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# Flooding Solutions

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## Product Information

FSAG-1012 (Revision A: 08.07.15)

### 24/7 Flood Door

Model: FS-015 (single leaf)

Model: FS-016 (double leaf)



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# 24/7 Flood Door

## Model: FS-015 (single leaf)

## Model: FS-016 (double

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# Operation & Maintenance Manual

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# 24/7 Flood Door Operation & Maintenance Manual

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Note: Designed for installation into structural masonry or steel walls to provide a flood water resistant access door.  
Double leaf and heavy duty options available on request

## 1. Performance Criteria

### Door Metal Sections

- Door support frames (door jam) are designed to transfer the total developed hydrostatic loads to building structure supporting walls and floors. The modular frame overlaps external wall fabric to ensure the transferred hydrostatic loads are applied evenly over the total perimeter contact between door frame and building structure. Fixing points are provided only for locating and alignment of door frame. The door frame design provides sealing connecting profiles to allow the frame to be totally sealed into the buildings structure.
- Doors are designed to transfer the developed hydrostatic loads to the door frame via the heavy duty ball bearing roll hinges and seals.
- Design safety factor of door elements are rated against design flood levels to maintain a minimum 2:1 relationship. Metal yield strengths are selected based on the total N/m<sup>2</sup> able to be developed as a result of design flood height.

### Door water seal performance is based on the intent of the BSI British Standards PAS 118-1:2009 for Flood Protection Products –Specification Part 1: Building Aperture Products.

- Seal performance under design flood levels for water formula.  
  
Pressure in liquid = Depth x Density x Gravitational acceleration.  
  
i.e. At 2.5m depth = 24525N/m<sup>2</sup>  
Design allowance 2.5 times design flood pressure.  
Effective water seal exceeds the intent of design standards allowable leakage rate under design flood level.
- Seal performance under air pressure difference.

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## Stack Effect

- Maximum probable pressure differential at lobby or lower level of buildings due to warmer air purging from top levels of building in winter typically 50Pa. i.e. Higher external air pressure as a result of lower density of warmer air in internal zones of building.

Note: This stack effect is opposite in summer with negative external air pressure relationship to positive internal air pressure.

## Fan Pressurization

- Ventilation by fans may cause a pressure differential within building zones allowing a possible lower internal air pressure at lower level of buildings. Typically this is equivalent to stack effect pressures to offset a negative pressure differential within internal building zones. Note that 50Pa pressure differentials between building internal zones to external of building are typical maximums. Total  $N/m^2 = 50$ . The net effect on door seals is nil as the pressure containment ratings of seals for water containment exceeds that possible of air pressure by a factor of 490 to 1.

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## 2. Material & References

### Door Support Frame (door jam)

—— Aluminium/zinc coated sheet steel roll formed in heavy duty 2.5mm base steel to AS 1397.

### Door Frame

—— Heavy duty duragalS.H.S –35mm x 35mm x 3.2mm thick grade C450L0 to AS 1163.

### Door Lining

—— Aluminium/zinc coated sheet steel roll formed in heavy duty 1.6mm base steel to AS 1397.

### Threshold/LowerDoor Seal Strike Plate

—— Aluminium/zinc coated sheet steel roll formed in heavy duty 3.0mm base steel to AS 1397.

### Fixing & Hinge Support Blocks

—— Hot rolled structural steel bars and sections to AS 3679 -1990

### Water Seal Retaining Sections

—— Aluminium sections to selected profiles.

### Operation Hinge System

—— Stainless steel KARA SS304/12 ball bearing roll 40mm x 40mm hinge

### Door Water Seals

—— Base: EPDM flat section 10mm x 40mm retained with S/S 40mm x 3mm flat bar.

—— Vertical door jam: Rubber EPDM P section no. P107.

### Door SurfaceFinish

—— All surfaces provided with prime coat for finish paint by other.

### Door Locks

—— As selected by client.

Notes: Door lock compartment sealed as separate section with door lock flange sealed to door fabric.

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## 3. Maintenance Instructions

### Lubrication

- Lubricate flood door hinges.

### Seals

- Check compression seal for adhesion and perishing.
- Check seal for wear or damage.
- Check base seal for wear or damage.
- Replace if any evidence of seal fatigue or damage.
- Replace seal by removing containment plates, remove old seal and install replacement seal.
- Confirm position of seal and tighten containment plate.
- Ensure seal is located in correct position, equal to original seal.

### Finishes

- Inspect for damage to paint finish, Repair as required.
- Original colour: TBC.

### Strike Plates, Frames

- Inspect for damage and misalignment.
- Replace if seal edge is damaged.

