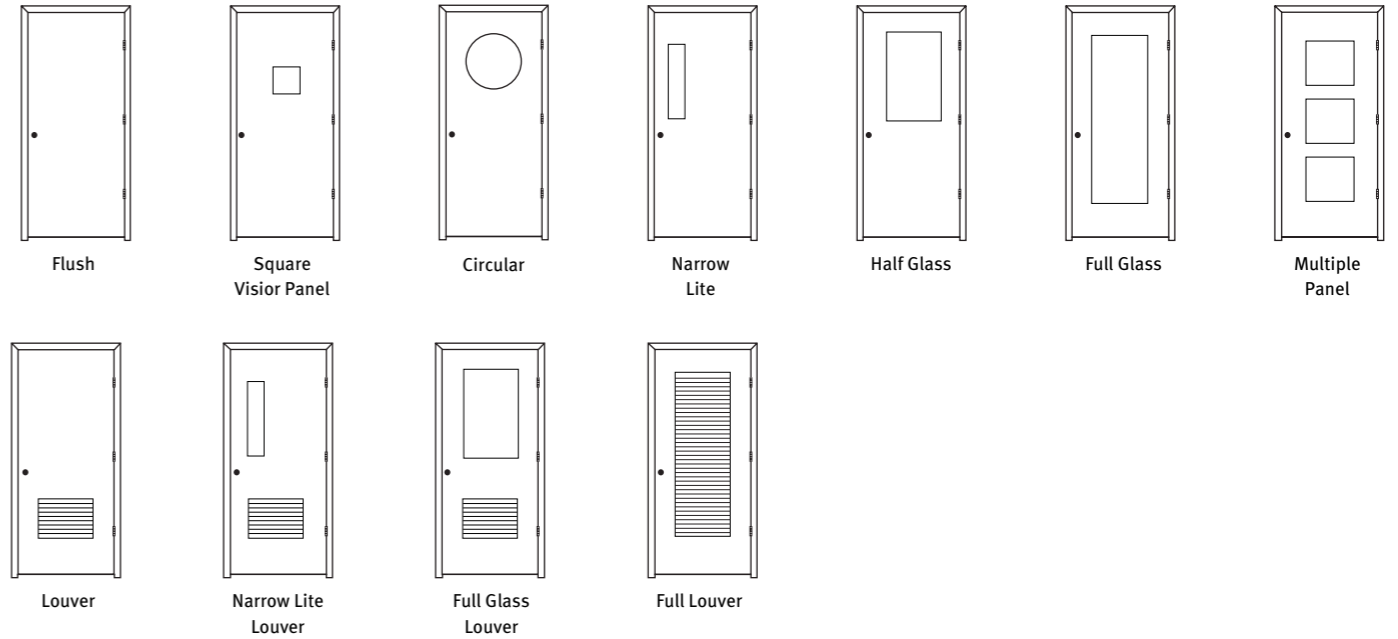
### Single Door



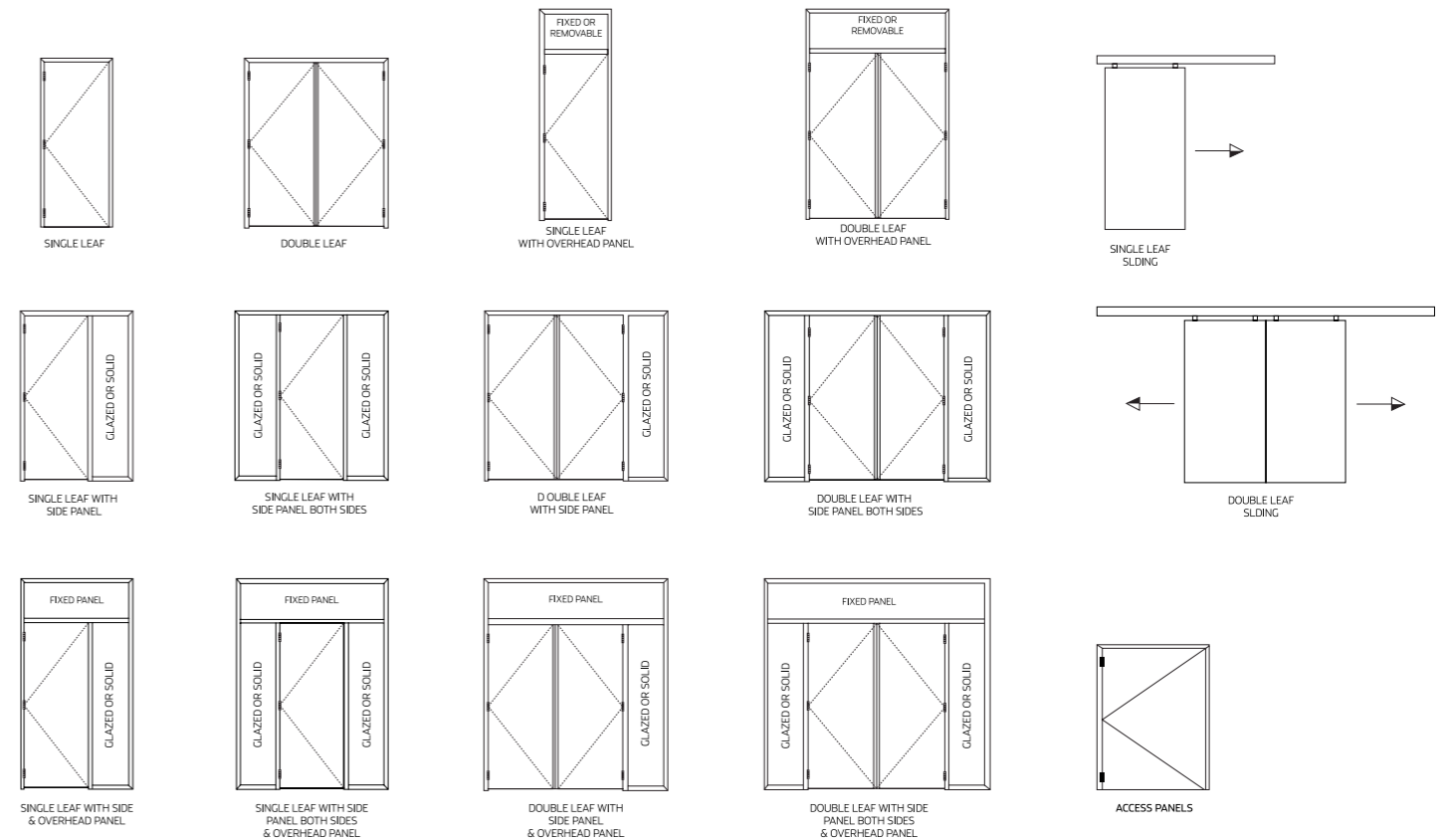
### Double Door



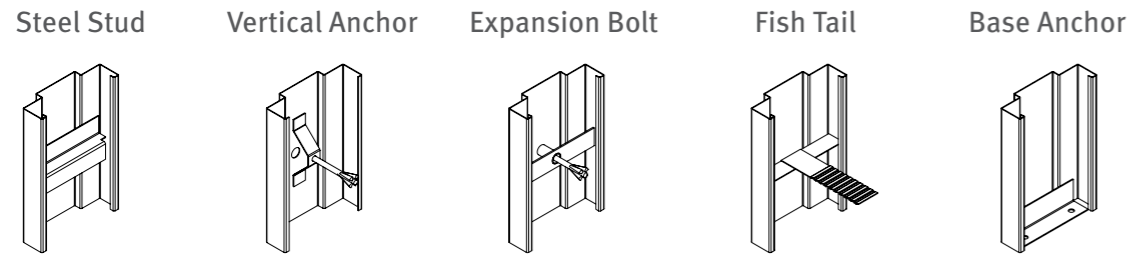
# Standard Door Designs



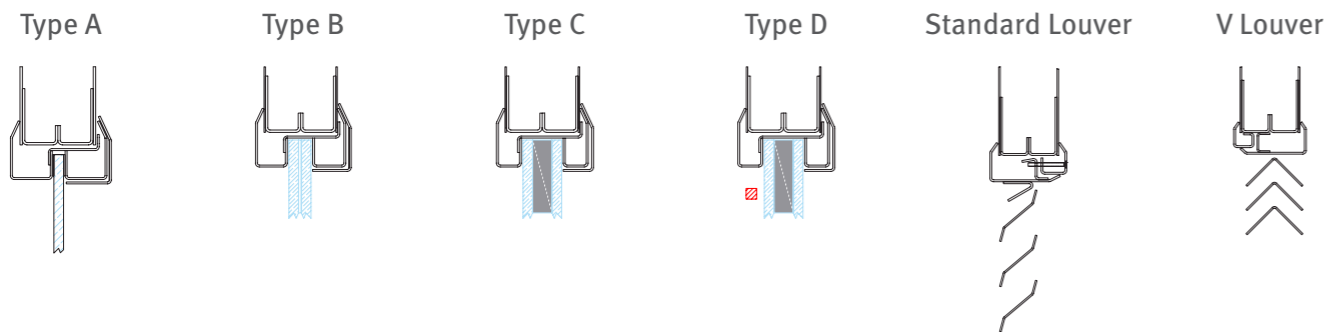
# Door Configurations



# Anchoring



# Standard Lite and Louver Profile



**Fire Rated Steel Doors**



Single Steel Flush Door



Single Steel Door with Louver Panel

**Non-Fire Rated Steel Doors**



Single Steel Door with Vision Panels



Single Steel Door with Louver Panels



Double Steel Flush Door



Double Steel Door with Vision Panel



Double Steel Flush Door



Double Full Glass Door

## Acoustic Doors

Noise is an ever-present by-product of modern living, both in the external and internal environments, affecting our health and well-being.

Even low-level noise can have significant effects. In the commercial environment, poor sound reduction between manufacturing and office environments can significantly affect productivity.

Metalform has built a local reputation for supplying high quality, reliable acoustic doors to the entertainment industry, films studios, music Venues, theatres, cultural centers and many other industries requiring special, sound insulating and acoustic fire rated doors. Customized Design with any size as per customer requirements.



## Assessing Noise

The solution to a noise problem begins with assessing the noise impact. Sound can be described by its frequency (Hertz/Hz) and sound pressure level (Decibels/ db.).

Sound Level Db (A)	Type of Noise	Noise Level
0	Threshold of hearing	Inaudible
20	Rural Environment	Extremely Quiet
30	Quiet Home	Extremely Quiet
40	Quiet Office	Distant sounds audible
50	Background Conversation	Moderate
60	Radio / Television	Loud
70	Motorway Noise	Moderately Loud
90	Factory Noise	Very Loud
105	Discotheque	Deafening
130	Jet aircraft@30 meter	Physical Pain

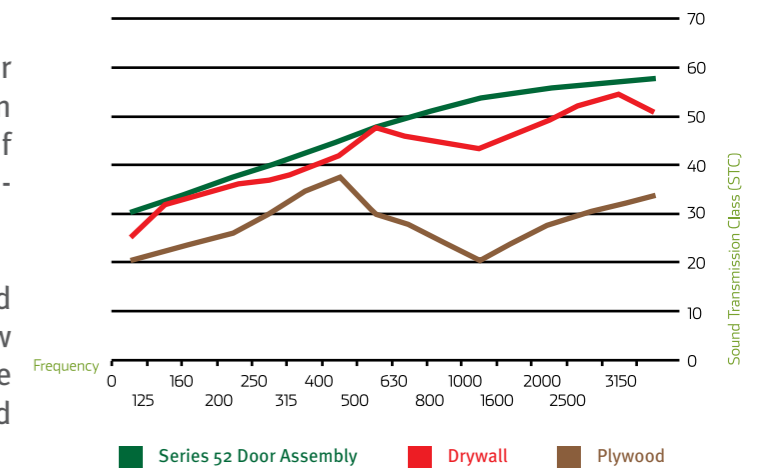
There are multiple solutions to noise reduction, but all rely mainly on two principles.