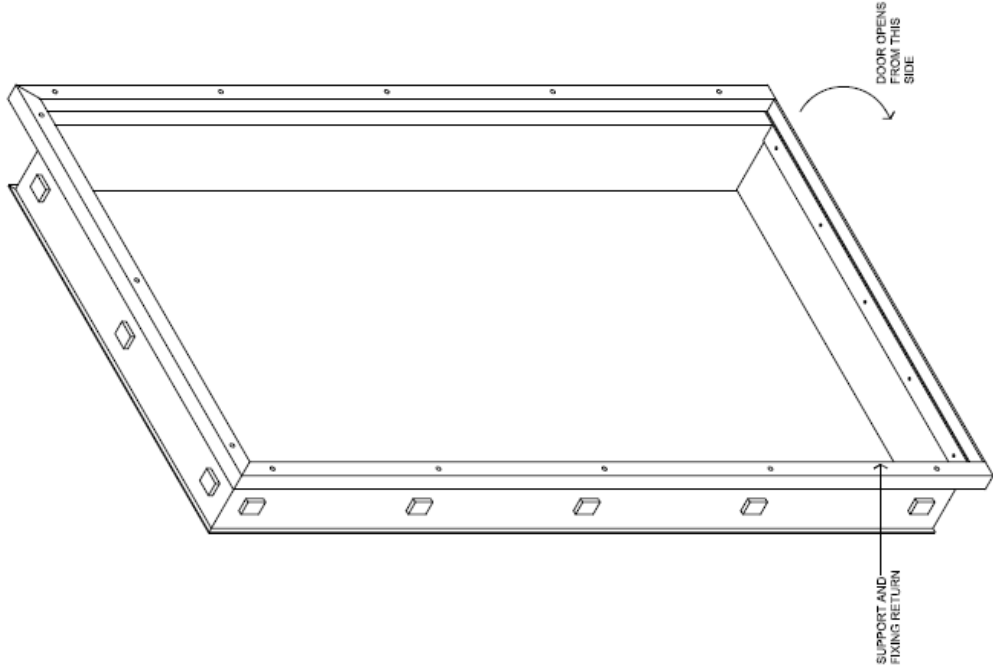
### Fasteners & Mechanical Connections

- Check all embedded connections, making sure they remain as original design standards.

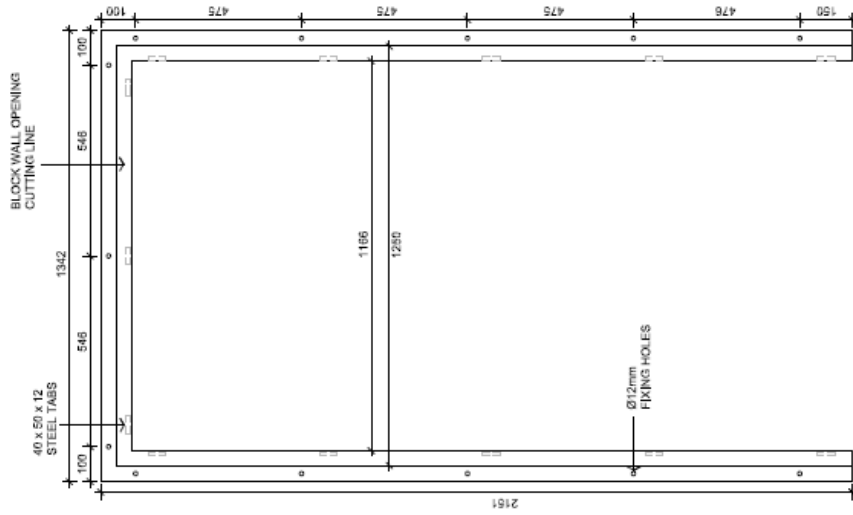
### Operating equipment

- Check operating hardware (handles, locks, push bar/closer).

# 24/7 Flood Door

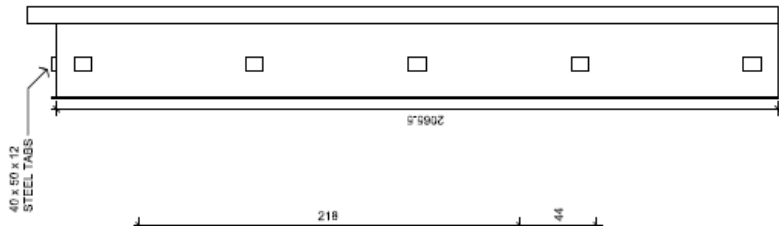


DOOR JAM FRAME ISOMETRIC VIEW  
SCALE: 1:10

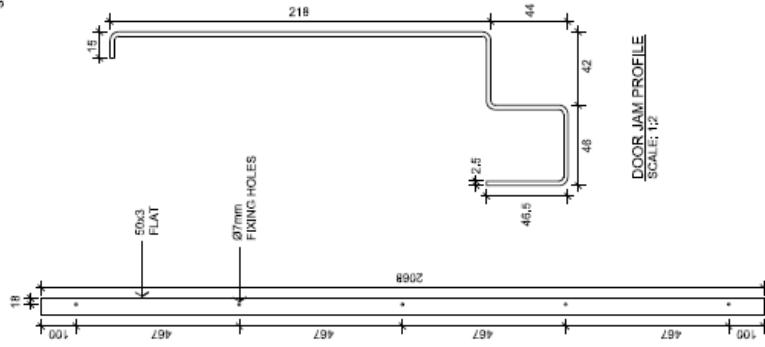


FRONT VIEW

DOOR JAM FRAME OVERALL DIMENSION  
SCALE: 1:10



SIDE VIEW



FRONT VIEW

INTERIOR EDGE TRIMMING  
QUANTITY: 2  
SCALE: 1:10





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## Contact

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