- Sound Absorption; the process by which sound energy striking a surface is absorbed within the material and converted to heat energy.
- Sound Transmission; which allows the transmission of sound energy from one point or space to another, via an intervening structure or passageway.

## Rating Sound Insulation

Sound insulation performance can be described over a range of frequencies as the Sound Transmission Class, or STC. Metalform has developed a range of acoustic doors providing a variety of sound reduction capabilities.

Metalform Acoustic Doors are manufactured from steel providing greater mass than other raw materials. Through extensive research our core materials and combinations have been developed to improve both insulation and stiffness.







## Security Doors

**Metalform Security Doors** are well suited for **Newly Constructed Residential & Commercial Applications.**

Our Hinged Door system comes with an independent sub-frame system, and European style security hardware. This system is installed with Anti lift Hinges and a multi-point locking system to provide you with the highest level of security. Metalform products incorporate high levels of protection, with the aesthetic appearance of your establishment.

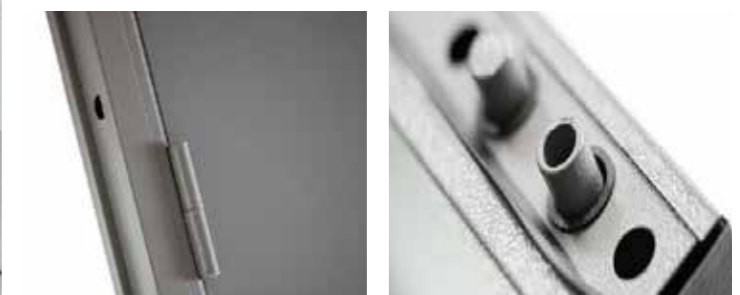
### Premium Features as Standard:

- 9 to 12 point locking system.
- Anti-jemmy hinge bolts.
- Anti-jemmy lip round the frame.
- 50mm thick door leaf filled with mineral board.

MetaForm Door	STC	Performance	Description
Series 38	30-38	Average	Loud speech audible but not intelligible
Series 45	39-45	Good	Loud speech just detectible
Series 52	46-52	Excellent	Loud speech barely audible

### Specification:

<b>Material</b>	Cold rolled& galvanized steel sheet confirm to ASTM or equivalent standard Alternate Stainless-steel material.
<b>Leaf thickness</b>	45-80mm thick door
<b>Construction</b>	Special Acoustic core and special Acoustic Accessories (e.g.): <ul style="list-style-type: none"> <li>• Automatic Bottom seal.</li> <li>• Acoustic rubber sealants.</li> </ul>
<b>Application</b>	Light to extra heavy duty use as per SDI.
<b>STC Rating</b>	<ul style="list-style-type: none"> <li>• STC Ratings Up to 52 for single.</li> <li>• STC Ratings Up to 47 for double.</li> </ul>
<b>Test Standard</b>	ASTM E336 -19 ,and ASTM E1425 -14 By Intertek standard test.
<b>Additional Feature</b>	<ul style="list-style-type: none"> <li>• Acoustic Vision panel.</li> <li>• Acoustic Louver.</li> <li>• Fire Rating: Up to 180 minutes.</li> </ul>
<b>Finish</b>	<ul style="list-style-type: none"> <li>• Powder coated.</li> <li>• Wood finish.</li> <li>• Liquid paint.</li> </ul>



# Blast Resistant Doors & Bullet Proof Doors

Metalform offers a comprehensive range of pre-engineered bulletproof door sets manufactured to suit your requirements.

The high performance is coupled with exceptional aesthetic and long-lasting appeal by maintaining the visual appearance of the standard Metalform range.

Metalform Ballistic Doors have earned a reputation for quality and high performance throughout the commercial, public sector, and industrial construction market.



## Bullet Resistant Doors

Bullet resistant doors secure a building from ballistic attacks while having the appearance of standard hollow metal products.

Each level has been tested and found effective at stopping certain types of projectiles, ones most typically employed during an armed robbery.

While ratings extend to Level 8, the needs of most banks, credit unions, and convenience stores are well covered in Levels 1-3.

### Features:

- Available in GI and Stainless Steel.
- Varied core infill layers.
- Heavy duty steel frames to suit profile types.
- Door sizes and hardware preparation.

### Assessing Threat

The table shown indicates several levels of ballistic threats.

Level	Ballistic Data
1	9MM 124 Gr., 1175 Ft. Sec., FMJ
2	.357 Mag. 158 Gr., 1250 Ft. Sec., LSP
3	.44 Mag. 240 Gr., 1350 Ft. Sec., SWC
4	.30 Cal. 180 Gr., 2540 Ft. Sec., JSP
5	7.62MM 150 Gr., 2750 Ft. Sec., FMJ
6	9MM 124 Gr., 1175 Ft. Sec. (5 SHOT)
7	5.56MM 55 Gr., 3080 Ft. Sec., FMJ
8	7.62MM 150 Gr., 2750 Ft. Sec. (5 SHOT)

### Doors are manufactured in compliance with international & European standards:

#### Material:

Cold rolled & galvanized steel sheet conform to ASTM or equivalent standard Alternate Stainless-steel material.

#### Leaf Thickness:

45-80mm thick door.

#### Core or Insulation:

Ballistic armored plating & medium density rockwool (stiffened) to suit classification.

#### Test Standard:

UL752.

#### Additional Feature:

- Seamless welded design.
- Vision panel.
- Knock down frame /Groove frame with gasket.
- STC rated.

#### Ironmongery:

- Special ballistic accessories.
- Anti-lift hinges mechanism.
- Safety lock.

#### Finish:

- Powder Coated.
- Wood Finish.
- Liquid Paint.

## Blast Resistant Doors

Blast doors are specially designed to ensure safety in buildings situated in hazardous or potentially explosive environments. Manufactured from steel, blast doors are constructed as a composite panel consisting of solid steel faces with heavy-duty reinforcement stiffeners as core.

Blast resistant steel doors and frames combine blast and air pressure resistance and yet function similarly to standard hollow metal products. When the door is under pressure in the out-swinging position, the latch mechanism and hinges are subject to severe structural loads.

Our proposed door hardware has been specifically designed and tested to form an integral part of blast door units. We also provide high quality anti-corrosive coating, in a wide range of RAL colors, to enhance the performance and aesthetic appearance of blast doors and frames.

### Features:

- High Blast pressure.
- Wide variety of configurations and sizes.
- Integrated high security locking systems.
- Available with blast proof glazing.

**Maani Metalform Products offer a wide range of pre-engineered or tailor-made Blast Resistant Doors to suit a variety of applications and across a range of sectors; including but not limited to:**

- Military Bunkers.
- Ammunition Bunkers.
- Missile Test and Launch Sites.
- Chemical and Hazardous Material Storage Rooms.
- Nuclear Power Stations.
- Petrochemical and Industrial Complexes.
- Bioscience and Nanotechnology Research Buildings.
- Pharmaceutical Facilities and University Laboratories.

## Vault Doors for Safe Rooms

Thieves have targeted vaults with a variety of sophisticated tools. As a result, vaults have evolved with an advanced array of anti-theft devices, including highly secure vault doors, alarms, combination dials and more.

Maani MetalForm range of vaults and vault doors offers certified protection against attacks from a variety of sources: crowbars, high-powered disc cutters and oxyacetylene torches, explosives, diamond-core drill bits and more.

### Features:

- For high-risk security application.
- Classified with 120 mins fire protection.
- Secured with high security keyed or keyless lock.
- With “wrapped around the wall” door frame to provide stronger resistance against attacks.



# GMP Doors

Flush and hermetic design ensure no dust collection and air tightness. Our doors are widely used in biopharma, lab, hospitals and food industries.

<b>Material</b>	Galvanized steel sheet or Stainless Steel sheet.
<b>Leaf thickness</b>	50 mm Thick Door.
<b>Core or Insulation</b>	Paper Honeycomb.
<b>Standard Configuration</b>	<ul style="list-style-type: none"> <li>Stainless steel hinges.</li> <li>Stainless steel handle lock with keys.</li> <li>double-glazed toughened vision panel with embedded drying agent.</li> <li>Automatic drop-down bottom seal.</li> </ul>
<b>Additional Features</b>	Lead Doors for X-Ray Rooms.
<b>Finish</b>	Anti-Bacterial water-based paint.



# Traffic Doors

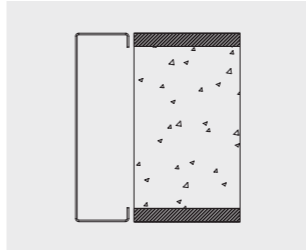
Traffic Doors also known as swing doors, impact doors and double acting doors, are a cost-effective solution for fast and efficient, two-way movement through an opening where visual, sound and environmental barriers are required.

Chase impact doors are tailored to suit many different applications and markets. The door has the flexibility and quick action to flow with and absorb impact.

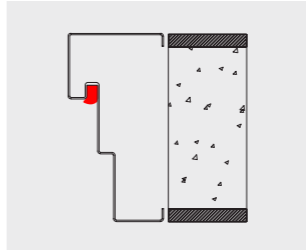
**Features:**

- Stainless steel top-mounted hinges and stainless steel rivets for impact plates permit use in washdown areas.
- The door can be manufactured to fit Customized openings.
- Easy installation.

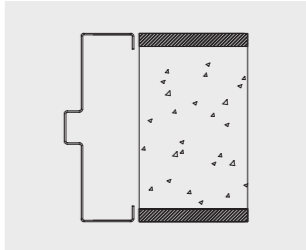
**Traffic Doors Frame Profile:**



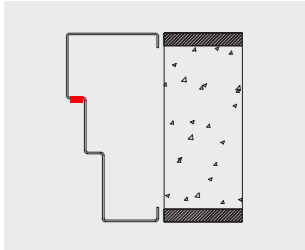
Double Action Door with Floor Spring



Groove Type Double Egress Door



Double Action Door with Spring Butt Hinge



Non-Groove Type Double Egress Door



### Double Action Doors



### Dutch Doors

Dutch doors are doors that are split in two, top and bottom, so that the top may swing independently of the bottom. The two leaves may be joined by a bolt (surface or flush). Typically the bottom leaf of the dutch door latches into the frame.



### Double Egress Doors



### Access Panels



Hinged Self Closing



Fixed Type



Cladded

## Wood Finishes

Maani Metalform has many options to finish your door, one of the most Aesthetic is wood finishes which Wood veneer doors may be sand-finished, primed, sealed with conversion synthetic seale.



## METALFORM Standard Hardware

### Mortise Locksets



### Flush Bolts



### Panic Exit Device



### Lever Handles



### Push Plates



### Hinges



### Pull Handles



### Door Closers



# Transformers & Generators Room Doors (with Fire Dampers)



## Fire Dampers

Uncontrolled fire is always a serious risk. In an emergency situation a fire can spread via a ventilation ductwork. Therefore it is essential that the ventilation ductwork is equipped with high-quality and robust fire dampers that also prevent smoke from spreading and therefore enable safety for escape routes.

Smoke damper's primary function is to control the movement of smoke in dynamic air distribution systems, and they reduce the possibility of smoke transfer within ductwork or through wall openings. They are installed in ducts passing through, or air outlet openings terminating at smoke barriers, shaft walls, horizontal exit walls, corridor walls, corridor ceilings and other barriers designed to resist the spread of smoke as required by a building or life safety code and other applicable standards. Smoke dampers operate automatically on detection of smoke and must function so that smoke movement through the duct is halted. Their activation can be by area detectors that are installed in the related smoke compartment or by detectors that are installed in the air duct systems. Smoke dampers are provided with leakage and temperature ratings.



# List of Certificates



Scan here to view all certificates:



# Projects



**Project:** The Ritz-Carlton Residences and Hotel.  
**Location:** Amman\_Jordan  
**Client:** Dar Al-Hadassah (Shair and Partners).  
**Scope:** Architectural metal works, Railings, Balustrade, Steel Doors, Ironmongery, Access Panel.



**Project:** Queen Rania Teacher Academy.  
**Location:** Amman\_Jordan  
**Client:** Haddadin Engineering Co. for Contracting.  
**Scope:** Architectural metal works, Railings, Steel Doors, Ironmongery, Access Panel.



**Project:** The Boulevard / Abdali Mall Consultant.  
**Location:** Amman\_Jordan  
**Client:** Arabtech Jerdaneh.  
**Scope:** Stainless Steel Furnishing, Pots, Cabinets, Turrets, Bins, Bollards, Bicycle Racks, Wire Mesh Trees, Cladding and Frames.



**Project:** Tareq Bus Station- Amman BRT  
**Location:** Jordan, Amman.  
**Client:** Haddadin Engineering Co for Contracting, Haddadinco.  
**Scope:** Architectural metal works; Balustrades, Railings, Steel Doors, Ironmongery, Access Panels.





**Project:** Basra Sports City.  
**Location:** Basra\_Iraq  
**Client:** Eng. Abdullah A. Al Jiburi General Contracting Co.  
**Scope:** Door works; metal, wood, glass, bronze, Aluminum, Ironmongery and Misc. metal works; custom pre-weathered cladding, stainless, painted & galvanized railings & ladders.



**Project:** Haramain High Speed Railway - Makkah Station.  
**Location:** Makkah \_Saudi Arabia.  
**Client:** Saudi Bin Laden Group.  
**Scope:** Doors, Frames & Fixed Panels.



**Project:** Jabal Omar Development Project – Phase 3.  
**Location:** Makkah \_KSA.  
**Client:** JV – Arabian Construction Co. – Drake & Scull Construction.  
**Scope:** Misc. Metal Works; Railings, Ladders, Gratings & Coping, Steel Helipad.



**Project:** Grand Millennium Al Seef Basra Hotel.  
**Location:** Basra\_Iraq.  
**Client:** AL Muhsen Group.  
**Scope:** Steel doors, frames & ironmongery, stainless steel railing, ballistic doors.



**Project:** Saraya Aqaba.  
**Location:** Aqaba\_Jordan  
**Client:** Joint Venture ‘CCC/DSC/ATC JV’.  
**Scope:** Architectural metal works; Balustrades, Railings, Steel Doors, Ironmongery, Access Panels.



**Project:** Ayla Hyatt Regency and Souk Hotels.  
**Location:** Aqaba\_Jordan  
**Client:** ATCCO.  
**Scope:** Perforated Screens, Steel Doors, Ironmongery & Access Panels.



**Project:** Rosary School - Irbid.  
**Location:** Jordan, Irbid.  
**Client:** Haddadin Engineering Co for Contracting, Haddadinco.  
**Scope:** Architectural metal works; Balustrades, Railings, Steel Doors, Ironmongery, Access Panels.



**Project:** Queen Alia International Airport Phase.  
**Location:** Amman\_Jordan.  
**Client:** Joannou & Paraskevaides (overseas) Ltd. & J&P AVAX S.A.  
**Consultant:** Foster & Partners.  
**Scope:** Steel Doors, Ironmongery, Stainless Steel Cabinets, Corner Trims, Interior Cladding System, Metal Fit-outs.





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